

Building supply chain resilience amid Covid-19: Post-Pandemic strategies for hotel industry

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Abstract

One of the businesses where its supply chain management is affected by the risks and major consequences due to Covid-19 is the hotel and tourism industry. As an industry based on human mobility and close social interaction, the tourism and hotel industry has the potential to not only become the center of the spread of the virus but also be the party that bears the most consequences for this pandemic condition. As one of the main tourism destinations in Indonesia, the hotel industry in Yogyakarta City is also struggling with this pandemic situation. One of the steps that can be taken in dealing with disruptive conditions is to create Supply Chain Resilience in the organization's business activities. By conducting the in-depth interview, this qualitative study aims to explore the strategies that have been taken by hotel industry in Yogyakarta City to build supply chain resilience for the post-pandemic condition. Various themes that emerged from the content analysis of interview responses related to the building supply chain resilience strategies amid Covid-19 pandemic have been consided and presented. Based on the content analysis that emerged out of the qualitative enquiry, this study found several strategies are suggested to build supply chain resilience. The strategies that have been successfully conducted in the hotel industry in order to make the business bounce back after the pandemic such as creating work flexibility as HR strategy, managing supply and demand uncertainty, creating disaster management operating procedure, and entering multi-business and multi-channel platforms.

Introduction

The Covid-19 outbreak that first appeared at the end of 2019 in Wuhan, China, and then became a pandemic that has spread to all corners of the world since early 2020 until now is a heavy blow to business and economic activities. This pandemic condition is a world tragedy that not only threatens human life but on the other hand also threatens economic life and business activities such as business operations, supply chain management, and logistics management (Singh et al., 2020). Haren and Simchi-Levi (2020) revealed that the Covid-19 pandemic creates enormous risks and consequences on the operational processes and supply chains of business organizations. Operational risks faced by business organizations in this pandemic condition include uncertainty of supply and demand, the emergence of security issues, and decreased production or service capacity.

As an industry based on human mobility and close social interaction, the tourism and hospitality industry is a party that has great potential to not only become a center spread of the virus but also being the party that bears the most consequences for this pandemic condition (Gallen, 2020). In fact, this is not a brand-new condition for tourism and hotel industry related to the outbreak situation. The previous SARS outbreak also placed a strong negative impact on hospitality and tourism in Hong Kong, Taiwan, China, and many other countries (Kaushal & Srivastava, 2020). In Indonesia, since the emergence of Covid-19 Pandemic at the beginning of 2020, business and economy sectors have been beset by both supply and demand uncertainty, with

the tourist and hotel industry being particularly affected. Based on the Report of The Ministry of Tourism and Creative Economy (KEMENPAREKRAF) of Republic Indonesia (2021), hotel's level of occupancy in Indonesia experienced a significant decline from 56.73% to 28.07% during the period of July 2019 – July 2020 or down by 28.66 points.

As one of the main tourism destinations in Indonesia, the hotel and tourism industry in Yogyakarta is also struggling to cope with this pandemic situation. The tourism industry, especially the hotel business as the main part, is slowly collapsing. The Times Indonesia (2020) revealed that dozens of hotels in Jogja were forced to stop operating due to the low level of occupancy. The Indonesian Hotel General Manager Association (IHGMA) Yogyakarta reported that in March 2020 when the first positive case of Covid-19 was confirmed in Yogyakarta, there was a significant number of hotel room cancellations reaching an average of 20%, and this number continued to increase as the pandemic conditions worsened in Yogyakarta. During 2020, the situation reflected in the number of guests who visited and stayed decreased of 64.37 percent over the previous year (BPS DIY, 2021).

One of the approaches that can be taken in dealing with disruption and disaster conditions with various risks such as in the current pandemic is to create supply chain resilience in the organization's business activities (Currie et al. 2020; Ivanov 2020c; Dolgui, Ivanov, & Sokolov 2020). By building the supply chain resilience, organizations can face disruption conditions stronger and prepared, and ultimately, this will have an impact on better operational and financial performance. Effective supply chain resilience as the part disaster management strategies can minimize potential hazards and accelerate the recovery process (Ritchie & Jiang, 2019). Building supply chain resilience strategies for coping with the unexpected event over which the organisation has little control can avoid businesses to fall into crises. As it is mentioned in the Chaos Theory (Peters, 1988) which organization should see chaos and unexpected events as essentially a creative and developing process, rather than a destructive process. Supply chain resilience helps the organization become more ready to be adaptive and responsive to face the unexpected chaotic pandemic condition.

