

BUSINESS CONTINUITY PLANNING FOR A MEDIUM-SIZED HOTEL UNDER COVID-19  
OUTBREAK



A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Engineering in Engineering Management

(CU-Warwick)

FACULTY OF ENGINEERING

Chulalongkorn University

Academic Year 2020

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิศวกรรมศาสตรมหาบัณฑิต

สาขาวิชาการจัดการทางวิศวกรรม ศูนย์ระดับภูมิภาคทางวิศวกรรมระบบการผลิต

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ปีการศึกษา 2563

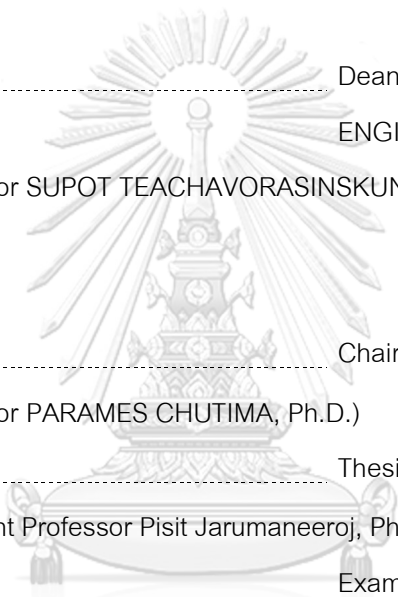
ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Thesis Title BUSINESS CONTINUITY PLANNING FOR A MEDIUM-SIZED  
HOTEL UNDER COVID-19 OUTBREAK  
By Miss Arunlak Tangtanapaiboon  
Field of Study Engineering Management  
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Fulfillment of the Requirement for the Master of Engineering

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กลางภายใต้วิกฤตการ โควิด 19. ( BUSINESS CONTINUITY PLANNING FOR A  
MEDIUM-SIZED HOTEL UNDER COVID-19 OUTBREAK) อ.ที่ปรึกษาหลัก : ผศ. ดร.  
พิศิษฐ์ จารุมนีโรจน์

การวางแผนความต่อเนื่องทางธุรกิจเป็นแนวคิดที่นิยมนำไปประยุกต์ใช้กับการดำเนินงานที่เกี่ยวข้องกับ Supply Chain เทคโนโลยีสารสนเทศ หรือองค์กรของรัฐ หากแต่ในงานวิจัยฉบับนี้ ผู้วิจัยจะมุ่งเน้นการนำแนวคิดดังกล่าวไปประยุกต์ใช้ในธุรกิจบริการในช่วงที่มีการระบาดของ COVID - 19 โดยมีวัตถุประสงค์หลักเพื่อกำหนดวัตถุประสงค์การดำเนินธุรกิจให้สอดคล้องกับกรอบระยะเวลาการดำเนินงานสูงสุด ทั้งนี้ผู้วิจัยได้ทดสอบแนวคิดดังกล่าวผ่านแบบสอบถามความพึงพอใจในการเข้ารับบริการของผู้เข้ารับบริการโรงแรมแห่งหนึ่งในจังหวัดระยอง ประเทศไทย ด้วยวิธีการ ANOVA ผู้วิจัยพบว่า โรงแรมสามารถลดต้นทุนการดำเนินงานโดยการลดชั่วโมงการทำงานของพนักงาน ตลอดจนการจำกัด Function การทำงานของโรงแรมลงให้เหลือเพียงส่วนงานที่จำเป็นได้ หากแต่การดำเนินการดังกล่าวอาจส่งผลกระทบต่อรายรับของโรงแรม ดังนั้นโรงแรมจึงจำเป็นต้องพิจารณาอย่างรอบคอบ เพื่อหลีกเลี่ยงมิให้เกิดการดำเนินการต่างๆ ส่งผลต่อความพึงพอใจโดยรวมของผู้เข้ารับบริการ นอกจากนี้ ความเข้าใจในแนวมาตรการดำเนินการเพื่อป้องกันการแพร่ระบาดของโรค COVID-19 ก็เป็นอีกปัจจัยหนึ่งที่สำคัญ ซึ่งส่งผลโดยตรงต่อประสบการณ์การเข้ารับบริการของโรงแรม หนึ่งในมุมมองของการดำเนินการธุรกิจ โรงแรมยังจำเป็นต้องพิจารณารายได้เพิ่มเติมผ่านการขายรูปแบบอื่น เช่น การขายแบบ B2B หรือการขายบริการห้องพักสำหรับพนักงานของบริษัทต่างๆ ที่ต้องการกักตัวระหว่างการระบาดของโรค COVID-19 นอกจากนี้ ถึงแม้ว่าทางโรงแรมจะมีแผนการดำเนินการธุรกิจที่ดี ทางโรงแรมยังจำเป็นต้องทบทวนแผนการทางการเงินในช่วงวิกฤตอย่างสม่ำเสมอ

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## 6171210921 : MAJOR ENGINEERING MANAGEMENT

KEYWORD: COVID-19, business continuity plan, tourism industry

Arunlak Tangtanapaiboon : BUSINESS CONTINUITY PLANNING FOR A MEDIUM-SIZED HOTEL UNDER COVID-19 OUTBREAK. Advisor: Asst. Prof. Pisit Jarumaneeroj, Ph.D.

Business Continuity Planning is a subjective conceptual framework prominently used in operations related to supply chain, information technology, or governmental organizations. In this research, we have applied the concept of business continuity planning to a service business during the COVID-19 outbreaks, whose aim is to determine the business continuity objective with the maximum operational tolerable period. The proposed framework has been evaluated based on the ANOVA Test of a guest's service questionnaire of a hotel in Rayong, Thailand. We find that, by reducing business operating cost via staff working hours reduction and limiting service functions of the hotel to the minimal possible level, the hotel could still achieve the break-even point at a cost of revenue reduction. Care must be therefore taken in order to ensure the effectiveness of provided services without affecting the overall customer satisfaction. We also find that customer perception related to COVID-19 prevention procedure is very crucial and closely related to the positive customer experience during their stay. In terms of business, the hotel should also focus on other revenue streams, including the B2B selling or the provision of room services for staff containment during COVID -19 outbreaks. More importantly, even with a good business planning, the hotel still needs to intermittently revise financial plans to help maintain the business during crisis.



Field of Study: Engineering Management

Student's Signature .....

Academic Year: 2020

Advisor's Signature .....

## ACKNOWLEDGEMENTS

I would like to extend my sincere thanks to my supervisor – Assistant Professor Pisit Jarumaneeroj for his invaluable supervision, support, critiquing of my results and advises during the course of my master's degree. Secondly, my gratitude extends to Professor Dr. Parames Chutima, Associate Professor Jeerapat Ngaoprasertwong and Associate Professor Dr. Chuvej Charnsangavej for giving such a great advice and support throughout the course of my masters and during the thesis write up period. I would like to thank my friends and colleagues who helped me through class and for a cherished time spent together in many modules and social meetings. Additionally, I would like to express gratitude to my family for their encouragement and support all through my studies.

Arunlak Tangtanapaiboon



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## 1.1 Hotel Industry Overview

Thailand's hotel industry is very well-developed with major investments in the industry especially in high-end hotel market. Key investors in Thailand's hotel industry are Accor, Inter-Continental, Starwood and Marriott as well as domestic hotel brands such as Centara Hotels and Resorts, Dusit International and Minor International (Netherlands Embassy, 2017). The average length of stay is relatively short at only 2.8 nights with an occupancy rate at around 60% (Ministry of Foreign Affairs, 2019).

Hotel Industry in Rayong is a continuously growing tourism industry due to Eastern Economic Corridor projects along the gulf of Maptaphut to Laemchabang, Thailand. Here, with government funded projects and international investments, the potential growth of hotel industry has a strong increase year – on – year. Not only is this place suitable for business workers to visit for business trips during the weekdays, the province is also well known for its Samed Island, beautiful beaches and fruit festival during the end of March to June every year which helps to support tourism industry during the weekends. Therefore, with strong international investment, the province is able to secure demand for visit – hence hotel demand at a highly constant rate throughout the year.

The forecasted infrastructure development of 169 projects through to 2022 and a combined investment value of 988 billion THB assigned from the government. Apart from government funded

infrastructure project, major investment from Chinese investors into logistic ports of Rayong will draw more Chinese expatriates and broadens market demographics (Krungsri, 2019).

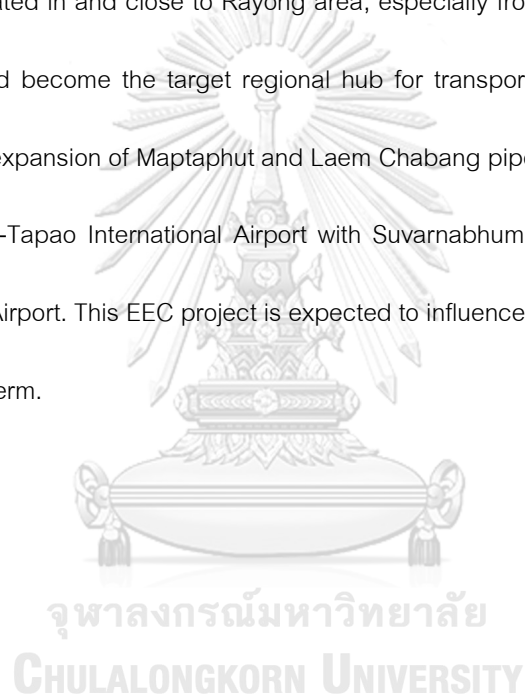
It is expected that hospitality industry is drawing demand that can be segmented into weekdays and weekends. During weekdays, visitors visit for business uses. This can be for project maintenance within factories, auditors, or business visits. On the other hand, during weekends, where tourists travel for leisure or weekend seminars of companies and local government. The expected visitor number is expected to increase 4% y-o-y as forecasted by Krungsri Bank in 2019.

## 1.2 Rayong Industry Overview

2020 is predicted to be a big year for Rayong's hotel industry. With the investment and forecasted opening in mid-2021 of large hotels such as Eastin Resort Rayong and Hyatt Regency. The hotel supply side in Rayong already increased with big brand names such as Holiday Inn Suites and Cape and Kantary hotels as well as local brands of Star Convention hotel that have renovated themselves to merge with Accor groups rebrand the hotel to Novotel Star convention Hotel. The number of expatriates working in Rayong city also grew substantially with a growth rate of nearly 45% y-o-y. This even increases the support for increasing hotel demand. Expatriates whom are mostly Korean and Japanese have significantly increased with a 5-year CAGR of 8% and 7% due to expansion of industrial estates (Krungsri, 2019).

### 1.3 Case study hotel information

Madina Hotel is located in Rayong, in the Eastern Gulf of Thailand. It is rated a three-star family run hotel with 71 rooms. The room types are separated into Standard, Standard River View, Superior, Deluxe, Deluxe Connected, Deluxe Suite. The hotel was built in 2009 and opened in 2010. The target customer for Madina Hotel is the market of travel workers – this is due to the location. Due to many industrial estates located in and close to Rayong area, especially from the government funded EEC project – Rayong had become the target regional hub for transportation and logistics. Factors to increase visitors are expansion of Maptaphut and Laem Chabang pipeline as well as a planned high-speed train to link U-Tapao International Airport with Suvarnabhumi International Airport and Don Muang International Airport. This EEC project is expected to influence this city with an economic leap in medium and long term.





The response on the first launch of this hotel was initially very successful. This is because the hotel is one of the first small to medium sized hotel in Rayong, the objective of Madina Hotel is 'To provide quality living at an affordable price'. This is because the demand for hotels that are affordable for business workers and at the same time provide comfortability after a long work day is always existence. In 2014 the percentage demand of hotel reached the maximum of 12% and supply only 4.5% respectively. The demand then decreases by half 2015 to 6%, then less than 3% in 2016 and 1% in 2017. This is opposite to the supply that reaches the peak in 2015 at 6%. In Rayong, specifically the occupancy averages around 68% in 2017 and is expected to grow (Hotelworks, April 2018). The functional departments of Madina Hotel, medium-sized hotel is shown in Figure 1-1 Functional Departments.

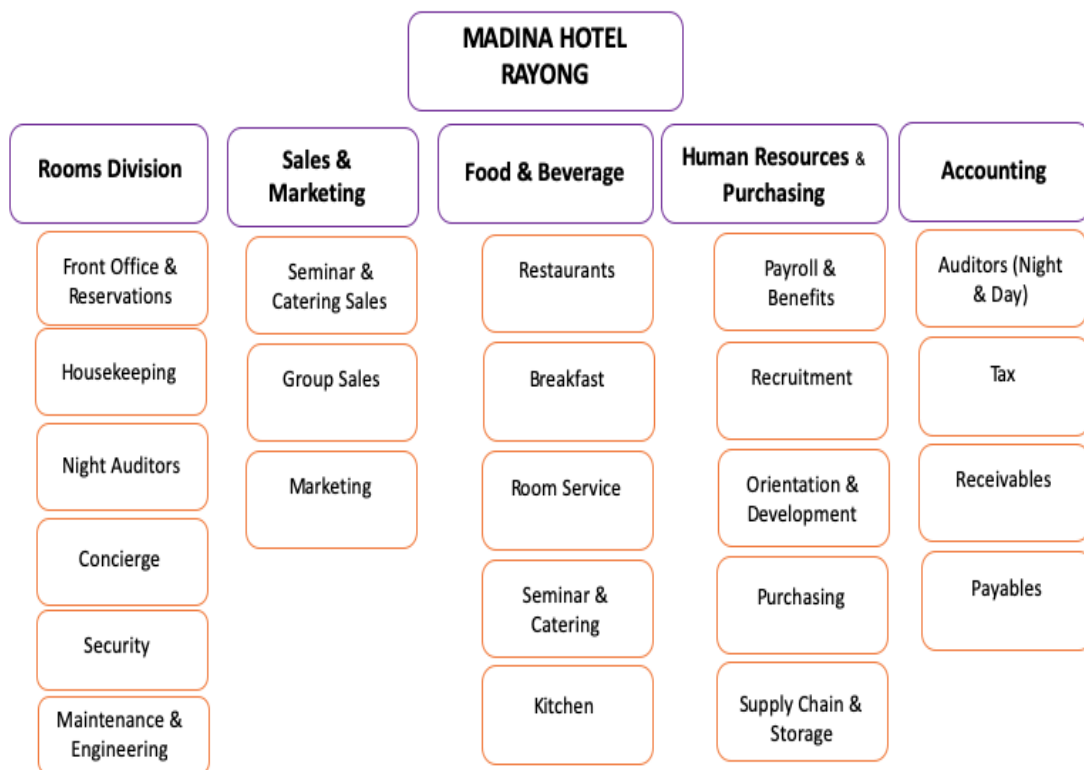


Figure 1 - 1 Functional Departments

#### 1.4 Problem Statement

COVID 19 created a global affect – in which many industries in the world is disrupted. One being most affected is the hospitality and tourism industry. Due to no oversea travelling, consequences are that airline businesses, airports, hotels and tourism industry are very much affected. This is not only specific to Thailand, but globally. Many hotels announced itself closed and is because the of the hotel business variable cost which is dependent on cost of employees and providing services. Due to a sudden decrease in stays at the hotel, and hotel employees not being able to receive much of social security benefits unless resigned or suspended, many hotels faced difficulties and had to close down. An example in Rayong, despite receiving benefits from both tourist and work stays is a hotel that is located in down town Rayong, and have announced its closure since 31<sup>st</sup> May 2020 as well as another famous hotel in Chiangmai that also announced its closure on 1<sup>st</sup> December 2020.

This framework will focus on a short retrieving period after the outbreak of COVID-19. It will analyse the recovery phase after the crisis and focus on business continuity planning. Despite being an important framework for many types of organization, business continuity planning is not a well-known framework for a medium sized service business to crisis absorption in Thailand. The objectives of business recovery are adjusted to a specific business to allow the business to come back to operation. The number of rooms sold before and after COVID-19 are shown below in Table 1-1 Number of rooms sold per months from 2018 – 2020.

Table 1 - 1 Number of rooms sold per months from 2018-2020

	2018	2019	2020
January	1,009	1,102	694
February	893	825	786
March	1,054	1,084	579
April	1,078	1,266	280
May	1,434	1,400	380
June	1,209	1,333	596
July	1,157	1,189	727
August	1,153	1,106	957
September	964	1,010	1,006
October	1,069	1,106	940
November	1,185	1,043	1,011
December	1,149	1,471	944
<b>Total</b>	<b>13,354</b>	<b>13,845</b>	<b>8,889</b>

As well as a comparison of percentage decrease in number of rooms sold shown in Table 1 - 2

Percentage difference in number of rooms sold in 2019 and 2020.

Table 1 - 2 Percentage difference in number of rooms sold in January to December – comparison of 2019 and 2020 figures

	2018	2019	2020	Percentage
January	1,009	1,102	694	-37.02
February	893	825	786	-4.73
March	1,054	1,084	579	-46.59
April	1,078	1,266	280	-77.88
May	1,434	1,400	380	-72.86
June	1,209	1,333	596	-55.29
July	1,157	1,189	727	-38.86
August	1,153	1,016	957	-5.81
September	964	1,010	1,006	-0.40
October	1,069	1,106	940	-15.01
November	1,185	1,043	1,011	-3.07
December	1,149	1,471	933	-36.57
<b>Total</b>	<b>13,354</b>	<b>13,845</b>	<b>8,889</b>	<b>-35.80</b>

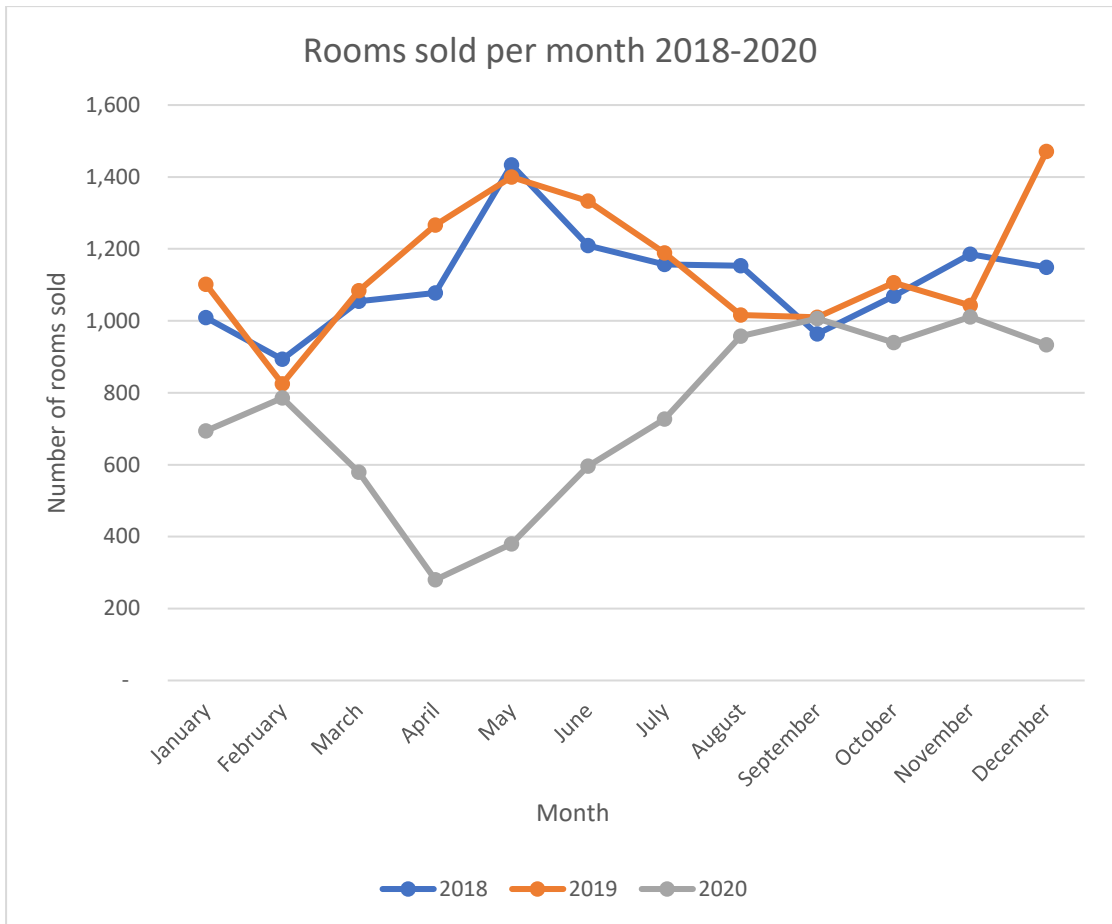


Figure 1 - 2 Comparison of numbers of rooms sold in 2018 - 2020

As shown in Figure 1 - 2 Comparison of number of rooms sold in 2018 – 2020, there is roughly a 60% to 70% decrease in room rate when comparing number of rooms sold during April, May and June. However, if analysing the trends from January 2019 to December 2019 with January 2020 to December 2020, there is a clear decrease in all month's figure. Especially in the month where COVID – 19 is at its heaviest epidemic and situations were uncontrollable; April to July and again in mid – December 2020. This is a worrying number and the shows that the effect of COVID-19 will trigger a large decrease in the hotel's revenue.

Also, with the extensive situation of COVID-19, the situation is not yet predictable. The graph of 2018 and 2019 show that during April to August, the number of rooms sold is the annual peak. However, with the COVID-19 situation in 2020, number of rooms sold is not at its peak and hence the hotel has lost a large sum of revenue during the months. Hence, the graph in 2020 is similar to a reflection of the 2018 and 2019 graphs in the x-axis.

#### 1.5 COVID-19 timeline overview and figures (to the extent of this framework)

From 31 December 2019, WHO China Office reported the initial case of COVID 19 and confirmed 282 cases in China, Japan, Republic of Korea and Thailand by 20 January 2020. Since then, the globe has gone through over 80 million confirmed cases and nearly 2 million deaths toll up to January 2021. During the time the research was conducted, the number of confirmed cases figure in Thailand was near to zero and the situation was controllable for at least 4 months. Economically, business starts to come back into operation and slowly, hospitality and tourism industry is coming back to business with domestic travelling. However, at the beginning of December, confirmed cases start to spike again in Thailand. Especially in Rayong area, the province is one of Thailand's five province to be announced as the 'most strictly regulated provinces' in terms of COVID – 19 situations.

The number of active cases in Thailand during the months from February 2020 is shown in Figure 1-3

## Active Cases in Thailand

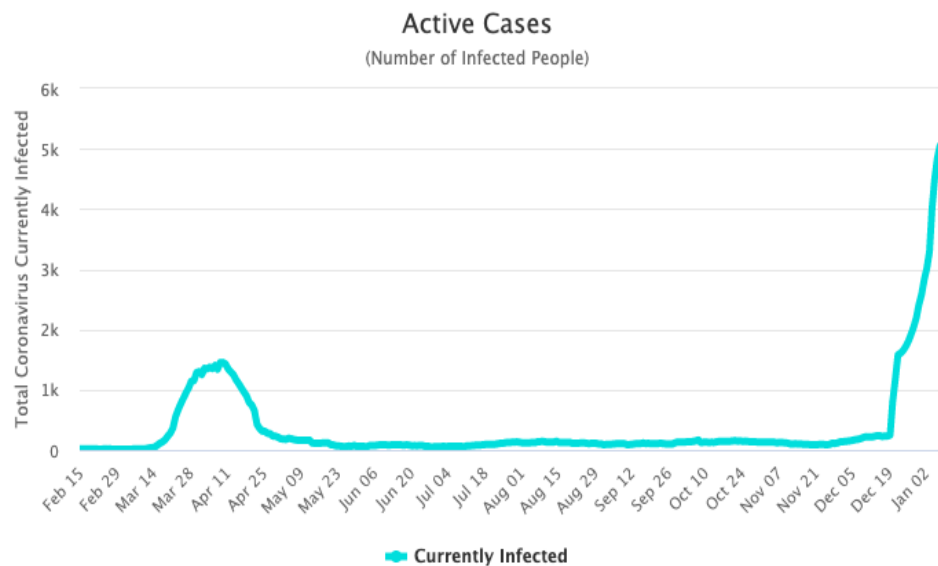


Figure 1 - 3 Number of active COVID-19 cases in Thailand – WHO, 2021

Number of active COVID-19 cases in Thailand.

From this Figure, the situational 'locked down' showed an effective control measure of the COVID – 19, however this locked down have caused many businesses to freeze operation – hence the magnificent amount of decrease in rooms sold as shown in Figure 1-2 Comparison of number of rooms sold in 2018 – 2020.

However, Thailand was able to control the situation and keep number of active cases zero until mid – December. Here the number of rooms sold are the opposite to the active cases – as expected more rooms were sold as business starts to come back to operation. By mid – December, where a recent case of COVID – 19 infection caused a spike in the number of daily new case as shown in Figure 1-4

Number of daily COVID – 19 new cases in Thailand, which effected the number of rooms sold at the hotel to drop from end of December onwards.

## 1.6 Research Objective

### Daily New Cases in Thailand

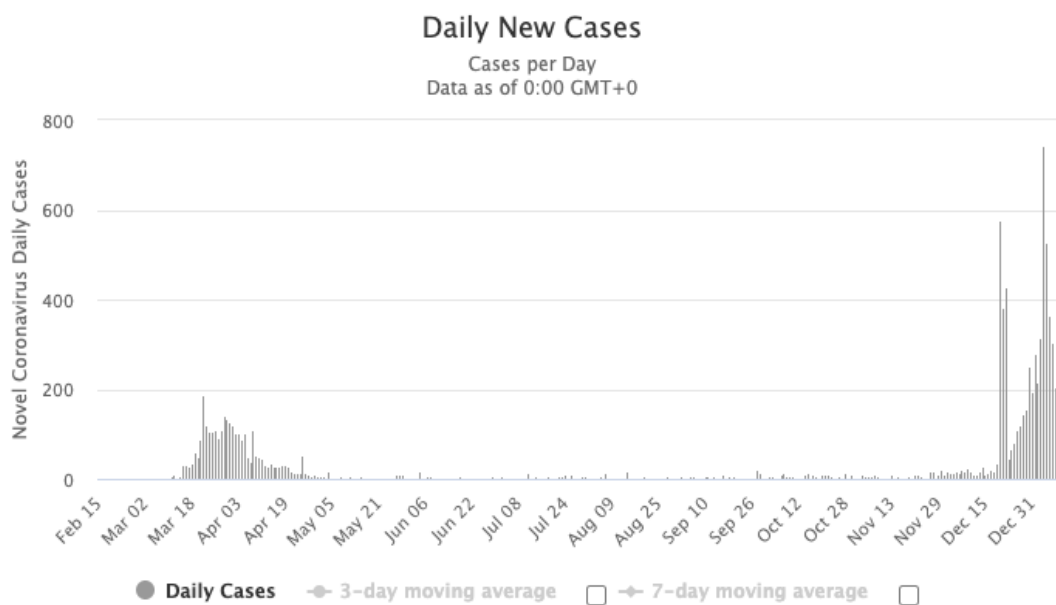


Figure 1 - 4 Number of daily COVID -19 new cases in Thailand (WHO, 2021)

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To provide a Business Continuity Plan that is suitable for the case study hotel during the outbreak of COVID-19. Initially, an impact assessment of the business locations, supplier, human resources and business partners. Then, a business impact analysis to analyse the effects of a certain impacting factors on activities run in the business. These are factors that causes a disruption in the business. The process of business impact analysis includes 4 main steps;

1. Determine the business process
2. Determine the critical business functions



3. To determine the objectives and timeframe for a comeback of the critical business processes
  - a. Minimum business continuity objective (MBCO) this is the lowest acceptable objective of the business
  - b. Maximum tolerable period of disruption (MTPD) which is the maximum time frame that the business can take during disruption
  - c. Recovery time objective (RTO), this is the time taken for business to come back after recovery
  - d. Recovery point objective (RPO) the meaning of 'recovery' for a business
4. Determine the important resources to support the activities for business to recover.

Government plans such as 'Rao Tiew Duay Gun' framework that the government supports 40% of the accommodation costs for Thai citizens. Also, a project of collaboration with SHA – project from Department of Health, Ministry of public health with Tourism Authority of Thailand, SCB business deals, 7-11 counter service selling point and LINE My Shop Official Application to help boost the tourism industry after the COVID – 19 will be a scheme to increase tourism and room occupancy in Rayong.

The KPI analysed will be to establish the performance of the hotel's activities after putting the business on 'crisis business plan' based on;

1. Increase occupancy rate up to recovery point after objective is implemented
2. Customer satisfaction using a questionnaire

As there is increase in marketing and operational cost that comes with better service, a trade – off for how much the business shall invest to which recovery point will be considered. This will hopefully result in a plan for the organisation to base on to develop and continue business.

### 1.7 Scope of the study

The study will focus on business survival, based on the scenario of COVID-19 virus that majorly effected many industries especially the whole hospitality and tourism industry globally. This will be focused within Rayong province of Thailand and will only be determined from results of the initial outbreak during beginning of 2020 until the end of 2020, before the second outbreak starts. The planning will be considered straight after the outbreak has ended or comes towards an end and will be deployed in the short term.

A case study hotel – Madina Hotel – a family run medium sized hotel to go through a business impact analysis, business continuity management and plan, recovery objectives and deployment. The tools used to compare each objective will be a KPI in each impacted area.

## 1.8 Outcomes and Benefits

- Providing a business continuity framework for a medium sized hotel under the crisis of COVID -19 – the outcome here showed that the hotel should reduce as much cost as possible. The majority of the cost from staff salary shall be reduced – and staff are asked on a lump-sum short paid break from work. Also, to shift to sell more monthly rates at a reduced price helps the hotel to at least have income for paying off hotel's operating cost.
- The important factors in running the business and short-term business operations to maintain the business at its best performance will be determined using a questionnaire – showing majority of guests still satisfied with the business process changed under crisis.
- To have a business crisis management plan and procedure for an unpredicted event – hence the hotel can undergo the same plan and procedure as soon as crisis occur. This is very effective as the hotel was able to shift to crisis management plan as soon as the second wave of COVID-19 struck Rayong.
- To have a business plan for finance management – seek for bank advices and short – term emergency financial support is important. Every business should have cash to support and/or seek for government help in low interest loans during times of COVID – 19 crisis.
- Develop business continuity plan to be able to maintain in business during COVID-19 outbreak – here the business is still running despite the second wave of COVID – 19.
- Development of the business to become lean and agile and most adaptable to changes
- Pin point on the trade-off between cost for operation and customer satisfaction which is determined using a questionnaire.

## Chapter 2 Review of the Literature

### 2.1 Crisis definitions and characteristics in tourism literature

'Crisis' is a phenomenon; it is any situation that can potentially lead to affecting long term confidence of an organisation either service or product and will interfere with the business ability to continue their normal operation. The word '*krisis*' is Greek for *crisis* meaning decision or differentiation (Glaesser D., 2006). In a hotel industry that operates around the clock, continuity is key, therefore crisis management, disaster recovery and continuity are areas of competence for hotel managers (Racherla and Hu, 2009). Especially in crisis situations the hospitality and tourism industry often is a victim (Faulkner, 2001). Examples are events such as the hurricane disaster in New Orleans, terrorist attack in Mumbai in 2008 or even a slip-fall injury in a hotel lobby. Therefore, the crisis management is key, once occurred measures to resolve crisis as quickly as possible, prevention of spreading and prevention of crisis from the beginning is a complexity that hotel managers and owners need to address in detail.

Most importantly, the hospitality and tourism industry does not only exist of large conglomerate stakeholders. Especially in Thailand, there are a vast majority of independent small to medium sized enterprises that may not have sufficient funds and supplies to prepare and overcome crisis. As adopted by Racherla and Hu, 2009 – a knowledge-based crisis management is an attempt to prevent, manage during and aftermath of the crisis under a planned systematic attempt.

The framework combines principals of knowledge management to crisis management under strategies developed from knowledge taken from within or outside the organisation. Then the prevention and planning phase of crisis management using obtained knowledge followed by

implementation of the strategy during crisis. Lastly, to evaluate and feedback on the procedures in the post-crisis stage (Racherla and Hu, 2009).

## 2.2 Hotel Management and Risks, Emergencies and Crisis and the effect to Hotels

Hotel is an industry that operates 24-hours 7-days a week, it is often cited as the 'largest peacetime industry' (Niininen O., 2013). Therefore, the operations run throughout day and night and hence possibilities emergencies either terrorisms, natural disasters or infectious disease such as the COVID-19 can largely affect the operations in the hotel. Also, from these risks and emergencies the major effect is directly to the demand. Not only does the hotel needs to close, but the demand also reduces drastically. Now a days many hotels and tourist attractions have put themselves closer to nature – examples such as skiing-arenas and climate-controlled leisure parks in Nashville, USA (Glaesser D., 2006).

Hotel and tourism industry have many characteristics that is prone to crisis. Tourism is also an industry that is fast growing in many developed countries including Thailand. It is also integrated with many other industries, therefore the effect to one hotel will result in large issues for the whole supply chain. With the movement of people, tourism industry relies not only on people to experience the service provided, but also relies on people to provide the service (Niininen O., 2013). With increase in hotel size and location, there is an increase in probability of occurrence of crisis. To be accommodated for 'thousands of bednights' every month there is a higher chance in hospitality industry incident. With hotel manager's duty of care as they are seen responsible for well-being and safety of staff and guests. This can also involve health and safety staff or those undergo hotel security training to be held responsible in crisis situation (Niininen O., 2013).

## 2.3 Business Continuity Planning

Business Continuity Plan (BCP) of an organisation has an objective to respond better during crisis or emergency situation. The Critical Business Processes needs to be determined so that the business can continue to operate or is back to operation as fast as possible which helps to reduce effects on business activities.

Initial steps of understanding the organisation is important, to connect and determine relationships inside and outside the organisation makes the objectives stronger as well as help to reduce risks that can affect business activities such as;

1. Reduction of shortage of process
2. Reduction of time to solve crisis back to normal situation
3. Limit effect of process shortage to the organisation

(Agricultural Research Development Agency, 2020)

### 2.3.1 Determine and evaluate risks

These can be separated into many situations as shown in Table 2-3 Effects of each risks and disasters to business operations. These factors and situation affect the business operations as separated into main category of Location, Production, Human Resources, Service and IT.

Table 2 - 3 Effects of each risks and disasters to business operations (Agricultural Research Development Agency, 2020)

Types of risks	Effects				
	Location/ Main operation	Product Supplies/ Finished products	Information Technology	Human Resources	Service provided and stakeholders
Natural Disasters	Yes	Yes	Yes	Yes	Yes
Hacking or computing assaults	-	-	Yes	Yes	Yes
Protests	Yes	Yes	-	Yes	Yes
Contagious diseases	-	Yes	-	Yes	Yes

Therefore, with these categories the organisation shall evaluate the risks and effects to business activities. For a contagious disease the majority of the effect lie with human resources, where human is limited to travel to work, suppliers as well as customers cannot continue business. However, it is

not to say that risks such as hacking does not affect production processes or contagious diseases does not affect main operation; Table 2-3 Effects of each risks and disasters to business operations focuses on the initial affects which will lead to other business areas.

For example, a computer assault affects directly with IT and computer system of the business. If a certain business relies solely on IT such as a Tech – company, such case will affect all part of business operation. Whereas in the current world, many businesses rely on Information Technology Systems as part of their operation, such as business intelligence or enterprise resource planning. With these developments of Information Technology Systems, a single computer assault will definitely affect the operation.





Table 2 - 4 Preparedness arrangements phase of ILO's framework (M.Kato, T.Charoenrat, 2018).

Business Impact Assessment	Step 1	Determine business priority
	Step 2	Identify critical assets and inputs for priority
	Step 3	Identify time-critical operations
	Step 4	Map-out internal and external risk areas impacting necessary inputs
Planning	Step 5	Prepare possible scenarios
	Step 6	Design and validate BCP
Communication and Training	Step 7	Design and execute communication procedures
	Step 8	Design and deliver training on BCM

Business Continuity Planning is slowly a concept emerging popularity for Small to Medium Sized Enterprises (SMEs) in Thailand. Despite the substantial degree of Thai SMEs disaster experience, little was prepared for business continuity plans. Therefore, in readiness for disasters many are not prepared both from the public and private sectors. In order to prepare, the business shall focus on preventive measures and preparedness arrangements – these are factors prior to occurrence of disaster. And when disaster occurs, the response options shall provide options for SMEs in developing countries to be able to continue business activities (M.Kato, T.Charoenrat, 2018).