Based on the described conditions above, this study aims to explore the phenomenon of the Covid-19 pandemic in the hotel industry in Yogyakarta. This study specifically explores the strategies taken by the hotel industry in Yogyakarta to build the supply chain resilience toward the Covid-19 pandemic situation. Furthermore, this study also discusses how each supply chain resilience strategy helps to improve the business performance in post-pandemic conditions.

Literature Review

Covid-19 Pandemic and Tourism Supply Chain Uncertainty

Tourism is viewed as value-added chains of various service elements that result from complex interactions among a wide range of stakeholders (Guo & He, 2012). Tourism Supply Chain is defined as "a network of tourism organizations engaged in various activities ranging from the supply of different components of tourism products/services such as flights and hotel/accommodation to the distribution and marketing of the final tourism product at a specific tourism destination and involves a wide range of participants in both the private and public sectors" (Zhang, Song, & Huang, 2009). Given the goals of each different organization, effective upstream and downstream relationship management and coordination within the tourism supply chain is critical to achieving and maintaining competitiveness for the entire supply chain and its individual agents in the tourism industry.

The economic disruption caused by the Covid-19 pandemic is causing a higher risk of uncertainty in tourism markets. This is not a surprising challenge, given that the tourism industry is characterized by uncertainty regarding future demand (Williams & Balá, 2015). However, there are several exceptions toward the current Covid-19 pandemic condition. The combination of physical distancing policy, travel restriction and obligatory mass quarantine has resulted in a difficult situation that has never been encountered before. During the Covid-19 Pandemic, companies have to cope with higher supply chain costs due to responding the uncertain situation.

In addition, some tourism and hotel companies should provide additional infrastructure and even funds to address the pandemic problems (Ataguba, 2020).

Covid-19 Impact of Supply Chain Management

Covid-19 not only has an impact on human health, but far from that this infectious disease also threatens business conditions and industrial economies in all countries in the world. The business aspects that have been significantly impacted by the Covid-19 pandemic are the operational and supply chain function of the organization (Haren, et al., 2020). Sodhi and Tang (2021) termed "Extreme Supply Chain" which organizations are facing during this Covid-19 pandemic. This is due to the occurrence of shock and uncertainty both on the demand and supply sides on a massive and sustainable basis in all industrial sectors in the world (Hobbs, 2020). The following are some of the impacts of the Covid-19 pandemic on aspects of the organization's operational management and supply chain:

1. Impact on Supply Management (Upstream)

Lockdown policies that are implemented by many regions to control the mobility of vehicles, goods, and people substantially have an impact on the ability of suppliers to deliver goods and services in the expected time (Ivanov & Das, 2020). In today's global and modern business era, companies take supplies from all corners of the world. Although the company's direct suppliers are from the domestic market, 2nd tier or 3rd tier suppliers are most likely located overseas. As a result, the lockdown and local restrictions imposed have caused supply disruptions for producers of goods and services.

2. Impact on Demand Management (Downstream)

Covid-19 causes uncertainty on the demand side for both goods and services. There has been a drastic increase in essential goods or services related to health and hygiene needs (Hakovirta & Denuwara, 2020). In turn, this creates scarcity and high price spikes for these specific types of products. The phenomenon of panic buying also occurs almost all over the world for health and hygiene products (Yuen, et al., 2020). On the other hand, non-health and hygiene goods and services experienced a drastic decline in demand (Gurbuz & Ozkan, 2020). These products include tertiary needs related to entertainment, travel, tourism, accommodation, and transportation. The decline in demand for some types of tertiary products occurred due to the impact of the economic crisis due to Covid-19 where people began to lose their jobs, economic conditions were full of uncertainty, and the tendency to save money to secure the future conditions that will full of uncertainty (Abhishek et al., 2020).

3. Impact on Production Management (Middlestream)

On the production side, both at services and manufacturing companies, the Covid-19 pandemic has resulted in delays in the production process and a reduction in production capacity (Leite et al., 2020). This is due to the working from home (WFH) policy, limitation of the number of employees and operating hours to comply with the health protocol (physical distancing), or the company's policy of reducing the number of employees due to declining income. These operational limitations make the company bear the burden of obsolescence and, impairment of equipment, work facilities, machinery and other capital assets (Dente & Hashimoto, 2020).