According to International Organisation for Standardisation 22301:2012 in 2012; BCM is 'a holistic management process that identifies potential threats to an organisation and the impacts to business operations those threats, if realised, might causes, and which provides a framework for

building organisational resilience with the capabilities of an effective response that safeguards the interests of its key stakeholders, reputation, brand and value creating activities'. The elements of BCM consists of three main elements for SMEs, 1) preventive measures, 2) preparedness arrangements and 3) response options (ILO 10 steps framework). With preparedness arrangements, there are three main steps including; business impact assessment, disaster risk assessment and planning.

### 2.3.2 Business Impact Assessment and disaster risk assessment

The business impact assessment consists of four steps as shown below;

Determining business activities that are priorities to maintain products or services – can be reduction of scale if necessary. Inventory of necessary operations, assets and inputs to carry out the prioritized business activities – inventory to be stored and prepared for use. Time critical operations; ones that can be done for shorter period of time with respect to others – also known as 'recovery time objective'.

1. Disaster and risks assessment that impacts the availability and resource access – referring to disaster history and natural hazard maps for preparation.
2. The planning in preparedness phase is steps five to six including;
3. Identify scenarios and likelihoods of impacts –
4. Plan for countermeasure to continue critical operation – this can be sets of activities that are executed such as backup systems, safety procedures and recovery strategies.

All these shall be recorded with business continuity plan that define roles, responsibilities of employees and stakeholders. As well as financial planning of business's savings, credits and

insurance. This is in order to fund for the business operations and restoration of business in the aftermath.

1. The communication and training are last two steps to preparedness of ILO's framework. This is to communicate to;
2. Communicate to key stakeholders prior to disaster and ensure employees are familiar with procedures, actions and responses.
3. Execution of plans and ensuring awareness, training, and exercises among employees.

### 2.3.3 Reaction to crisis

The cycle to management of crisis situation is separated into four steps in order to prepare and manage crisis situation, emergency or disaster is separated as;

1. Prevention and reduction of crisis effects
2. Preparation to deal with crisis situation
3. Management of crisis situation
4. Management after crisis situation

ISO PAS 22399-2007 Societal Security – guideline for incident preparedness and operational continuity management.

Despite the withdrawal of this standard in November 2013, when its life length exceeded 6 years, the standard is still applicable as a guideline for working under crisis and disasters. From the graph found in ISA PAS 22399-2007 Societal Security – Guideline for incident preparedness and operational continuity management, the graph at 100% shows a normal operation on the 'green line' alongside crisis situation represented by the 'blue line'. This shows that the business operation

standard drops during crisis and the factor of business continuity is to lift the standard up to 100% again in three phrases;

1. Initial Incident / Emergency Management
2. Continuity Management

Similarly, the BS25999 – Business Continuity Management Standard (BCM Life Cycle) consider operations to be separated to manage crisis situations.

This is separated into six steps to be adapted according to each business unit and resources.

1. BCM Programme Management
2. Understanding the Organization
3. Determining BCM strategy
4. Developing and Implementing BCM Response
  - a. Incident Management Plans (IMP)
  - b. Emergency Crisis Management Plan (CMP)
  - c. Business Continuity Plans (BCP)
  - d. Recovery Plans (RP)
5. Exercising Maintaining and Reviewing
  - a. Call Tree
  - b. Tabletop Testing
  - c. Simulation
  - d. Full BCP Exercise
6. Embedding BCM in the Organisation's Culture

According to the BS25999 Standard, assignment for roles and responsibilities is crucial for each for each step mentioned. This is so that in crisis, the procedures taken are assigned to the correct person.

#### 2.3.4 Crisis and challenges of COVID – 19

To respond to the challenges of COVID – 19 as researched by Deloitte 2020, cash flow is key and companies should develop 'cash management' as part of 'business risk and continuity plan'.

Adapted from 'COVID – 19; Managing cash flow during a period of crisis', every business shall apply the following;

1. Robust framework for managing supply chain risk
2. Ensure financial abilities
3. Cash to cash conversion cycle
4. Revisit variable costs
5. Revisit capital investment plans
6. Inventory managements
7. Extend payables
8. Manage receivables
9. Consider alternate financial options
10. Business interruptions
11. Consider alternate revenue streams
12. Convert fixed to variable cost – where possible
13. Think beyond four walls

However, the industry that has been hit the hardest particularly in the short term and most probably in the long term as well is the tourism, hospitality, entertainment and air transportation. And as of the whole industry being affected, some of the recommended applications by Deloitte is not realistic such as extend payables, or consider alternate financial options. Many businesses face financial instability in a sudden and due to being a large industry in Thailand bank loans established are not enough to help maintain businesses in these industries.

#### 2.4 Customer's satisfaction and service quality

In order to satisfy the customer's satisfaction with only the core business processes as will be determined using business continuity planning, the customer's experience needs to be evaluated. The service quality is a 'complex, elusive, subjective and abstract' concept as its definition varies with different people due to expectation and perceptions (Parasuraman et al., 1988; Gronroos, 1982). As developed by Parasuraman et al. in 1985; 1988, the SERVQUAL scale or also referred to as RATER was developed to measure service quality. This scale identifies dimensions that are key to service quality of the industry including;

1. Reliability

Refers to the firm's ability to run its services dependably and accurately – meaning that the firm can be relied upon.

2. Assurance

This is the ensuring that the employees are equipped with knowledge and courtesy.

3. Tangibles

Refers to the equipment, appearance and facilities of the firm.

4. Empathy

This is to understand the customers, having paid attention to individual customers.

#### 5. Responsiveness

Firm's willingness to help and provide support and service for customers when in need.

'Assurance' and 'Empathy' can then be emphasised as communication, credibility, security, competence, courtesy and understanding of customers.

SERVQUAL questionnaire refers to two main sections. The expectation of the ideal services from respondents and the quality of the delivered services. With the questionnaire, an analysis of perceived quality and delivered service quality can be analysed and the performance of the firm can easily be monitored against the firm itself and other firms.

With service quality, it can be separated into perceived and objective. With perceived quality being associated with what the quality the consumer experience whereas objective quality can be what researchers and marketers define conceptually (Holbrook and Corfman, 1985). As referred to by Olshavsky in 1985, quality is a form of overall evaluation of a product as expected by the consumers. The term 'expectations' are predictions of what the consumers might prefer, however with service quality 'expectations' are what consumers actually want; hence to provide a service that meets expectations the provider shall offer service that they should offer, rather than would offer.

In service quality, there are 10 overlapping dimensions; tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding/knowing the consumer and access (Parasuraman, Zeithaml, and Berry 1985).

The SERVQUAL scale can be referred to both service business and retailing. Quality of service is an important issue, competing retailers such as department stores, supermarkets sell identical products at nearly similar price the critical point of decision relies on service. The application of SERVQUAL to assess service performance in retailing business is separated into

expectation and perception and should be done with competitors as well. The variety of comparisons can allow the business to judge its strengths and weaknesses on different dimensions so that the business can adjust its priorities to target markets (Parasuraman, Zeithaml, and Berry 1985).

To further determine the customer's experience, it is important to show a customer journey map. A 'CJM' – customer journey shows the process the customer is involved in starting from 'knowing' the hotel, up to booking and paying processes or can be up to leaving the hotel. The important factors that affect the decision-making process of guests are;

1. Awareness – this is analysis of customer and creating awareness to meet each group of potential buyers. Here, the hotel shall focus on STPs (Segmentation – Targeting – Positioning). Segmentation of potential guests, targeting of customers and positioning of the hotel's brand will help to focus on communication to the right buyers either online or offline.
2. Interest – deals with creating customer's interest. During COVID-19 situation most contents are online websites, pictures and most importantly reviews. Another important factor is the customer's confidentiality in hotel's cleanliness and screening of hotel's guests – this shall be emphasized by the SHA standard.
3. Consideration – which compares all hotels of interest and splits factors of location, comfortability, convenience, facilities and amenities as well as price.
4. Conversion – this is the last process in decision making of customers. The channels can be via hotel's own website, Online Travel Agencies (OTAs) or even a phone call. This process converts the previous three steps into purchasing a service. If this process is easy, clear and efficient customers will make a successful reservation.

(Smart Finder Asia, 2020)



To understand the customers a potential customer journey map before COVID-19 can be represented by the Figures 2-5 Customer Journey Mapping of customer's activities and channels, tactics and 2-6 Customer Journey mapping of customer's feelings and channels.

## Customer Journey Mapping: Inspiration -> Buying



Figure 2 - 5 Customer Journey Mapping showing customer's activities, channels, tactics



## Customer Journey Mapping: Inspiration -> Buying



Figure 2 - 6 Journey Mapping showing customer's feelings and channels

However, after the COVID-19 outbreak, certain stages are changed throughout. These are such as;

1. Inspiration – in this phase the travelers are inspired to travel as before, however restrictions of travelling due to COVID-19 only allows travelers to select certain place to travel. This changes the travel destination to domestic travelling, therefore despite inspiration being the initiation of travelling, the destination is not fixed to the inspired location.
2. Planning – this involves more time and effort. The travelers shall plan more with travel restrictions and make sure that the planned trip will be least effected by COVID-19.
3. Shopping – the most important question here is, 'if another outbreak occur will I be able to get my money back?' Therefore, more consideration and selection are involved in the stage. As well as process of selection of hotels and travel destination which requires more time.
4. Booking and Payment – this stage shows customer's concern on flexibility of booking. Whether the money invested in the trip will be valid or not or is there a type of measure to renew booking such as insurance validity or flexible booking dates.
5. Pre – trip – as lockdowns still occur, the customers are updated with news and are ready to cancel or postpone the trip if there are any restrictions in travel. Here, if policies of cancellation or refund is attractive customers are most willing to adjust to the situation.
6. In – trip – more considerations taken to local regulations and restrictions at the destination. Again, despite the situation being understandable to all travelers, the COVID-19 restrictions can reduce customer's satisfaction or 'happiness' within the trip when compared to previously.

7. Post – trip – travelers shall still keep themselves up to date with the situation, by keeping up with recent activities, news travelers can make sure that during the certain date they travel – no one with COVID-19 results are in the same flight, hotel, restaurants or etc.

As there are more points to consider, travelling during COVID-19 is more difficult and requires more processes. However, travelers are at the same time willing to travel and willing to follow COVID-19 procedures. Hence, they understand the situation and shall not largely affect satisfaction (Zhang, 2020).

## 2.5 Meeting COVID-19 hotel standards – SHA standards for hotel

In meeting the SHA standards for hotels, the service levels and procedures to prevent COVID-19 shall be taken as follow;

1. Public spaces, conference halls and restaurants:
  - a. Have one entrance and exit only, with temperature check points
  - b. Registration of staff and customers as well as travel history
  - c. Hand wash area or provided with alcohol gel
  - d. Temperature range shall not be more than 37.5degrees Celsius
  - e. Only allow those with mask to enter the service area
  - f. Queueing shall have distance of one metre in between.
  - g. Enough space for guest's registration to allow one metre in between guests
  - h. Good ventilation in the public area
  - i. Should have shoe sole washing mat
  - j. Should clean public areas every 2 hours – such as elevator buttons, door knobs, door handles

- k. Have maximum allowance for number of guests to enter certain area
  - l. Clean publicly used equipment
  - m. E-payments to reduce contact
  - n. Cover food and utensils to keep less contact
2. Hotel room areas:
- a. Clean rooms with disinfectants
  - b. Cover food and utensils to keep less contact
  - c. Method of getting rid of waste shall be taken carefully
  - d. Make sure there is good ventilation and that air-conditions are in good areas.
  - e. Increase concentration of washing liquids, detergents and disinfectants.
3. Service provider (hotel staff):
- f. Take care of one's own health and make sure to wear masks or face shield at all times
  - g. Wash hands often
  - h. Stop working as soon as there are symptoms of coughing, runny nose, tired
  - i. Inspect guests and make sure no guests have above symptoms
  - j. Those who touches wastes shall wash hands and clothes thoroughly
4. Guests
- k. Should give the best commitment in temperature check and wear masks at all times
  - l. Advanced booking to reduce crowding
  - m. Wash hands often
  - n. Have at least one metre between one another

- o. Reduce contact – have e-payments

All the procedures mentioned can be found as an infographic made by SHA in Appendix A



## Chapter 3 Research Design and Methodology

### 3.1 Research model

With the definition of Business Continuity Plan as mentioned in 2.3 *Business Continuity Planning* above, the reduction of process and limiting of effect of process shortage to organisation links with the Maximum Tolerable Period of Disruption (MTPD). Therefore, the platform of the business shall consider the factors that customers value as important and focus operation around that point. As a service business, providing service is important, but providing the right amount of service at the right point is crucial and so several business models were conducted alongside a guest satisfaction questionnaire to determine important service operations. The functions to remained in service are chosen via Minimum Business Continuity Objective (MBCO), here the operations chose will be according to the objective. Similarly, the recovery point and time will be according to business's objective versus the tolerable period – determined majorly by the business financial status.

Despite business continuity planning being quite subjective, the framework will be adapted to fit in with the service business. The business models will be used to analyse service operations and the important operational factors from internal stakeholders. This will help to lead to a business continuity framework for operational level to follow under the situation of COVID 19 which will be analysed and maintained for certain period of time. During this time then, the effectiveness of the framework will be measured with a questionnaire for measuring each criterion as well as percentages of occupancy. To finalise the framework is assessed with satisfaction, then compared to customer's background and validity of the answer provided by the guests to draw a conclusion on effectiveness of current business continuity framework and future recommendation to the framework.

### 3.2 Qualitative research

The qualitative data collection will be as follows;

1. Analysis on business industry – this will be done using PESTEL analysis to understand the situation of the hotel industry in Rayong and in Thailand.
2. Analysis on the business – using a SWOT analysis to develop TOWS matrix. The SWOT analysis made sure that management levels in the hotel are involved in determining and weighting each factor. This is normally done annually by the hotel's marketing and management team and the results obtained are further developed to a TOWS matrix during the period of COVID – 19.
3. Determining critical factors and framework of business continuity plan – here the plan considers all the factors that is important in keeping SHA standards and at the same time reduce or maintain cost and improve hotel's image. The changed processes are then weighed and compared with previous processes using customer's satisfaction questionnaire. The questionnaire helps to understand the customer's want better as well as help to analyse the complementing factors to decision making and receiving services. The questionnaire will be analysed using ANOVA analysis and is part of the Qualitative research.
4. Comparison of operation cost before COVID – 19 and when a framework to cost reduction is applied – similar to the critical factors and business continuity plan, the comparison of operation cost reduced helps to see how effective the determination of critical business process is and the contributes to the business continuity plan. As to

whether the cost reduction is enough for business to operate with the COVID – 19 situations.

### 3.3 Quantitative research

The quantitative data collection will be as follows;

#### 1. Statistical framework to analyse questionnaire

Initial analysis using ANOVA tests to determine the customer's satisfaction of the reduced business process and understand customer's behaviour. The mean and standard deviation will also be used to illustrate the level of satisfaction and the factor to influence decision making.

#### 2. Research hypothesis

The trade-offs between cost in operation to maintain hygienic standard is impossible – for many this is a burden on the business; however, customers are expected of this. They expect to be asked to register alongside providing travel history when asked. They also expect the hotel to provide hand washing alcohol gels, clean public areas and are also ready to wear masks at all times in public areas. These extra processes will not affect satisfaction, however, the less service provided will. Such as shift from breakfast buffet services to set buffet services or reduction of staff available for service.

The government's project of "Rao Tiew Duay Gun" and the tourism authority of Thailand's project to form business partner on LINE official with business in the tourism industry as well as projects for allocation of seminars around Thailand will help to boost the tourism industry in the short term. In the



long term the situation of Thailand's economy is tough to recover 100% back to normal and marketing plans will be crucial for travel and hospitality industry to gain sales during this situation.

### 3. Data collection and analysis of data

Data collected are from hotel's guests during a certain time period. The guests go through the business during crisis operation, and many are returning guests who know of and stayed at the hotel before in the normal situation as well. Hence, they would be able to contrast the normal operation with crisis operation. However, not all hotel guests experience the service at normal operation, therefore the analysis of the data would need to consider this in determining customer's satisfaction.

### 4. Conclusion on data collected

The conclusion is drawn based on data collected of certain number of guests during a very short period of time. With the COVID – 19 situations not ending, it is difficult to say that the data collected will be 100 percent correct. However, using population and sampling alongside statistical tools, the data obtained and analysed will be true to a certain extent.

## Chapter 4 Qualitative Results and analysis

### 4.1 Analysis on business industry

A PESTEL analysis will be used to define the global situation after being hit by coronavirus, for a better understanding of the effect of the epidemic. The deadly virus emerged from the city of Wuhan and within weeks it spreads worldwide.

#### 4.1.1 PESTEL Analysis

##### 1. Political

Politically each government have different measures to control over the outbreak of the virus. Countries with authoritarian government such as China tend to control this outbreak better. Trend to changes in trade, and supply chain as well as governmental barriers to limit international arrivals in their own country.

##### 2. Environmental

Increase in medical trashes from surgical masks, surgical gloves and many other medical accessories. This can lead to a major increase in wastes which will somehow need to be disposed off properly.

##### 3. Socio-cultural

A 'new normal' trend will emerge from a new habit that every person needs to get used to. This is alongside the panic of having to stay home to stop the virus as well as the panic to stock up for food, water and other supplies creating a sudden shortage in the supply-chain to shelf. Racism can also

arise further due to individuals being prejudiced for having originated from the city that causes virus. Fear to travel and impacts on airline companies as well as hospitality industry. A new remote 'work from home' for office workers that can fulfil duties at home. Despite being adapted during the coronavirus outbreak, this can become a long-term habit.

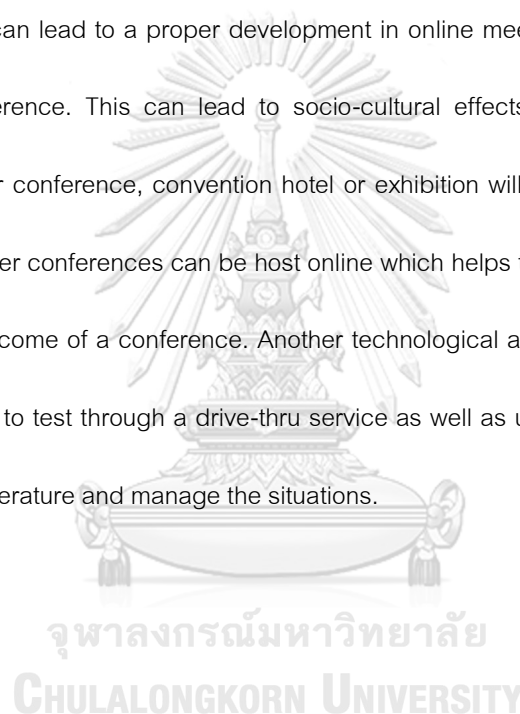
#### 4. Technological

Technologically this can lead to a proper development in online meeting – predicted to change the whole habit of conference. This can lead to socio-cultural effects as well as economic effects because the need for conference, convention hotel or exhibition will only be hosted for really large events whereas smaller conferences can be host online which helps to save cost and time as well as still achieving the outcome of a conference. Another technological advancement is the advances in virology – being able to test through a drive-thru service as well as using technologies to help scan each person for temperature and manage the situations.

#### 5. Economical

Economically the outbreak of the virus slows down the global economy, alongside the huge impact on China economy that currently drive the global economy. This leads to a poor performance and have caused circuit breakers in stock markets of many countries including United States, Singapore and Thailand. There are fears that this poor performance from the market will lead to a long period of shock (similar to recession) in many countries.

#### 6. Legislation



Certain laws and legislations are implemented domestically and internationally. Including the emergency decree in Thailand that announces for prevention of disease and measures that all parties need to take account for including for businesses to frequently clean surfaces, operators to wear masks, provide hand washing facilities, enforce minimum of 1metre distance between seats and tables and restrict customers to avoid overcrowding. And for certain businesses to close such as hair dressers, spa, gym and fitness and clinics (Centre for Administration of the Situation due to the Outbreak of Communicable Disease Coronavirus, 2020).

#### 4.1.2 Porter's Five Forces Analysis

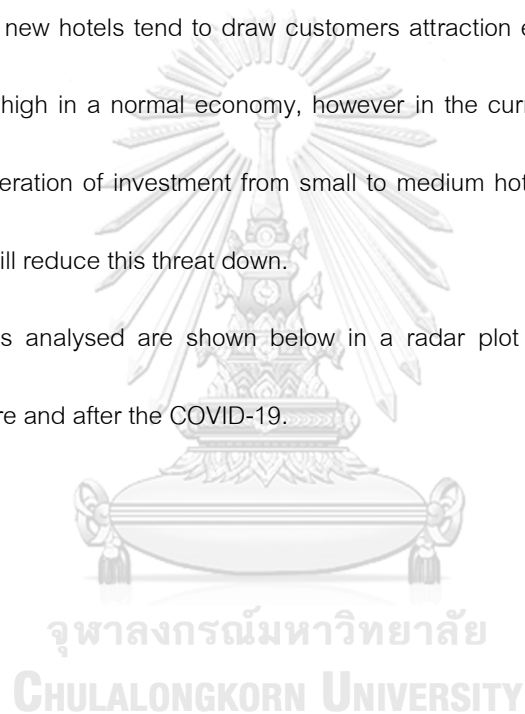
Developed by Michael Porter in 1979, the five forces act as a tool to analyse the external impact to a business. The forces are shown as follow;

1. Competitive Rivalry – With predicted increase in room suppliers from investment of chained hotels, as well as the situation of coronavirus causing a possible reduction in the demand of business trips. This result in a high threat to the business.
2. Bargaining Power of Suppliers – Hotels that relies on Online Travel Agencies (OTA) for majority of their booking would need to pay commission. Alongside suppliers who is also affected by the COVID-19 virus, the supply chain needs to adapt to changes and business turn to help each other to surpass this situation. Threat here from supplier is low, but OTA is reasonably high.
3. Bargaining Power of Buyers – With many hotels available and many relying on OTA, this increases the customer's awareness with price fluctuations. In the industry of business or

corporate booking, the customer's demand tends to be more elastic to price when compared to leisure bookings, this factor is of medium influence.

4. Threat of Substitution – this rises from apartments, condominiums and Airbnb. With options available online, little cost and easy to change options, this is a huge threat to hotel businesses.
5. Threat of New Entrants – influenced by how attractive the new entrants are, with hotel industry, the new hotels tend to draw customers attraction easier than older hotels. Threat here is very high in a normal economy, however in the current downturn of economy and crisis consideration of investment from small to medium hotels might need to be renewed and hence will reduce this threat down.

Porter's forces as analysed are shown below in a radar plot for a better understanding of comparison before and after the COVID-19.



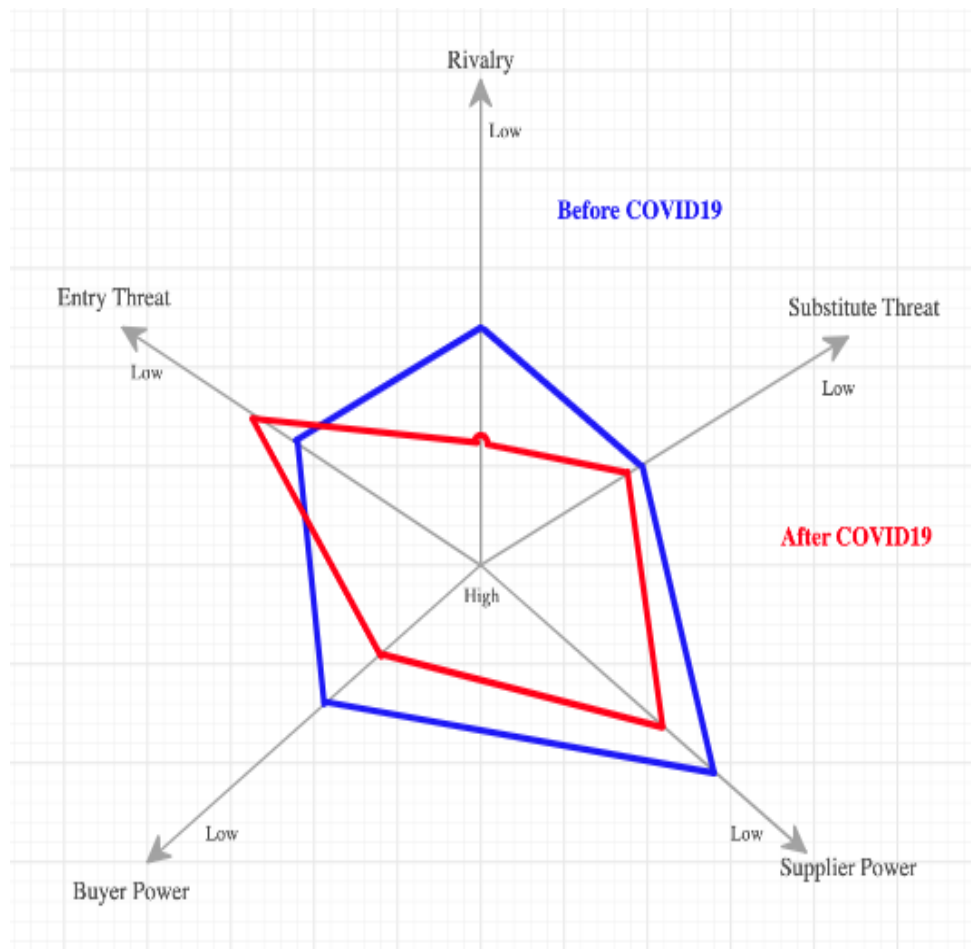


Figure 4 - 7 Porter Five Forces Radar Plot Comparison Before and After COVID-19

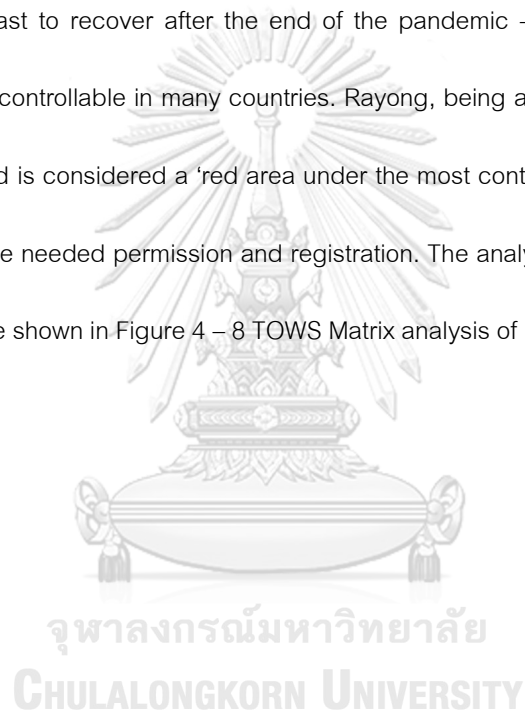
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#### 4.2 Analysis on the business

Here, the focus will be on a possible SWOT matrix that will lead to TOWS matrix. Then the process on analysis of business continuity plan – to look at the critical business operations and select certain operation for reduction in operational cost and staff costs. The scores on the TOWS matrix were given from a discussion in the hotel manager and committee's meeting.

#### 4.2.1 TOWS Matrix Analysis

The business analysis using TOWS matrix looks at the business's strengths and weakness which are determined and weighted as the most important and the least important factor the business by a short meeting of the hotel's management level. Also, the outer situations of the opportunities to the business and threats are analysed by the hotel's management level. The business trends and effect of COVID – 19 largely overweighs many other factors. As many predicted that travel and tourism industry will be the last to recover after the end of the pandemic – and currently the situation of COVID – 19 is still uncontrollable in many countries. Rayong, being a city that is directly affected by COVID – 19 twice and is considered a 'red area under the most control' where citizens to leave and enter Rayong Province needed permission and registration. The analysis of the situation from hotel's management level are shown in Figure 4 – 8 TOWS Matrix analysis of Madina Hotel Rayong.



Strength					Weakness				
	Description	W	R/T	W/S		Description	W	R/T	W/S
<b>S1</b>	Riverside, city centre location	0.25	5.0	1.25	<b>W1</b>	Price	0.05	2.5	0.125
<b>S2</b>	Large parking area	0.18	4.5	0.81	<b>W2</b>	Marketing and communication	0.25	4.0	1.00
<b>S3</b>	Large rooms	0.10	4.0	0.40	<b>W3</b>	Accessories and facilities inside the rooms	0.10	2.5	0.25
<b>S4</b>	Cleanliness	0.12	3.5	0.42	<b>W4</b>	Architecture	0.10	4.0	0.40
<b>S5</b>	Buffet breakfast service	0.10	2.5	0.25	<b>W5</b>	Location near department stores or transport hub	0.15	2.5	0.375
<b>S6</b>	Special corporate prices	0.10	3.5	0.35	<b>W6</b>	Seller's talent	0.20	4.0	0.80
<b>S7</b>	Restaurant and conference halls	0.10	1.0	0.10	<b>W7</b>	Website appearance	0.10	2.5	0.25
<b>S8</b>	WIFI connections	0.05	3.5	0.175	<b>W8</b>	Information and communication	0.05	4.5	0.225
		1		3.755			1		3.425
Opportunity					Threat				
	Description	W	R/T	W/S		Description	W	R/T	W/S
<b>O1</b>	Pricing strategy	0.15	3.0	0.45	<b>T1</b>	Economic recession	0.15	4.0	0.60
<b>O2</b>	Large potential customer (less due to Coronavirus)	0.30	2.0	0.6	<b>T2</b>	New entrants	0.20	3.0	0.60
<b>O3</b>	Quality of service provided	0.25	0.0	0.0	<b>T3</b>	Existing customers	0.15	2.0	0.30
<b>O4</b>	Promotional campaigns	0.15	1.5	0.225	<b>T4</b>	Customer's lifestyle both leisure and business trips	0.10	3.5	0.35
<b>O5</b>	Product improvements	0.15	2.5	0.375	<b>T5</b>	COVID -19	0.40	4.5	1.80
		1		1.65			1		3.65

Figure 4 - 8 TOWS Matrix analysis of Madina Hotel Rayong

The result of the matrix shows that in terms of the strength, the business has its location as a prime advantage. Large space for parking and rooms are also one of the advantages. However, the business weakness is its marketing and communication and the distance to transportation hubs are the business's most disadvantage. As of the business opportunity, there is large potential customer base due to expansion of EEC causing economy to grow with new factories, industries and hence new projects and employment in the area. On the other hand, the threats from COVID – 19 is a huge



obstacle that every business must face. The virus had caused a decline in sales from travel restrictions domestically and internationally.

#### 4.3 Business Continuity Planning

The process leading to business continuity planning includes steps as follow;

1. Determine the business process
2. Determine the critical business functions and resources
3. Analyse business impact analysis
4. To determine the objectives and possible timeframe for a comeback of the critical business processes

Business continuity plan including recovery objectives for each impacted area will be planned and deployed over a time frame. In the case of Madina Hotel the selected core business operations shall be analysed from the Customer Journey Mapping – for selection of only the most worth maintained business operations.

As shown in the literature review, a customer journey map starts from inspiration to buying process of the rooms booked. However, to further analyse the customer's activity, a customer journey map of the process from checking in to checking out will also be required.

Initially, the required core business objectives include staying profitable, surviving and growth, stability and efficiency. This can be transformed to fit with the customer journey map which should have these objectives as customer's satisfaction goal.

1. Marketing as a business function allows communication channels straight to customers which triggers inspiration to travel.

- The channels of User Experience and User Interface of the websites, line, Facebook or other application involved in booking then helps customers to decide their selected hotel. This is in the process of booking and payment – at this point the important feature shall be to make payment as smooth as much as possible. At this point if spending requires too much effort – any customer will not be happy.

The Customer Journey Map of checking in to the hotel until checking out is shown in Figure



## Customer Journey Mapping: Check In -> Check Out

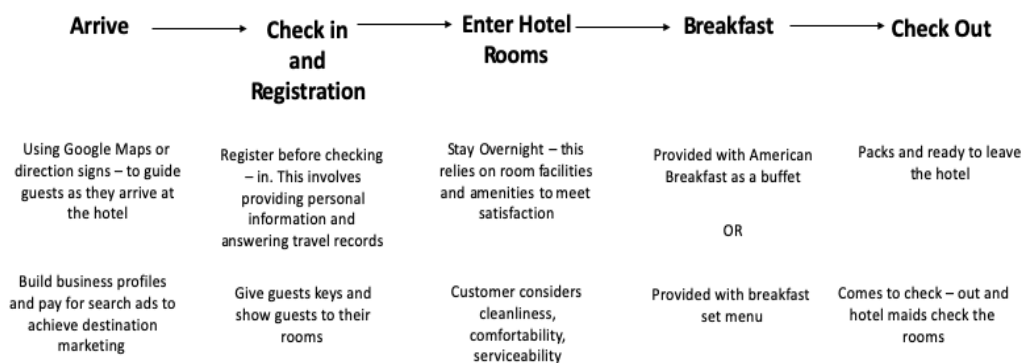


Figure 4 - 9 Customer Journey Mapping during COVID – 19 situations

4-9 Customer Journey Mapping during COVID – 19 situations below.

Here, the process of registration requires more time and effort, this is because the checks of travel history is applicable for all guests. As well as process of room checking and cleaning that requires more details covered by room maids. However, the available hotel buffet breakfast is taken out due to the need of restrictions of distances between one another and keeping guests' own utensils and other equipment to oneself. Therefore, this reduces the buffet breakfast to only set menus which reduces lots of cost on food storage and preparation processes of the buffet as well as

staff needed to allocate at buffet stations. A summary of this will be shown below in Table 4-5

Summary of changes in guests' stay experience before and during COVID-19.

Table 4 - 5 Summary of changes in guests' stay experiences before and during COVID - 19

Before COVID – 19	During COVID – 19
Registration – fill in guests' information and provide ID card.	Registration in the same process as before COVID-19, provides travel history and get temperature checked – if not more than 37.5 degrees Celsius proceed with checking in.
Journey from the check – in counter to guests' rooms.	Additionally, required to wash hands before and after entering the elevator.
Staying overnight.	Process not effecting guests' stay at the hotel – but in the maid's process of cleaning up hotel rooms. Rooms are cleaned with disinfectants, towels and bedsheets washed and dried at over 70 degrees Celsius. Most attention paid to remote controls and table surfaces to keep point of contact as clean as much as possible.
Guests come for breakfast. Provides buffet coupon to hotel staff.	This process is replaced with providing buffet coupon to hotel staff and set menus are provided instead to avoid contact.
Packs, prepare for checking out and check out.	Packs, prepare for checking out and check out. (Same process)

Hence, from the Customer Journey Map and summary of processes before and during COVID-19. Due to the situation of a contagious disease, especially during an emergency decree to try to keep COVID-19 within control, all functions booked at the hotel are cancelled. Therefore, seminars, banquet, hotel restaurants will get restricted and reduced in function. The core business operation is focused at just guests overnight stay and most attention shall be paid here due to many processes involved when compared to before and customer satisfaction is still crucial as a key objective.

#### 4.4 Business critical operations and cost reduction

From the COVID-19 situation, the reduction of cost and trying to stay in business is important. On the revenue side, the sales reduction is compared in Table xx shown below. While in the operation side, the minimum operation required in a service business is upon customer satisfaction as mentioned before. The staff required in each process is shown in Table 4-6 Sales figure before and during emergency decree of COVID-19.

Table 4 - 6 Sales figure before and during emergency decree of COVID-19 (A comparison of 2019

Month	Before COVID – 19 (2019)	During COVID – 19 outbreak and *emergency decree (2020)	Difference
January	942,178	872,021	(70,157)
February	915,550	928,956	13,406
March	987,162	410,020	(577,142)
April	1,232,149	424,279	(807,870)
May	1,297,677	395,208	(902,469)
June	1,334,762	523,738	(811,024)
July	1,139,512	651,430	(488,082)
August	1,149,264	786,039	(363,225)
September	1,066,101	1,178,373	112,272
October	1,118,907	863,531	(255,376)
November	1,129,039	1,024,972	(104,067)
December	1,437,162	860,889	(576,273)
Total	13,749,463	8,919,456	(4,830,007)

and 2020 figures)

The difference of the sales figure shows a total reduction of nearly 5 million in total from 2019 to 2020, this is due to a consecutive reduction of the rooms sold in 10 of the 12 months.