4. Impact on Logistics and Transportation Management

In the function of transportation and logistics management, restrictions on mobility in various modes of transportation, including sea shipping, air flight, trucking, and rail, have disrupted the delivery process from suppliers to consumers. The company has also begun to change its business model. Before the Covid-19 pandemic, the distribution process was mostly done physically, now the company is more focused on online distribution methods or a mix of online-offline. The increase in online distribution is also a new challenge for the logistics system of organizations that must quickly adapt to changes in the company's operations to meet consumer demands (Mollenkopf et al., 2020).

5. Impact on Supply Chain Relationship

The Covid-19 pandemic is also affecting supply chain relationship management. The limitation in interaction due to the physical distancing requirement and work from home policy causes incomplete information flow. It can lead to ambiguity of information and a lack of clarity and accuracy in the supply chain (Gunessee & Subramanian, 2020). This condition also reduces supplier involvement and hinders companies from developing a collaborative approach by integrating all parties involved in the supply chain (Remko, 2020).

The Supply Chain Resilience

Supply Chain Resilience (SCRes) is defined as a multidimensional concept that involves the ability of an organization, supply chain, or system to respond to disruptions and uncertainties (Béné, 2020). Efficient SCRes will have a positive impact on company performance (Wong et al., 2020). In the supply chain-related literature, SCRes are usually conceptualized based on the many aspects of the capabilities that underpin the firm. Chowdhury and Quaddus (2017) describes how to build organizational SCRes through flexibility, visibility, redundancy, collaboration, disaster preparedness, financial strength, and market capability.

Juttner and Maklan (2011) identify four formative elements of resilience as the most frequently mentioned and those that capture the conceptual essence of all suggestions in current SCRes literature, these being a) flexibility, b) velocity, c) visibility, and d) collaboration. Further, Chowdhury and Quaddus (2017) develop and validate a measurement scale for SCRes that breaks down into three components of supply chain capability: (1) proactive (flexibility, spare capacity, integration, market and financial strength, and readiness); (2) design (density, complexity, and criticality of nodes); and (3) reactive (response and recovery).

Supply Chain Resilience Strategy amid Covid-19 Pandemic Situation

The right strategy needs to be implemented in the organization as an effort to create Supply Chain Resilience amid the. Based on a study by Sodhi and Tang (2021), the following are some approaches that organizations can take in creating Supply Chain Resilience. This Supply Chain Resilience strategy is created to be able to face conditions of disruption and uncertainty such as the Covid-19 pandemic.

1. **Manage supply and demand uncertainty**
Build safety stocks to cover (buffer) in conditions of supply uncertainty and lead time. This has to be done to dampen the fluctuations in the traditional way (Chopra & Sodhi, 2004). Another step in managing uncertainty is through making capacity more flexible or using outsourcing (Chopra & Sodhi, 2004).
2. **Doing “Coopetition”**
Coopetition with suppliers can be done by creating complementary products and sharing resources. Under normal circumstances, competitors usually do not share supply chain resources. However, when faced with extreme conditions with uncertain supply and uncertain demand, sharing resources with competitors enables greater efficiency for all companies. For example, companies may share logistical slots in commercial shipping and storage resources such as distribution warehouses.
3. **Financial intervention from the government**
In several conditions, government intervention is needed to support the process of business activities. The interventions are such as providing direct subsidies or tax credits to provide incentives to companies is carried out as an effort to maximize social welfare. The government also provides social assistance funds (Bansos) to stimulate the level of public consumption
4. **Online Purchase and Distribution**
Some organizations change their business models by logging into online platforms to match supply and demand. The online platform helps the organization to carry out the supply aspect (relationships with suppliers) and demand aspects (relationships with consumers). By moving to an online business platform, the organization generates a lot of benefits such as efficiency in financial, material, and information flows.