Table 4 - 7 Staff requirement for each operation process

Process	Process in the customer's experience	Number of Staff required	Number of Shifts	Details
A	Interest in the rooms and booking	1 administrative staff	3 shifts/24 hours	This person can be in charge of answering question, applying marketing tools such as online posts on social medias and OTAs.
B	Registration, temperature and travel history checks, Check – In	1 administrative staff	3 shifts/24 hours	This is Front Office operating staff who deals with bookings and checking in. Can be the same role as Process A.
C	Overnight stay	1 overnight staff	1 shift/24 hours	This can also a Front Office staff, but this person will also deal with little issue such as guests' requirements of extra bottle of water etc. This person will have an overnight shift to check through the daily check ins and standby to provide service.

Table 4 – 7 Staff requirements for each operation process (Continued)				
D	Breakfast	1 chef, 1 waiter	1 shift/24 hours	A chef is required to cook breakfast for the guests. In a small sized hotel, the chef can also become the waiter. However, here the operation will keep 1 chef and 1 waiter to make sure process flows as much as possible.
E	Check – Out	1 administrative staff, 1 room maid/15 rooms.	3 shifts/24 hours	Similar to registration and checking in, this staff deals with payment, room checks and will need basic information on guests' booking as well. The number of room maid required to operate is 1 room maid to 15 rooms needed to be cleaned. The person can be the same role as Process A and B.

Staff requirement for each operation process

1. Total number of staff to minimum requirement is 6 per 24 hours. This is a reduction from 28 total hotel staff used to operate before COVID – 19 situations. The hotel chose to hire 8 staff in full and pay 62% for other staff to be on a short break (government supports 38%).
2. As summarised in Table 4-7 Staff requirement for each operational process above, the operation cost will be vastly be reduced when staff cost is reduced. In a service business the cost of staff contributes to the majority of the operation cost. Similarly, in shifting from a

buffet breakfast to a set breakfast, the cost also largely reduces. This detailed information will be shown in Table 4-8 Hotel's operational cost and percentage and explained below.

Table 4 - 8 Hotel's operational cost and percentage

Month	Rooms Sold	Operational Cost	Percentage increase or decrease (%)
January	694	520,790	-
February	786	458,940	(12%)
March	579	441,397	(4%)
April	280	389,993	(12%)
May	380	283,538	(27%)
June	596	310,757	10%
July	727	446,313	44%
August	957	549,061	23%
September	1,006	654,308	19%
October	940	537,727	(18%)
November	1,011	574,041	7%
December	944	536,815	(7%)

The fluctuation in occupancy rate is shown in Table 4-9 Occupancy rate in percentages of months comparison from 2018 to 2020. The increase in occupancy rate is from the season where there is near to zero COVID – 19 infected confirmed cases in Thailand. Alongside government's objective to increase the population spending to boost the countries' economy. An example is 'Rao



Tiew Duay Gun' project which helps to increase domestic travelling among middle income people.

The government's 'Half and Half' project is to boost spending in all levels of income. However, the project launched did not yet complete the project phase.

Table 4 - 9 Occupancy Rate in percentages of all months from January 2018 to December 2020

	2018	2019	2020
January	45.84	50.07	31.53
February	44.92	41.50	39.54
March	47.89	49.25	26.31
April	50.61	59.44	13.15
May	65.15	63.61	17.26
June	56.76	62.58	27.98
July	52.57	54.02	33.03
August	52.39	46.16	43.48
September	45.26	47.42	47.23
October	48.57	50.25	42.71
November	55.63	48.97	47.46
December	52.20	66.83	42.39
Average	51.48	53.34	34.34

From the effect of reduction in number of rooms sold since March, operational procedures are adjusted to lower cost. The effectiveness of the reduction resulted in percentage decrease in operational cost of up to 27%. This is mainly from reduction of staff cost – the hotel's staff are asked

to work at the minimum requirement to maintain customer's satisfaction. This is further taken as a business human resource objective throughout the rest of the year.

Cost for setting up a buffet can be broken down into categories from Thai Food, Original Breakfast, Salads, Beverage, in the Table below the cost is already summed as a total cost per head of the buffet breakfast provided at the hotel. This is assuming that each guest takes one portion of every food option provided on the buffet. The detail of the cost and percentage is calculated per 100 guests.

Table 4 - 10 Comparison of cost for breakfast buffet for 100 guests

Categories	Average Cost	Profit
Buffet	72 Baht	28%

On the other hand, to setting up a set menu for 1 guest only requires less cost. The breakdown of the cost will be as follows;

Table 4 - 11 Comparison of cost to setting up set breakfast

Categories	Cost	Profit
Thai Breakfast Set	54 Baht	46%
American Breakfast Set	63 Baht	37%

Therefore, as the reduction of cost in setting up breakfast as a buffet compared with set breakfast in percentage is around 20%, as well as to keep social distancing as standardised by SHA, the hotel chooses to serve set breakfast instead of buffet. Similarly, reduction of staff reduces cost. Here, the number of staff is reduced as well as number of shifts.

From the above analysis of service provided, it is also worth considering to shift or tailor sales towards providing only room services. Since other functions of service is a burden to the business. By solely relying on rooms sold and provide a monthly rate at a lower price to attract more sales, this can be a marketing strategy for the hotel's business. Despite a large volume of apartment supplied in the market, by having a hotel's cleanliness standard, if the decision-making factor still relies on 'cleanliness', this strategy will help the hotel to perform better. A comparison is shown in Table 4-12 Service provided in comparison to cost reduction.

Table 4 - 12 Service provided to compared with cost reduction

Service provided before COVID – 19	Cost reduction/gain additional revenue.
Room – required cleaning daily, addition of amenities (water, soap, shampoo, shower cap, cotton buds, toothbrush/toothpaste)	Selling at lower price, adding only water bottle is acceptable for the reduced price.
Breakfast – providing buffet breakfast for all guests.	Change to set breakfast – setting up buffet only for certain functions such as tea, coffee, bread and jam and beverages for self-service.
Laundry – having laundry services for guests on additional payments.	Laundry services are provided as lumpsum per month – this helps to increase income and add on to low room rates.
<p><i>To lower cost and maintain operation, the hotel's marketing plan shifted from daily room selling to monthly room selling. This helps the hotel to gain a minimum non-occupied room, reducing occupancy rates.</i></p>	

The minimum business continuity objective MBCO– the lowest objective of the business is to be able to fund itself through COVID – 19 period. The operational cost needed to cover includes staff cost – which is reduced according to the analysis above – cost for utilities, guest supplies, cleaning supplies etc. The total revenue per month to cover all this cost is shown in Table 4-13 Operating cost during COVID – 19 period. The maximum tolerable period of disruption MTPD will depend on the revenue of the hotel. Whereas recovery time and point are difficult to pin point as the situation of COVID – 19 still continues on to 2021. Therefore, the hotel would need a business continuity plan which considers providing more monthly rates.

Table 4 - 13 Operational cost during COVID - 19 period

Function	Cost (Baht)	Type of cost
Staff cost	240,000	Fixed
Utilities (average)	50,000	Variable (300 rooms sold)
Guest supplies (average)	20,000	Variable (300 rooms sold)
Cleaning suppliers (average)	30,000	Variable (300 rooms sold)
Total	340,000	

The estimated 300 rooms sold is from selling 11 rooms per night (1000 baht per room) over a period of 30 days (1-month). Hence, the objective is for the hotel to sell more than 10 rooms per night the hotel can cover all its cost. For the hotel to achieve 340,000 baht revenue per month, the option can be done either through selling rooms per night or monthly room rates. As a part of business continuity plan, selling monthly rates at a reduced price will help the hotel to cover up the total operating cost.

In shifting the hotel to providing monthly rates, there are currently three main solutions;

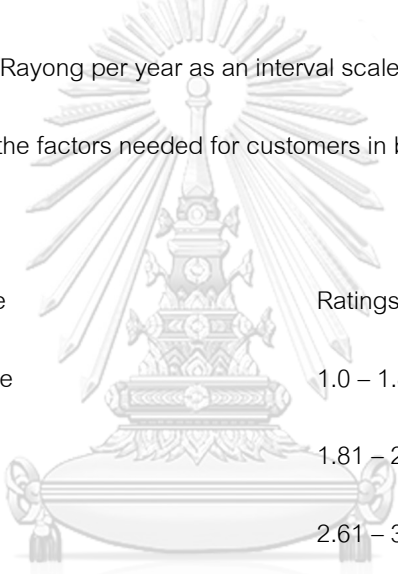
1. To gain trust from large companies and rely on selling all round monthly services including three meals and laundry service to company staff that the business needs to contain in a bubble. This option requires strong marketing team to contact companies with consideration of doing so such as SCG, IRPC, PTT or CP groups.
2. Sell rooms at monthly rates to compete with service apartments. Here, the hotel can reduce or eliminate certain services, and lower price to be able to compete in the industry using cleanliness as a hotel standard as key to gain customers. This part of the revenue will lower burden of operation cost.
3. To enter a government's program to become hospital – hotel, here the government asks for hotels that can provide services for COVID – 19 patients to stay over the period of 14days. The benefit is that the hotel will get paid from the government, though not at a high rate it will help lower burden of operation cost. However, being a hotel providing service for COVID – 19 patients can affect the name of the hotel in the future even after the patients leave. Also, people living within the hotel area would need to agree for the hotel to receive such patients and enter the program.

The case study hotel originally has monthly stay guests and was able to obtain some monthly rooms sold from IRPC and CP for the period from December 2020 through to February 2021. And due to accepting this option, the hotel cannot become a hospital – hotel as the public area inside one building cannot be shared.

## Chapter 5 Quantitative Results and analysis

### 5.1 Questionnaire parts

1. The personal information of guests from age, gender, salary
  - a. Age measured as an ordinal scale
  - b. Gender measured as a nominal scale
  - c. Salary measured with ordinal scale
  - d. Travelling from or home as a nominal scale
2. Number of visits to Rayong per year as an interval scale
3. The importance of the factors needed for customers in being satisfied with the service as an interval scale



Interval scale	Ratings
Very disagree	1.0 – 1.80
Disagree	1.81 – 2.60
Neutral	2.61 – 3.40
Agree	3.41 – 4.20
Very agree	4.21 – 5.00

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4. The satisfaction in the hotel's service as an interval scale

Interval scale	Ratings
Very dissatisfied	1.0 – 1.80
Dissatisfied	1.81 – 2.60
Neutral	2.61 – 3.40
Satisfied	3.41 – 4.20
Very satisfied	4.21 – 5.00

5. The satisfaction in the prevention of COVID-19 processes as an interval scale.

Interval scale	Ratings
Very dissatisfied	1.0 – 1.80
Dissatisfied	1.81 – 2.60
Neutral	2.61 – 3.40
Satisfied	3.41 – 4.20
Very satisfied	4.21 – 5.00

5.2 Population and sampling

The sampled population was selected used convenience sampling. This included those who stayed at the hotel during the time the questionnaire was conducted – hence there is no rules or restriction of the source of data. The total set of data collected is 50 sets of data, and to analyse the confidence interval of the data according to Yamane (1973) is to use the following equation;

$$n = \frac{N}{(1 + N_e^2)}$$

At a confidence interval of 95% and an error of 5%.

Therefore, with the substitution

$$\begin{aligned}n &= 180/1+180(0.05)^2 \\ &=124.1 \text{ persons}\end{aligned}$$

Hence, 125 persons would be the sampled population.

### 5.3 Method to analysis

The method studied will be the collection of data, organisation and analysis of data, translation of results and conclusion. The result will be collected as primary data – the collection of questionnaire result of customer's satisfaction and hotel's statistical data. Alongside secondary data which are figures and statistics from 'Rao Tiew Duay Gun' scheme and other supporting governmental data.

Also, in terms of reliability the questionnaire will be done with 204 hotel's guests – who are mainly Thai citizens that may or may not be involved in 'Rao Tiew Duay Gun' scheme.

#### 5.3.1 Statistical Method to analysis

Description statistic to focus on individual factors affecting customer's choice using the data to analyse mean and standard deviation. As mentioned earlier, the questionnaire is separated into different parts including;

1. Customer's basic information
2. Customer's behavior
3. Customer's needs in the hotel's service
4. Customer's satisfaction in the service



5. The satisfaction of customers in being part of 'Rao Tiew Duay Gun' scheme supported by the government and the service of the hotel under COVID-19 measures.
6. Other suggestions.

The customer's basic information will be analysed using descriptive statistic. The question on the hotel's service and needs in the hotel's service will be analysed using descriptive statistic. However, the factors affecting needs and satisfaction of customers will be analysed using inferential statistic. This will be such as frequency testing and Analysis of Variance – ANOVA. The hypothesis on factors affecting needs, satisfaction and selection of customers will be analysed with a support of Customer Journey Mapping to reflect the experience customers go through and quantitative data from number of rooms sold in the recovered months.

There is a correlation in hotel selection that corresponds to critical procedures maintained during COVID – 19 (SHA standards). The Hypothesis 1 of factors in affecting customer's selection of hotels in Rayong will be analysed as follow;

**Analysis A:**

- a. The correlation of gender of customer and hotels with SHA standards satisfaction
- b. The correlation of age of customer and hotels with SHA standards satisfaction
- c. The correlation of number of visits of customer and hotels with SHA standards satisfaction
- d. The correlation of point of visit of customer and hotels with SHA standards satisfaction

- e. The correlation of available budget of customer and hotels with SHA standards satisfaction
- f. To measure these hypotheses the result will be analysed using normality test to determine the validity of t-test and Analysis of Variance ANOVA test. Then the hypothesis shall be determined which ones are accepted or rejected.

The Hypothesis 2 will be in order to determine the effectiveness and acceptability of COVID – 10 controlling procedures and measures. Hence, the correlation of procedures guests goes through with their satisfaction will be analysed.

#### Analysis B:

From the prediction that there is a correlation of the customer's satisfaction to the hotel's service can be impacted by the situation, measures and control of COVID-19 procedures that guests need to experience. The procedures the hotel choose will to implement will affect satisfaction.

The key points and factors the hotel shall consider are;

- a. Critical factors to continue business are reduction of operational cost.
- b. The trade-offs between cost in operation to maintain hygienic standard is impossible – a burden on the business, however customer will not feel that this is a burden on them since they would understand the situation.
- c. The government's project of “Rao Tiew Duay Gun” and the tourism authority of Thailand's project to form business partner on LINE official with business in the tourism industry as well as projects for allocation of seminars around Thailand will

help to boost the tourism industry in the short term. However, in the long term it is a tough situation to recover 100% back to normal.

Independent variable – The different in controlling situation before and after COVID-19 and maintaining only the critical business operations.

Dependent variable – Customer's satisfaction done through questionnaire and customer journey mapping. Number of rooms sold per month from August onwards as quantitative data and frequency analysis.

#### 5.4 Descriptive Results

This study aims to determine the satisfaction of tourist involved and not involved in the 'Rao Tiew Duay Gun' project conducted by the government during their stay at Madina Hotel in Rayong. The parts to the results analysed from the questionnaire will show as:

1. Descriptive result of guests' demographical backgrounds
2. Guests' behaviour and the factor they are looking for in a hotel
3. Guests' satisfaction in their stay at the hotel
4. Guests' satisfaction involving the COVID-19 measures the hotel have taken and improvements need to be made
5. Hypothesis testing

Result of guests' demographical backgrounds

1. Gender – as frequency and percentage of total guests

Table 5 - 14 Gender frequency and percentage

Gender	Amount	Percentage
Male	136	67
Female	66	33
Total	204	100

From the result in Table 5 - 14 Gender frequency and percentage, the majority of the respondents are male with the ratio of 68 to 32, male to female respectively. This is 68% male respondents.

1. Age – as frequency and percentage of total guests

Table 5 - 15 Age frequency and percentage

Age	Amount	Percentage
21-30	41	20
31-40	53	26
41-50	77	38
51-60	25	12
Above 60	8	4
Total	204	100

The results of the guest's respondents are shown in Table 5-15 Age frequency and percentage that, the majority of the respondents are aged between 41-50 who chose to stay at this hotel. Secondly is age 21-30, 31-40, 51-60 and above 60 respectively. This result will be used in further analysis when determining the reason for re-visit at the hotel. Percentage wise, the guests aged

between 41-50 is 38% of the questionnaire respondents. Which is considered a large portion of guest respondents.

2. Number of visits to Rayong – as frequency and as percentage of total guests

From the study, guests who stayed at the hotel tend to visit Rayong only 1-3 times per year. This can mean majority is only once per year, hence they can be travelling to Rayong for leisure rather than work – the specifics of the result will be shown in the next part of the analysis. Secondly is visits 4-6 times per year. These guests are those who would revisit Rayong and shall mostly be because of work. However, the next category is 10 times and above per year. This is up to 14% meaning that 14 out of 100 people travel to Rayong for work. Hence are why many hotels have planned to open in Rayong area.

Table 5 - 16 Number of visits frequency and percentage

Number of Visits	Amount	Percentage
1-3 times/year	109	54
4-6 times/year	49	24
7-9 times/year	17	8
10 times and above/year	29	14
Total	204	100

3. Reason for travelling to Rayong – as frequency and percentage of total guests

Table 5 - 17 Point of visit frequency and percentage

Point of Visit	Amount	Percentage
Work	140	69
Travel	64	31
Total	204	100

The point of visit is only separated into work and travel stay. The reason for the separation being that Rayong is a city that can be suitable for work due to many large industrial estates located in the area as well as suitable for tourism because of the province's geographical location being close to the sea and have many islands. For the guests to stay at the hotel whose location in the city centre, the reason for stay can be both for work or travel. According to the result of the questionnaire, the majority of the guests who chose to stay are for work or business trip and this is a value of up to 70%. This fits with the hotel's pricing scheme – to have contracting company rates available for employees to stay during business trips. On the other hand, the guests who are here for travelling is only 30%.

This value however can be affected by seasonality and holidays. During holiday period, less guests will travel for work and more guests are booked through Online Travel Agencies such as Agoda or Booking.com rather than to book directly through the hotel. Also, the number of guests booked through 'Rao Tiew Duay Gun' government scheme is also mostly in Rayong for travelling. This is because the scheme requires at least 3 days advanced booking of each hotel and sometimes

a business trip can be sudden for many guests. Such as factory clean up or shut down or urgent issues need to be maintenance in the factory.



4. Location of travel of guests from each area – frequency and percentage of 204 guests.

Table 5 - 18 Location of origin frequency and percentage

Home Address	Amount	Percentage
Bangkok and Central	81	40
East	33	16
North	21	10
South	13	6
West	20	10
North East	36	18
Total	204	100

As shown in the Table 5-18 Location of origin frequency and percentage above, the majority of the guests are from Bangkok and Central Area. Up to 40% of respondents say they are from Bangkok and Central Area, with 18% from the North East, 16% from the Eastern region, 10% from the North and West and 6% from the Southern region.



5. Occupation of respondents – frequency and percentages of 204 guests.

Table 5 - 19 Occupation frequency and percentage

Occupation	Amount	Percentage
Civil Servants/Government Organisation employees	40	20
Business Employees	132	65
Self-Employed/Business Owners	31	15
Students	1	-
Others	0	-
Total	204	100

According to Table 5-19 Occupation frequency and percentage, the results show that up to 66% of respondents are from business employees who work for private companies. This is more than half of the respondents and with logical evidence – this fulfils the result that 70% of the guests travel to Rayong for work purposes. Secondly the guests are civil servants or governmental employees. These group of guests account to 20 of the total respondents. This can be explained by the geographical location of the hotel being close to schools and government offices as well as the police station. Therefore, not only contracted company rates, the hotel also offers governmental employee's special rates available upon request. Lastly, only 14% of the guests are business owners.

In Table 5-20 Mean and standard deviation of factors, the important factors that guests consider the most is that the hotel should have parking areas available. This gave a mean of 4.73, in terms of the importance of this factor influencing decision to stay. Next is that the hotel should

provide breakfast service, and have electrical appliances and facilities ready for service. Also, the location of the hotel, availability of seminar rooms, swimming pool, gym and sauna have the mean of more than 3.5, showing that these factors are quite an influence for guests' decision-making process.

Table 5 - 20 Mean and Standard Deviation of factors

	Distance/Location	Breakfast Service	Seminar Room	Parking Area
Mean	4.32	4.64	4.13	4.73
SD	0.94	0.62	0.91	0.52
	Electrical Appliances and Facilities	Gym Room	Swimming Pool	Sauna Room
Mean	4.57	3.59	3.76	3.35
SD	0.66	1.00	0.98	0.93

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6. Factor to visit the hotel – frequency and as percentage

Table 5 - 21 Factors to visit frequency and percentage

Factors	Amount	Percentage
<i>Revisit</i>	<b>176</b>	<b>86</b>
Service	52	30
Price	28	16
Facilities	32	18
Environment and architecture	28	16
Location	36	20
<i>No revisit</i>	<b>14</b>	<b>14</b>
Service	2	13
Price	4	29
Facilities	4	29
Environment and architecture	0	-
Location	4	29
<b>Total</b>	<b>204</b>	<b>100</b>

The frequency of the results as shown in Table 5-21 Factors to visit the hotel frequency and percentages, are that up to 86% of the guests chose to revisit the hotel if they were to travel to Rayong. With the highest percentage at 24% being because of the hotel's services provided from hotel's staffs. Secondly due to the hotel's location at 18%, which meant the hotel's location is easy to travel to work for the majority of the guests. Also, at 16%, the facilities became a factor of revisit, then

the price and environment and architecture of the hotel as 14%. On the other hand, the factor to not revisit contributes to 14%. The highest factor being the service as provided by hotel staffs at 6% - which can be associated with certain specific situation. Secondly at 4% is the hotel's location – not being close to shopping areas, restaurants or bars. And equal factors at 2% being on price and facilities of the hotel that may be not enough causing no revisit to the hotel.

7. Guests' satisfaction and factors to influence their stay at the hotel

Table 5 - 22 Different factors that encourage guest to book the stay at the hotel

Customer's satisfaction and requirements to hotel usage – based on factors that influences their satisfaction	X (mean)	Median	S.D.	Meaning
Friendliness of hotel staff	4.52	5.00	0.635	Highly important
Cleanliness overall	4.60	5.00	0.603	Highly important
Architecture and design overall	4.36	4.00	0.689	Highly important
Amenities in the hotel room	4.32	5.00	0.790	Highly important
Price per stay	4.40	4.50	0.667	Highly important
Comfortability to the stay	4.54	5.00	0.642	Highly important
Facilities inside the hotel area	4.38	4.50	0.693	Highly important
Total satisfaction overall	4.47	4.50	0.733	Highly important
Total	4.45	4.69	0.682	-

From the table above, the factors that affect the satisfaction and requirements of the hotel usage – based on satisfaction with a mean of 4.45. Median of 4.69 and standard deviation of 0.681. The factor that affects the satisfaction and requirements the most is cleanliness overall with a mean of 4.60, secondly is comfortability of stay at 4.54 and price per stay as the third most important at 4.40.

Table 5 - 23 Guest's satisfaction in using hotel service with COVID – 19 procedures implemented

COVID – 19 Procedures	X (mean)	Variance	S.D.
Efficient supplies of alcohol gel for hand wash in all areas of the hotel	4.62	0.319	0.565
Temperature measurements of the hotel guests	4.57	0.369	0.607
Information gathering of the hotel guests during check – in	4.54	0.323	0.592
Leaving distances – social distancing	4.52	0.394	0.627
Convenience in reservation and checking in processes	4.61	0.341	0.584
Procedures to enter and use the hotel room	4.53	0.433	0.658
Price of the room is reasonable	4.70	0.273	0.522
Service level of staff in reservation and checking in	4.58	0.408	0.638
Total satisfaction	4.59	0.357	0.599
Total			

Hypothesis 1

Dependent Variable	Statistical Tool
Hypothesis 1.1 The correlation of gender of customer and hotels with SHA standards	T – Test
Hypothesis 1.2 The correlation of age of customer and hotels with SHA standards	One-Way ANOVA
Hypothesis 1.3 The correlation of location of customer's origin and hotels with SHA standards	One-Way ANOVA
Hypothesis 1.4 The correlation of point of visit of customer and hotels with SHA standards	T – Test

*Hypothesis 1.1: The correlation of gender of customer and hotels with SHA standards*

$H_0$ : the difference in gender does not affects the satisfaction of hotels with SHA standards differently

$H_1$ : the difference in gender does affect the satisfaction of hotels with SHA standards differently

A Normality Test will be conducted to determine the distribution of data, with a normally distributed data, the T-Test will be conducted to test for the sample population and will reject main hypothesis,

$H_1$  when value is less than 0.05.

Table 5 - 24 Normality Test for factors affecting decision

Tests of Normality					
Gender		<i>Kolmogorov-Smirnova</i>		<i>Shapiro-Wilk</i>	
		Statistic	df	Statistic	df
Cleanliness	Male	0.413	134	0.646	134
	Female	0.39	70	0.677	70
Design	Male	0.297	134	0.756	134
	Female	0.269	70	0.691	70
Amenities	Male	0.357	134	0.714	134
	Female	0.264	70	0.788	70
Price	Male	0.277	134	0.762	134
	Female	0.394	70	0.671	70
Comfortable	Male	0.394	134	0.672	134
	Female	0.384	70	0.626	70
Facilities	Male	0.326	134	0.747	134
	Female	0.299	70	0.739	70

a. Lilliefors Significance Correction

As the significant level of Kolmogorov-smirnov and Shapiro-wilk is higher than the significant level of

$\alpha = 0.05$  , the population is able to undergo independent sample t-test.

Table 5 - 25 Independent test for factors affecting decision

Independent Samples Test				
	F	Sig.	t	df
Cleanliness	0.175	0.676	0.457	202
Design	0.161	0.688	0.299	202
Amenities	0.289	0.592	1.748	202
Price	1.701	0.194	-1.819	202
Comfortable	9.735	0.002	-0.672	202
Facilities	5.97	0.015	-0.264	202

All values of significant levels are over 0.05 except for two factors, the satisfaction in comfortability and facilities. Hence, the hypothesis  $H_0$  is accepted that gender does not correlate with any customer satisfaction in these two criteria, and  $H_1$  is rejected. With other criteria including cleanliness, design, amenities and price: gender affects the customer satisfaction in these areas as significant levels are over 0.05. Therefore,  $H_0$  is rejected and  $H_1$  is accepted.

*Hypothesis 1.2: The correlation of age of customer and hotels with SHA standards*

$H_0$ : the difference in age does not affect the satisfaction of hotels with SHA standards differently

$H_1$ : the difference in age does affect the satisfaction of hotels with SHA standards differently

One – Way ANOVA analysis at confidence interval of 95% will be used.  $H_0$  will be rejected with confidence interval less than 0.05.



Table 5 - 26 ANOVA test for factors affecting decision

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Cleanliness	Between Groups	6.493	4	1.623	4.855	0.001
	Within Groups	66.546	199	0.334		
	Total	73.039	203			
		Sum of Squares	df	Mean Square	F	Sig.
Design	Between Groups	8.828	4	2.207	5.088	0.001
	Within Groups	86.329	199	0.434		
	Total	95.157	203			
		Sum of Squares	df	Mean Square	F	Sig.
Amenities	Between Groups	9.307	4	2.327	3.958	0.004
	Within Groups	116.983	199	0.588		
	Total	126.289	203			
		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	3.977	4	0.994	2.278	0.062
	Within Groups	86.861	199	0.436		
	Total	90.838	203			
		Sum of Squares	df	Mean Square	F	Sig.
Comfortability	Between Groups	1.742	4	0.435	1.072	0.372
	Within Groups	80.861	199	0.406		
	Total	82.603	203			

Table 5 – 26 ANOVA test for factors affecting decision (Continued)						
		Sum of Squares	df	Mean Square	F	Sig.
Facilities	Between Groups	1.815	4	0.454	0.957	0.432
	Within Groups	94.361	199	0.474		
	Total	96.176	203			

Significant Level of Alpha = 0.05

From the above table, the significant level of less than 0.05 will reject  $H_0$  and accept  $H_1$ . Therefore, the criteria of cleanliness, design and amenities, age does affect the satisfaction in these areas. However, in the criteria of price, comfortability and facilities provided, the age of the guests affects the perception of satisfaction in these categories. Since the value is 0.062, 0.372 and 0.432 respectively using Scheffe at 95% confidence interval.

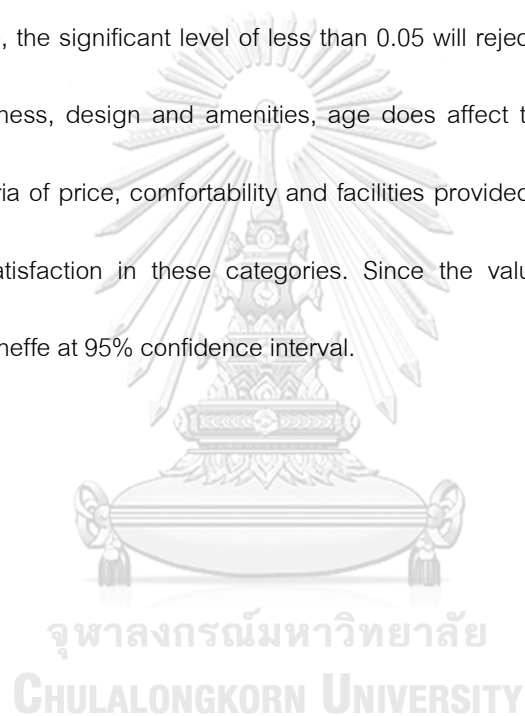


Table 5 - 27 Comparison of factors - cleanliness

Cleanliness/ Age	21-30	31-40	41-50	51-60	60 above
21-30	-	0.338	0.168	0.108	0.8*
		(0.106)	(0.695)	(0.969)	(0.005)
31-40		-	0.17	0.231	0.462
			(0.615)	(0.6)	(0.258)
41-50			-	0.061	0.632*
				(0.995)	(0.035)
51-60				-	0.692*
					(0.038)
60 above					-

Here, the difference in age compared in a comparison test shows that the age group of population above 60 years old have higher satisfaction than population age 21-30 years old, 41-50 years old and 51-60 years old in terms of the cleanliness of the rooms.

Table 5 - 28 Comparison of factors - design

Design/ Age	21-30	31-40	41-50	51-60	60 above
21-30	-	0.446*	0.284	0.092	0.6
		0.038	0.304	0.989	0.161
31-40		-	0.162	0.538*	0.154
			0.76	0.023	0.977
41-50			-	0.377	0.316
				0.18	0.73
51-60				-	0.692
					0.097
60 above					-

The difference in age comparison test shows that the age group of population between 31-40 years old is more satisfied than 21-30 years old in terms of the design of the rooms. Also, 51-60 years old population are more likely to be satisfied with room designs than 31-40 years old.

Table 5 - 29 Comparison of factors -amenities

Amenities/ Age	21-30	31-40	41-50	51-60	60 above
21-30	-	0.292	0.284	0.754*	0.1
		0.513	0.465	0.005	0.998
31-40		-	0.008	0.462	0.192
			1	0.184	0.971
41-50			-	0.47	0.184
				0.127	0.972
51-60				-	0.654
					0.266
60 above					-

The difference in age comparison test shows that the age group of population between 51-60 years old is more satisfied than 21-30 years old in terms of the amenities provided inside the rooms and in the hotel area.

The correlation in price, comfortability and facilities show no significance of one age group over another, hence fits with the result that the age shows no difference in guests' satisfaction in these three areas.

*Hypothesis 1.3 The correlation of location of customer's origin and hotels with SHA standards satisfaction*

$H_0$ : the location of origin affects does not the satisfaction of hotels with SHA standards differently

$H_1$ : the location of origin does affect the satisfaction of hotels with SHA standards differently

One – Way ANOVA analysis at confidence interval of 95% will be used.  $H_0$  will be rejected with factor less than 0.05.



Table 5 - 30 ANOVA analysis for factors of satisfaction

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Cleanliness	Between Groups	14.647	5	2.929	9.933	0
	Within Groups	58.392	198	0.295		
	Total	73.039	203			
		Sum of Squares	df	Mean Square	F	Sig.
Design	Between Groups	8.411	5	1.682	3.84	0.002
	Within Groups	86.746	198	0.438		
	Total	95.157	203			
		Sum of Squares	df	Mean Square	F	Sig.
Amenities	Between Groups	8.995	5	1.799	3.037	0.012
	Within Groups	117.294	198	0.592		
	Total	126.289	203			
		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	8.85	5	1.77	4.274	0.001
	Within Groups	81.989	198	0.414		
	Total	90.838	203			

Table 5 – 30 ANOVA analysis for factors of satisfaction (Continued)						
		Sum of Squares	df	Mean Square	F	Sig.
Comfortability	Between Groups	6.199	5	1.24	3.213	0.008
	Within Groups	76.404	198	0.386		
	Total	82.603	203			
		Sum of Squares	df	Mean Square	F	Sig.
Facilities	Between Groups	14.774	5	2.955	7.187	0
	Within Groups	81.402	198	0.411		
	Total	96.176	203			

From the Table 5 - 30 ANOVA analysis for factors of satisfaction, if the significant level is less than 0.05 the result determines the hypothesis that will be rejected is  $H_0$  and will accept  $H_1$ . All criteria show significant intervals of less than 0.05, hence instead, the  $H_1$  hypothesis will be rejected and  $H_0$  will be accepted that; location of customer's origin does not have any affect or correlation with the satisfaction of hotels with SHA standards differently.

*Hypothesis 1.4 The correlation of point of visit of customer and hotels with SHA standards satisfaction*

$H_0$ : the point of visit does not affects the satisfaction of hotels with SHA standards differently

$H_1$ : the point of visit does affect the satisfaction of hotels with SHA standards differently



A Normality Test will be conducted to determine the distribution of data, with a normally distributed data, the T-Test will be conducted to test for the sample population and will reject main hypothesis,  $H_1$  and accept  $H_0$  when significant value is less than 0.05.

Table 5 - 31 Independent test for factors of satisfaction

Independent Samples Test				
	F	Sig.	t	df
Cleanliness	2.872	0.092	2.067	202
Design	9.082	0.003	-0.557	202
Amenities	1.399	0.238	1.501	202
Price	1.289	0.258	3.167	202
Comfortability	3.445	0.065	1.131	202
Facilities	6.317	0.013	0.597	202

The satisfaction in design shows significant level less than 0.05, therefore point of visit is not relevant to guest satisfaction in hotel's design. Hence, the hypothesis  $H_0$  is accepted and  $H_1$  is rejected. Customer's satisfaction in cleanliness, amenities, price, comfortability and facility is affected by the point of travel whether it be travelling for work or travel – this is because the significant levels are all over 0.05. Therefore,  $H_0$  is rejected and  $H_1$  is accepted.

*Hypothesis 1.5 The correlation of customer's occupation and the hotels with SHA standards satisfaction*

$H_0$ : the customer's occupation does not affect the satisfaction of hotels with SHA standards differently

$H_1$ : the customer's occupation does affect the satisfaction of hotels with SHA standards differently

One – Way ANOVA analysis at confidence interval of 95% will be used.  $H_0$  will be rejected with factor less than 0.05.



Table 5 - 32 ANOVA Test for factors of satisfaction

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Cleanliness	Between Groups	2.018	2	1.009	2.855	0.06
	Within Groups	71.022	201	0.353		
	Total	73.039	203			
		Sum of Squares	df	Mean Square	F	Sig.
Design	Between Groups	4.757	2	2.378	5.288	0.006*
	Within Groups	90.4	201	0.45		
	Total	95.157	203			
		Sum of Squares	df	Mean Square	F	Sig.
Amenities	Between Groups	0.569	2	0.284	0.455	0.635
	Within Groups	125.721	201	0.625		
	Total	126.289	203			
		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	3.023	2	1.511	3.459	0.053
	Within Groups	87.816	201	0.437		
	Total	90.838	203			

Table 5 – 32 ANOVA Test for factors of satisfaction (Continued)						
		Sum of Squares	df	Mean Square	F	Sig.
Comfortability	Between Groups	1.998	2	0.999	2.491	0.085
	Within Groups	80.605	201	0.401		
	Total	82.603	203			
		Sum of Squares	df	Mean Square	F	Sig.
Facilities	Between Groups	2.802	2	1.401	3.016	0.051
	Within Groups	93.374	201	0.465		
	Total	96.176	203			

From the Table 5 - 32 ANOVA test for factors of satisfaction, if the significant level is less than 0.05 the result determines the hypothesis that will be rejected is  $H_0$  and will accept  $H_1$ . The only criteria that significant level is less than 0.05 is design, hence  $H_0$  will be accepted that the occupation of customers does not affect their satisfaction in the hotel's design. However, for all the other criteria the significant level is greater than 0.05, hence  $H_0$  is rejected and  $H_1$  is accepted that occupation does affect the satisfaction in the following criteria; cleanliness, amenities, price, comfortability and facilities.

Table 5 - 33 Comparison of factors of satisfaction - cleanliness

Cleanliness/ Occupation	Civil Servants	Business employees	Self employed/ Freelance
Civil Servants	-	0.237	0.29*
		0.089	0.039
Business employees		-	0.053
			0.911
Self employed/Freelance			-

The comparison test of occupation affecting satisfaction shows that the self-employed or freelance customers are more likely to be satisfied with cleanliness than civil servants who stayed at the hotel since significant level is 0.039 which is less than  $\alpha = 0.05$ .

Table 5 - 34 Comparison for factors of satisfaction - amenities

Amenities/ Occupation	Civil Servants	Business employees	Self employed/Freelance
Civil Servants	-	0.004*	0.148*
		0.000	0.001
Business employees		-	0.152
			0.644
Self employed/Freelance			-

For the satisfaction of available amenities, two paired comparisons can be made. The comparison test of occupation affecting satisfaction shows that the business employees and self-employed or freelance customers are more likely to be satisfied with available amenities than civil servants who stayed at the hotel since significant level is 0.000 and 0.001 which is less than  $\alpha = 0.05$  respectively.

Table 5 - 35 Comparison of factors for satisfaction - price

Price/ Occupation	Civil Servants	Business employees	Self-employed/ Freelance
Civil Servants	-	0.059	0.297
		0.883	0.187
Business employees		-	0.356*
			0.033
Self employed/Freelance			-

The comparison test of occupation affecting satisfaction in terms of the price of stay at the hotel shows that the self-employed or freelance customers are more likely to be satisfied with cleanliness than business employees who stayed at the hotel with a significant level of 0.033 which is less than  $\alpha = 0.05$ .

Table 5 - 36 Comparison for factors of satisfaction - comfortability

Comfortability/ Occupation	Civil Servants	Business employees	Self employed/ Freelance
Civil Servants	-	0.215	0.014
		0.172	0.996
Business employees		-	0.201*
			0.00
Self employed/Freelance			-

The comparison test of occupation affecting comfortability and satisfaction of their stay at the hotel shows that the self-employed or freelance customers are more likely to be satisfied with the comfortability than business employees who stayed at the hotel with a significant level of 0.00 which is less than  $\alpha = 0.05$ .

Table 5 - 37 Comparison for factors of satisfaction facilities

Facilities/ Occupation	Civil Servants	Business employees	Self employed/ Freelance
Civil Servants	-	0.159	0.162
		0.432	0.622
Business employees		-	0.321*
			0.033
Self employed/ Freelance			-

In terms of facilities, the comparison test of occupation and satisfaction of the facilities available during their stay at the hotel shows that the self-employed or freelance customers are more likely to be satisfied with the facilities than business employees who stayed at the hotel with a significant level of 0.033 which is less than  $\alpha = 0.05$ .

Hypothesis 2

Dependent Variable	Statistical Tool
Hypothesis 2.1 – The customer's satisfaction to the hotel's service is not affected by the situation, measures and control of COVID-19.	ANOVA

*Hypothesis 2.1 There is a correlation of procedures in preventing COVID – 19 measures with customer's satisfaction.*

$H_0$ : the COVID -19 procedures does not affect the customer's satisfaction in staying at the hotel.



$H_1$ : the COVID -19 procedures does affect the customer's satisfaction in staying at the hotel.

One – Way ANOVA analysis at confidence interval of 95% will be used.  $H_0$  will be rejected with factor less than 0.05.

Table 5 - 38 ANOVA Test for customer satisfaction

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Alcohol	Between Groups	10.117	2	5.059	15.396	0
	Within Groups	66.371	202	0.329		
	Total	76.488	204			
Temperature	Between Groups	9.931	2	4.965	14.075	0
	Within Groups	71.26	202	0.353		
	Total	81.19	204			
Distancing	Between Groups	7.871	2	3.935	13.051	0
	Within Groups	60.91	202	0.302		
	Total	68.78	204			
Booking	Between Groups	9.036	2	4.518	11.709	0
	Within Groups	77.94	202	0.386		
	Total	86.976	204			
Procedures	Between Groups	4.176	2	2.088	8.258	0
	Within Groups	51.073	202	0.253		
	Total	55.249	204			

Table 5 – 38 ANOVA Test for customer satisfaction (Continued)						
Price	Between Groups	11.807	2	5.904	17.091	0
	Within Groups	69.773	202	0.345		
	Total	81.58	204			

With the results shown in Table 5-38 ANOVA Test for customer satisfaction, the significant level is less than  $\alpha = 0.05$  for all criteria as follows;

1. Preparation of alcohol gels and the need for customers to wash their hands with alcohol before registration
2. Temperature check of all guests before entering the hotel and registration
3. Social distancing method – being to keep 1-2 metres between guests. And only 2 guests are allowed on the elevator in one ride.
4. Booking procedures to make sure they are fully registered both via hotel's common registration form and Thai-Chana application.

With these value  $H_0$  will be accepted and  $H_1$  rejected. Hence, there are no correlation between these COVID-19 measures and procedures with guests' total satisfaction in their stay at the hotel.

Table 5 - 39 Total guests' satisfaction

Total Satisfaction	
Mean	Standard Deviation
4.61	0.621

Table 5 - 39 Total guests' satisfaction, shows the mean value of 204 guests review of their overall satisfaction. The value of standard deviation is 0.621.



## Chapter 6 Conclusion

The conclusion to a business continuity management outline of a medium sized hotel during COVID-19 will be compared with cost of business operation before the crisis and during the crisis. Occupancy rate and price per room rate comparison before and during the crisis and finally customer satisfaction using a questionnaire. Hence, this chapter will be separated as follows;

1. Research conclusion
2. Result discussion and evaluation
3. Future recommendation

### 6.1 Research conclusion

The conclusion to the research is separated into analysis on qualitative research results and quantitative research result. Quantitative research result shows descriptive statistics conclusion – using percentages, mean and standard deviation and another is analysis on the results of the questionnaire to show guests' satisfaction with the hotel's service.

The qualitative research results are as follows;

The business industry is largely affected by the coronavirus. More shifts of working trend to 'work from home' meaning that less people will travel to work at their offices, let alone other provinces. Therefore, the trend of subcontracting teams to travel to Rayong will be less when compared to normal situation. However, in terms of maintenance of factories in Rayong and Eastern Seaboard areas, subcontracting maintenance teams are still needed. Another large effect on the

hotel business is the legislation announced by the government. This includes the SHA standards, MICE standards that hotels need to follow as well as announcement of closure of certain areas to restrict travelling or even announcement of the emergency decree to keep partying, meetings and seminars low.

When considering other hotels, obviously there are those hotels that decide to go out of business and those who plan and endure through the situation. The competition decreases from the analysis of Porter's due to less hotels in operation, but at the same time supply decreases due to demand decrease vigorously. Hence, difficult to get guests who are to stay overnight in Rayong. With such result in the threats effecting the business, the strength of the business does not have any affect and opportunities are limited. From the TOWS matrix alongside questionnaire, the location, cleanliness, large rooms and breakfast services shows a large importance to selection of the hotels and satisfaction. However, during the months where COVID – 19 was at the peak, these factors show no importance as there are no guest and no travelling.

The business continuity plan as completed focuses on reducing cost, maintaining the critical operation and financial plans of the hotel business. In terms of operations however, requires more processes for guests' experience in checking – in process this is due to more information and documents required. The critical business functions determined focuses on the main service of the hotel – room selling. Therefore, it was decided that the food and beverage function will be limited and change from a buffet breakfast to set breakfast, the business is able to reduce cost associated in the staff hired and fresh ingredients prepared. Also, the function to reduction of staff cost to will help financial plans easier for the operating costs.

The operating cost reduced mainly from staff reduction, was determined from considering only the important business processes and staff used only to complete these processes, while

maintaining guest's satisfaction. This meant that the reduction of cost is around 7,700 per day and 238,700 per month. This is a reduction of nearly 70% of the total operating cost.

The minimum business continuity objective MBCO is to achieve a total revenue per month enough to cover business operating cost. The maximum tolerable period of disruption MTPD will depend on the revenue of the hotel and ability of supportive funds of the business during difficult times. Recovery time and point is unpredictable due to continuity of the COVID – 19 situations. From the cost calculated, if 300 rooms were sold – 10 rooms per night over a period of 30 days (1-month), the hotel can cover nearly all of its operating cost. Hence, the marketing objective is for the hotel to sell more than 10 rooms per night. The option can be done either through selling rooms per night or monthly room rates. As a part of business continuity plan, the hotel decided to reduce its monthly rates to become more competitive in the market of service apartments in order to win over some revenue.

The governmental project, 'Rao Tiew Duay Gun' that influences travelling domestically influences a lot of the sales from June onwards. This is shown clearly with increase of room occupancy rate in percentage from the month of May to June and onwards. However, the booking via this project requires a lot more registration and processes but the effect on the experience of the guest is very minimal as shown in guest's satisfaction in quantitative market research.

The quantitative research results in terms of descriptive statistics conclusion are as follows;

1. The more dominant gender to complete the survey were male with up to 136 guests being male and only 66 female guests who completed the survey – this is 66 percent male and 34 percent female. This can be because during the time this survey was conducted the hotel was majorly booked by operational engineers who travel upcountry for plan shut downs and

to complete annual operation checks. Due to being unable to travel in the previous months many businesses plan for travel to other regions as soon as travelling is available.

2. The age group of the guests completed the survey is between 41-50 years old at 38% and 31-40 years old at 26% respectively. Hence, the guests' satisfaction during the time the survey was conducted will mostly be influenced by 31-50 years old – those who have worked for at least 10 years or middle age generation. During periods of long holidays, the age of the guests will be different. The next age group with 41 correspondents is 21-30 years old at 20%, 51-60 years old at 12% and above 60 years old at 4%.
3. Most guests travel to the hotel for work with 140 guests at 69% staying as work stay. This can be explainable from the nature of this province providing lots of business and services as well as a pricing strategy of Madina Hotel that involves a contracted rate between businesses.
4. The number of visits of guests that are between 1-3 times per year is 109 correspondents at 54%. Secondly is 4-6 times per year at 24% and 7-9 times per year at 8% and finally 10 times and above per year at 14%. To conclude then, 4 times and above percentage correspondents are at least 40%. Due to Madina Hotel loyalty scheme – room collection point scheme where ten rooms equal ten points to be traded for a free one-night stay. This can be an influence to the figures shown.
5. The majority of the guests are from Bangkok and Central area – this match with the fact that most of hotel guests travel for work. Up to 81 correspondents at 40%.
6. Guests occupation are mostly business employees at 65% - 132 correspondents, 20% - 40 correspondents being Civil Servants and the rest business owners and free lancers.

The quantitative research results in terms of analysis on the results of the questionnaire are as follows;

In terms of the guests' view of the importance of factors provided by the hotel. The most important factor that guests look for is the hotel should have enough parking areas available. Up to 156 number of guests say that parking area is the most important factor when consider selecting hotels to stay, this is up to 76% with a mean of 4.73 (5 being the most important factor). Next is to have breakfast services, this is 147 guests accounting for up to 72% showing a mean of 4.64, followed by electrical appliances and facilities inside the hotel rooms having 66% percent, 4.57 as a mean. The ranks of the importance shall be explained further in the Evaluation of the Results.

When studying the guests' satisfaction in staying at the hotel is serviceability of the hotel staff which accounts up to 30%. The next factor that customers are satisfy with and would influence a revisit is the location of the hotel which is 20%, the facilities provided by the hotel being 18%, environment of the hotel and architectural design within the hotel also at 18% and finally the price of the rooms only at 16% importance.

In terms of the factors that influences the satisfaction in the stay the most is the Overall Cleanliness where the satisfaction is 4.60, secondly is Comfortability to the stay at the hotel at 4.54, Friendliness of Hotel Staff at 4.52, Facilities in the Hotel at 4.38 being hotel gym, swimming pool, seminar room and sauna rooms. Next is Architecture and Overall Design at 4.36, and Amenities in the Hotel at 4.32, this refers to breakfast services, car parking areas and amenities inside the hotel rooms. Hence the factor that will influence satisfaction the most during the period of time the survey was conducted is the Overall Cleanliness.

When considering the hypothesis tested;

Hypothesis 1 – there is a correlation of customer's basic background with the satisfaction of their stay



Hypothesis 1.1 – the difference in gender does not correlate with any customer satisfaction in all criteria

Hypothesis 1.2 – difference in age does correlate with customer satisfaction in certain areas such as cleanliness, design and amenities. In areas such as price, comfortability and facilities provided, satisfaction does not correlate with age.

Hypothesis 1.3 – The location of origin of customers, being where they depart from does not have any effect on the satisfaction of their stay.

Hypothesis 1.4 – The point of visit, whether a for work or travel does not correlate with satisfaction when considering the architectural design of the hotel. Whereas the criteria of cleanliness, amenities, price, comfortability and facilities provided, the satisfaction differs with those travelling for work and those travelling for travel.

Hypothesis 2 – the satisfaction of customers is not affected by the COVID – 19 situation the procedures. The result is that the COVID – 19 measures and procedures does not correlate with guest's satisfaction during the stay. The extra procedures in social distancing, temperature checks, booking procedures does not correlate with satisfaction – the mean of total satisfaction is at 4.61 (5 = very satisfied) with a standard deviation of 0.621 which shows a reasonable precision of data.

## 6.2 Research discussion and evaluation

The research was conducted and ended within the time period of the end and recovery from the first COVID – 19 streaks since February 2020. Unexpectedly, due to several local issues and situation, COVID – 19 had boomed again Thailand and Rayong was one of the five most contained

province – considered a ‘dark red’ coloured area. Therefore, any travelling either to or out of Rayong requires permission from the local official government up until 4<sup>th</sup> February 2021. The province will obviously have no non-residents visiting and demand for hotels are nothing worse than zero demand. However, due to a little shift and focus in business continuity plan, the case study hotel was able to maintain some monthly guest rooms. Meaning, with travelling restrictions, guests are not able to travel outside of Rayong as well and needs to continue to stay at the hotel and some guests are to stay in a ‘bubble’ to remain safe. Despite these rooms sold, the profit per room for the monthly rates mentioned above is not significant, but enough to some extent to pay off staff cost, an important part in business operational cost.

The minimum business continuity objective MBCO is to achieve a total revenue per month enough to cover business operating cost. Reduction of cost – by reducing staff hours and other costs, but at the same time not effecting guest’s services seek to maintain monthly room rates. The maximum tolerable period of disruption MTPD will depend on the revenue of the hotel and ability of supportive funds of the business during difficult times. Recovery time and point is unpredictable due to continuity of the COVID – 19 situations.

Another management plan that is not considered in analysis but also important is to prepare financial support for the business. As hotel business have near to zero income but incurring cost, to have enough cash to fund the business is important. By having a business plan for finance management – such as seek for bank advices. The advices and support can be in terms of short – term emergency financial support from the bank. Previously, the government have several financial supporting projects such as low interest loans, or payment of interest and pause in principle funds.

Businesses that are currently struggling for profitability and those with low cash reserves or unstable cash flow are venerable, however depending on the situation and how long COVID – 19 last, even businesses with good financial performance may not be immune (Deloitte, 2020). Most importantly, all businesses should have cash to support during times of COVID – 19 crises.

With the issues of local controls and situation, these issues are able to be added onto the PESTEL analysis. Most importantly, with TOWS matrix, the weighting for Threats to businesses shall include this factor at a very high weighting. The issues here trigger wide spread of COVID – 19 not only in Rayong area, but throughout Thailand.

The business continuity plans reduce the operational cost by up to 27% in the most effective months, mainly from reduction of staff accounting to a reduction of nearly 50% of the total cost spent per month. The reduction of restaurant function reduces food storage costs. However, with the hotel's kitchen still in operation the hotel also focused on external food deliveries via Grab Food and Line Man. However, it is not a high volume of the hotel's income.

The customer's satisfaction rate with a mean of 4.61 is very acceptable. This questionnaire was conducted during the process of COVID-19 and just after COVID-19. Here, the process of checking in register and cleaning increases but the service provided to the guest reduced. Instead of breakfast buffet, guests were provided with set breakfast instead. The number of staff involved in the process were hired at the minimum to maintain lowest cost throughout. Despite coming back to operation during the time the questionnaire was conducted some guests still chose set breakfast over buffet breakfast.

In terms of the minimum business continuity objective during the time of COVID-19, the customers were satisfied with a total satisfaction of 4.61, while the hotel was able to maintain SHA standards. Here, the hotel input more investment in face masks, gloves, face shields and other protective products. The recovery time and point of objective was quite difficult to measure, and cannot be determined specifically during the time the research was conducted. The governmental projects do help to increase revenue and boost rooms sold, but the major influence is from the overall economic situation in Thailand. As there are no international travelling, only domestic trips influences sales.

It could also be concluded that the satisfaction of the customers is influenced mostly by age and occupation. And the business continuity plans help to reduce up to 50% of the operational cost without a large influence on the overall satisfaction of the customers. However, due to Thais being quite subtle with their opinion, it can be argued that most people would choose being very satisfied over dissatisfied or mutual.



Solution to the best way to maintain business in operation is the following;

1. Provide monthly business services, more benefit would be if the hotel is able to gain rooms sold to businesses that wants to keep their staff safe and maintain their staff in a 'bubble', here the hotel will be able to sell all rooms at a reasonable rate.
2. Sell monthly room rates at a relatively low rate – shift to service apartment business type, the hotel will be able to gain some revenue this way.

3. Lastly is to enter the government's external hospital program; this is to convert the hotel to a hospital – like service for those with COVID – 19 and to contain these people in the hotel's bubble.

However, with the hotel's situation of monthly booked guests the last option is not applicable as it is more of a disadvantage to ask guests to leave and check – out in the long term.

Most prominently, cash flow management will become an important element of a company's business plan and risk assessment during the COVID – 19 period. The management shall 'actively evaluate' cash flow and develop appropriate actions after assessing potential risks, customer's base and supplier's network (Deloitte, 2020).

However, the business continuity plan seems to only focus on reducing operation cost and gaining revenue in order to operate in the short run. But the plan did not consider a long – term operation of the business and whether it is possible to keep operating without reducing staff or closing down in the long run. To stay in business in the long – term, the case study hotel may need to shift the main revenue stream to a business that has less or not effected by COVID – 19. Despite the shift though, the hotel needs to study the demand and forecast revenue before the shift as every business is considered vulnerable during this period.

### 6.3 Future recommendation

1. The time scope shall be taken longer, this is in order to make sure that guests' opinion in completing the questionnaire is standardized as much as possible. Also, the situation

of COVID-19 caused another lock down especially in Rayong area in January. If during this time, the business continuity procedure was implemented again based on the similar situation occurring since April 2020. If the business continuity plan was conducted again, a measurement of the effectiveness of (Ahmad R. Albattat, 2013) the plan during the months on 2020 and 2021 can be compared. Moreover, the satisfaction of guests who completed the questionnaire can be compared during the 2020 COVID – 19 period and recovery and 2021 second wave of COVID – 19.

2. Further studies should be to study more into recovery of the sales figure to maintain original standards. Also, a shift to considering a new business model in order to keep in operation. Such as to focus on selling a monthly room services instead – this allow the hotel to have a more stable revenue during times where there is crisis.
3. In terms of business continuity plan, more focus shall be taken into planning for another channel for income. As it is during COVID – 19 situation the hotel's income is reduced significantly. Another channel of income can be from more take home food services, deliveries to houses in the area or deliver to certain institutions and offices in the hotel areas.
4. Consider a more common Business Continuity Plan for SMEs or other service business.
5. In terms of business survival, the hotel should improve more on marketing – to deliver more quotations to businesses and factories that wants to keep their staff safe and maintain their staff in a 'bubble' and earn the so called 'bubble' sta

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## Appendix

### Appendix A – SHA standard and checklist for hotels, accommodation and seminars

(Translated)

Checklist to test for SHA standard of hotels, accommodation and seminars

#### 1. Basic standards for hygiene inside the building

	Details	Done
1.1	Accommodation is clean, surrounding areas and seats that is in public use is cleaned often and thoroughly with disinfectants. As well as cleaning of floors, door, stair railings, check-in counters, reception, lighting switch, lift buttons, remote controls etc.	
1.2	Keep all toilet area and toilets clean, pay attention to toilet lids, sprayers, toilet doors and public areas such as faucets, sinks cleaned with disinfectants. Sufficient toilet for all users including people with disabilities or people with health problems.	
1.3	Good ventilation inside the building area. Cleaning of airducts and airways with disinfectants	

2. Cleaning and preparation of equipment and disinfectants

	Details	Done
2.1	Prepare hand wash gels with alcohol percentage of at least 70% in public areas, check – in counters, information, lift doors etc.	
2.2	Clean and prepare enough hand soap in toilets	
2.3	Prepare disinfectants and cleaning solution suitable for each surface such as solution for cleaning inside toilets, kitchen, lobby floor, trash area.	

3. Cleaning and preparation of public areas

	Details	Done
3.1	Prepare hand wash gels with alcohol percentage of at least 70% in public areas, check – in counters, information, lift doors etc.	
3.2	Clean and prepare enough hand soap in toilets	
3.3	Prepare disinfectants and cleaning solution suitable for each surface such as solution for cleaning inside toilets, kitchen, lobby floor, trash area.	

4. Providing protection and knowledge for operators

	Details	Done
4.1	<p>Operators who are at risk of exposure to the virus, such as receptionists, waitress, public relations, porters, customer relations, cleaning staff masks and clean hands regularly. Avoid touching face, eyes, mouth, nose if unnecessarily and the cleaning staff must wear gloves while working.</p>	
4.2	<p>If the operators have symptoms such as fever, cough, sneezing, sore throat, runny nose, they shall immediately stop working and receive treatment straight away.</p>	
4.3	<p>Wash hands with soap and water and or 70% alcohol gels for cleaning hand consistently before operation and after touching contaminated area, after removing personal protective equipment and after completing work.</p>	
4.4	<p>Proper handwashing materials or signs should be provided. Sink area washed and clean often.</p>	

Providing protection and knowledge for operators (Continued)		
4.5	Cleaners shall take precautions especially when cleaning sewage areas and wear gloves and masks and all time. Avoid touching sewage areas by using long tongs to collect garbage in bags. Tie the bag tightly. Gather it at the garbage place. Wash hands thoroughly after every operation.	
4.6	Provide knowledge, advice and public signage materials available for employees to study.	
4.7	Provide public signs and materials as well as knowledge channels for prevention and mitigation of the spread of COVID-19 virus to staff.	

5. Guide for organisation (Public Areas)

	Details	Done
5.1	Provide only one entrance – exit for customers. If there are many entrance – exit, there shall be screening procedures at every entrance – exit.	
5.2	Provide temperature checks and screening areas for staff and mark those who pass the screening. If temperature is more than 37.5Celcius, shall allow the staff to return home and meet with the doctor immediately.	
5.3	Registration of Thai Chana of staff and customers as well as travel history	
5.4	Only allow those with masks to enter the area	
5.5	Provide sufficient amount of hand wash gels, sinks for washing hands	
5.6	Areas for waiting and leave at least 1m social distancing.	
5.7	Clean public areas and public spaces often at least every 2hours.	
5.8	Provide carpet with disinfectants to clean shoes before entering the building.	
5.9	Entrance lobby shall have enough space	
5.10	Getting rid of trash, used masks shall be done correctly.	
5.11	Provide good ventilation, and if possible, filter for PM2.5 prevention to reduce bacteria and virus	
5.12	Limit number of customers in one area, to have distance of 1m in between one another.	



Guide for organisation (Public Areas) (Continued)		
5.13	Provide path ways for customers to walk and stand in order to have social distancing	
5.14	Improve technological facilities to avoid touching such as using QR codes to scan instead of key card.	
5.15	Communicate via posters and medias to reduce spread of virus.	



6. Guide for organisation (Room Areas)

	Details	Done
6.1	Clean room areas thoroughly and public areas cleaned every 2 hours.	
6.2	Elimination of trash, used toilet towels, masks shall be done correctly.	
6.3	Food cover for food services served in room.	
6.4	Disinfect towels either by using disinfectant liquids or high temperature.	
6.5	Wash cleaning equipment and towels using disinfectants, increase concentration of disinfectants by referring to the procedures and standards to get rid of virus.	
6.6	Wash and clean public areas and hallways frequently.	
6.7	Make sure air conditioning units are at the correct position for best ventilation.	

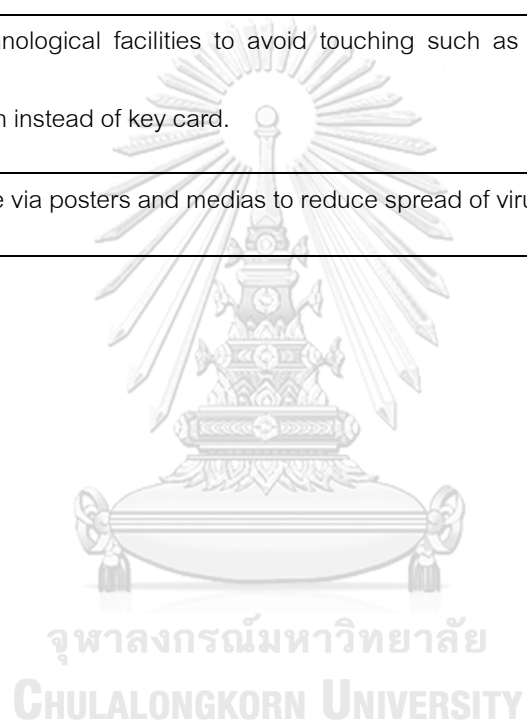
7. Guide for organisation (Seminar room areas)

	Details	Done
7.1	Provide only one entrance – exit for customers. If there are many entrance – exit, there shall be screening procedures at every entrance – exit.	
7.2	Provide temperature checks and screening areas for staff and mark those who pass the screening. If temperature is more than 37.5Celcius, shall allow the staff to return home and meet with the doctor immediately.	
7.3	Registration of Thai Chana of staff and customers as well as travel history	
7.4	Only allow those with masks to enter the area	
7.5	Provide sufficient amount of hand wash gels, sinks for washing hands	
7.6	Areas for waiting and leave at least 1m social distancing.	
7.7	Clean public areas and public spaces often at least every 2hours.	
7.8	Place tables inside seminar rooms with at least 1m space in between	
7.9	Clean microphones and public equipment thoroughly	
7.10	Provide sufficient hand wash gels and disinfectants within the seminar room	

8. Guide for organization (Hotel Restaurants)

8.1	Provide only one entrance – exit for customers. If there are many entrance – exit, there shall be screening procedures at every entrance – exit.	
8.2	Provide temperature checks and screening areas for staff and mark those who pass the screening. If temperature is more than 37.5Celcius, shall allow the staff to return home and meet with the doctor immediately.	
8.3	Registration of Thai Chana of staff and customers as well as travel history	
8.4	Only allow those with masks to enter the area	
8.5	Provide sufficient amount of hand wash gels, sinks for washing hands	
8.6	Areas for waiting and leave at least 1m social distancing.	
8.7	Clean public areas and public spaces often at least every 2hours.	
8.8	Provide carpet with disinfectants to clean shoes before entering the building.	
8.9	Entrance lobby shall have enough space	
8.10	Getting rid of trash, used masks shall be done correctly.	
8.11	Provide good ventilation, and if possible, filter for PM2.5 prevention to reduce bacteria and virus	

Guide for organization (Hotel Restaurants) (Continued)		
8.12	Limit number of customers in one area, to have distance of 1m in between one another.	
8.13	Provide path ways for customers to walk and stand in order to have social distancing	
8.14	Improve technological facilities to avoid touching such as using QR codes to scan instead of key card.	
8.15	Communicate via posters and medias to reduce spread of virus.	



9. Guide for service provider

	Details	Done
9.1	Staff needs to wear mask and face shields at all time while operation.	
9.2	Sufficient hand wash gels, soap and wash hands frequently	
9.3	In symptoms of cough, sneezing, runny nose or tiredness, stop work immediately and attend to the doctor.	
9.4	Watch for symptoms mentioned above from customers, any customers with the above symptoms shall be immediately sent to the doctor.	
9.5	Leave at least 1m space in between	
9.6	Operators who work with eliminating trash shall wash hands immediately and make sure tissue towels and masks are dispose of correctly.	
9.7	Avoid touching and using cash, use gloves or tray for receiving and returning cash and disinfect often.	

## Appendix B – Questionnaire Sample (Translated)

### The title of the research project

BUSINESS CONTINUITY PLANNING FOR A MEDIUM-SIZED HOTEL UNDER COVID-19 OUTBREAK

### What is the purpose of the research/questionnaire?

As part of Master's degree research thesis, part of Chulalongkorn University System Engineering and Warwick Manufacturing Group, a survey will be conducted of customer's satisfaction of using the service at Madina Hotel. The data will be analysed to find the trade-off point between cost and service quality and to determine the level of customer's satisfaction in the use of the service and for the hotel to correct the flaws as well as a formation of business continuity plan.

### Why have I been chosen?

As customers of Madina Hotel, you are chosen for a short survey of your experience of the hotel's services. The aim is for approximately 10 business customers and 10 leisure customers.

### Do I have to take part?

*You are free to refuse to participate in this research project or to withdraw your consent and discontinue participation in the project at any time without penalty or loss of benefits to which you are otherwise entitled. Your participation will not affect your relationship with the institution(s) involved in this project.*

### How long will the questionnaire/online survey take to complete?

The period of time to complete the survey will be 3-4 weeks and the data shall be retained until thesis completion – maximum 8 months.

**What are the advantages and possible disadvantages or risks of taking part?**

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this research will allow a clear understanding of what satisfy the customer the most in the COVID-19 outbreak situation and what is the customer looking for in a service business during the pandemic. From here, the business will be able to assess how successful their operations are.

**Confidentiality of the study:**

The study will remain confidential and only for the purpose of the thesis and hotel the questionnaire is based on. The data will be retained until the end of the research study and will be deleted off once the thesis is completed.

\*Consent to participate:

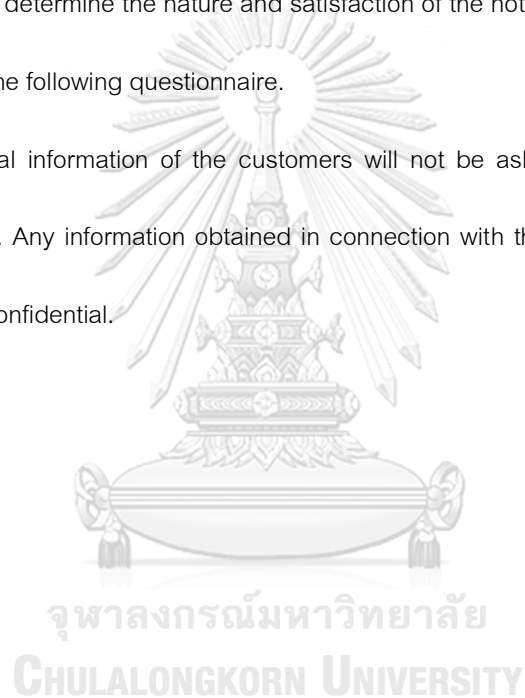
*I agree that my return of this survey implies my consent to participate in this research. If you are not satisfied with the manner in which this study is being conducted, you may report (anonymously if you so choose) any complaints.*



## Methodology

As part of my Master's degree research thesis as part of Chulalongkorn University System Engineering and Warwick Manufacturing Group, I am conducting a survey of customer's satisfaction of using the service at Madina Hotel. This survey will help to explore the research on BUSINESS CONTINUITY PLANNING FOR A MEDIUM-SIZED HOTEL UNDER COVID-19 OUTBREAK. The data will be analysed to find the trade-off point between cost and service quality. The analysis will be a qualitative analysis to determine the nature and satisfaction of the hotel's customers. I'd appreciate if you could complete the following questionnaire.

\*The personal information of the customers will not be asked and is not relevant to the analysis in the thesis. Any information obtained in connection with this study that can be identified with you will remain confidential.



## Questionnaire

### Respondent's Details

1. Age:

<input type="checkbox"/>	21-30
<input type="checkbox"/>	31-40

<input type="checkbox"/>	41-50
<input type="checkbox"/>	51-60

<input type="checkbox"/>	60+
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2. Occupation: .....

3. Gender:

<input type="checkbox"/>	Male
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<input type="checkbox"/>	Female
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4. Purpose of stay – business or leisure:  Business  Leisure

5. Number of travels to Rayong

<input type="checkbox"/>	1-3 times
<input type="checkbox"/>	7-9 times

<input type="checkbox"/>	4-6 times
<input type="checkbox"/>	10 or more

6. Do you travel.....

<input type="checkbox"/>	Alone
<input type="checkbox"/>	Family

<input type="checkbox"/>	Friends
<input type="checkbox"/>	Others

7. What is the main reason for choosing the hotel to stay (Choose up to 3 reason)

<input type="checkbox"/>	Architecture
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<input type="checkbox"/>	Cleanliness
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<input type="checkbox"/>	Convenience
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	Security
	Facilities

	Price
	Location

	Environment
	Others

Please give the question below a rating of 1 to 5

8. Factors needed in your stay

Not needed at all (1)	Not needed (2)	Neutral (3)	Needed (4)	Strongly Needed(5)
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	Question	Rating
1	Cleanliness	
2	Architecture	
3	Security	
4	Staff service	
5	Price of the rooms	
6	Promotional campaigns	
7	Location to places in the area	
8	Amenities <ul style="list-style-type: none"> <li>- Breakfast</li> <li>- Seminar rooms</li> <li>- Car park</li> <li>- Facilities in the rooms</li> </ul>	
9	Facilities <ul style="list-style-type: none"> <li>- Gym/Fitness room</li> <li>- Swimming pool</li> <li>- Seminar rooms</li> <li>- Sauna</li> </ul>	

Please give the question below a rating of 1 to 5

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
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	Question	Rating
1	Overall how friendly was hotel staff?	
2	How polite was the hotel staff?	
3	How clean was your room upon arrival?	
4	How well-equipped was your room?	
5	How comfortable was your stay?	
6	How quickly was the response of hotel staff to your request?	
7	Please rate the hotel's Buffet Breakfast taste.	
8	How good was the hotel's design?	
9	How clean was the hotel upon your arrival?	
10	How affordable was the hotel for you?	
11	What is the level of satisfaction of your stay?	
12	How likely are you to recommend the hotel to your friends/colleague?	

About the measures to cover for COVID-19 – either answer on the scale 1 to 5 or yes/no

Adapted from *Amazing Thailand Safety and Health Administration (SHA 2020)*

	Question	Rating/ Yes or No
1	How much would you rate the cleanliness of the hotel?	
2	Is there alcohol provided for handwashing? (Yes or No)	
3	Are their procedures of asking for travel history and exposure to COVID - 19? (Yes or No)	
4	Is there sufficient amount of soap or detergents in toilets? (Yes or No)	
5	Is there a form of distancing measures? (Yes or No)	
6	Is there are temperature measurement for customers? (Yes or No)	
7	Overall how satisfied are you with COVID-19 measures in the hotel?	

## VITA

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DATE OF BIRTH 26 October 1995

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