Another study of Hao et al. (2020) highlight several major anti-pandemic and post-pandemic strategies adopted by China's hotel industry which are:

1. Human Resource Strategies

During the pandemic disasters, hotel's management tends to keep its high-performance employees as valuable firm's asset. Employee who doesn't have satisfying performance for the management may be laid off as the decreasing of HR demand for hotel operational. Therefore, management should strive to retrain its employees during the pandemic to be able to perform multi-tasking job. Creating the flexibility by rescheduling working hours and working day also help hotel management to adjust the needs of HR and at the same time maintain the maximum number of people in the hotel to ensure the physical distancing procedure. Some hotels also employ outsourced labor for some service procedures (e.g., food delivery and laundry) to enhance cost efficiency.

2. Service Provision Strategies

Restoring customer confidence is critical to tide through a crisis. In this regard, it is interesting to note that several hotel brands initiated service that meet the customer's needs. China hotel industry associations also issued guidelines to monitor pandemic situation and prevention. They had released compilation of cases on the preventive health and safety measures and operation of hotels in the Asia-Pacific region. This compilation provides a procedure and reference for hotel industry to maintain its business operation during the outbreak.

3. Disaster Management Operating Procedure

To enhance the stakeholder and public trust, hotel must establish a responsive and efficient standard operating procedure (SOP) in addressing disasters, including natural disasters and emergencies (e.g., epidemics, explosions, fires, violence, robbery, critical illness, and death). The disaster management SOP is also important to hotels with experience in a specific category to ensure operational efficiency and effectiveness as the condition during the pandemic disaster would be different from the normal condition. The hotel industry who had developed its disaster management operating procedure will obtain a better understanding of the disaster and become more well prepared to cope with a similar situation in the future.

4. Multi-Business and Multi-Channel Platform

As the customer's needs and demands are shifting in this pandemic situation, hotel industry must respond it by renewing its service, product, and marketing strategy. The hotel industry can also reforms facilitating into multi-business and multi-channel platforms. For example, hotels can maximize their space and utilize it for more safety and outdoor public activities such as meeting, events, and public conference. Hotels should also endeavor to update channels to contact, attract, and sell to customers by entering online and ecommerce tourism market.

5. Digital and Intelligent Transformation

In both the upstream and downstream sides of the supply chain, the Covid-19 epidemic has increased the demand for intelligent services. The primary drivers of digital transformation are shifts in consumer demand. Customers have acquired a newfound desire for contactless service, which is supported by a digital platform and sophisticated technology, in the current scenario; these services are projected to remain beyond the epidemic. In the increasingly competitive business environment, starting the digital transformation gives several advantages to or hotel industry such as eliminating human error, increasing service efficiency, stabilizing service quality, and thus improving customer satisfaction and hotel performance.

Research Methods

This study was conducted in a qualitative research method to understand the phenomenon in a natural setting and capture the realities of how to build supply chain resilience in the hotel industry during the Covid-19 Pandemic. This research was designed to answer the research questions:

1. What is the impact of Covid-19 pandemic on the Supply Chain Management of the hotel industry in Yogyakarta?
2. What are the strategies that have been taken regarding Supply Chain Management to create resilience (Supply Chain Resilience) in the face of Covid-19 pandemic?

Miles and Huberman (1992) states that there are four steps in qualitative data analysis which are: data collection, data reduction, data display, and conclusion drawing. Data of the study was collected by conducting in-depth interviews with ten operational managers and general managers of the three to five stars hotels in Yogyakarta. The collected data from the interviews were then processed with the NVIVO 12+ qualitative analysis software so that conclusions can then be drawn from the various sources of interviews and answer the proposed research questions.

The collected data of this study were analyzed by conducting coding and theme analysis to process the data reduction. Liamputtong (2009) states that qualitative data generally implements coding steps to understand the meaning or patterns of contained information. Coding is the process of examining and testing existing raw data by labeling in the form of words, phrases, or sentences. There are two stages in this coding step: open coding and axial coding.

The data validity and trustworthiness then were tested by the triangulation method. Triangulation is a method used by qualitative research to check and establish validity in the study. This study used data source triangulation to ensure the validity of the data. Data source triangulation involves the collection of data from different types of people, including individuals, groups, families, and communities, to gain multiple perspectives and validation of data (Carter et al, 2014). The data is considered valid if it is found in a more than one sources of information (Suryani & Utami, 2020). The data source of this study is gathered from the collection of data from different general manager and operational manager in several 3- and 4-stars hotels in Yogyakarta. The interview notes as primary data source are also supported by in field observation and documentation.

The valid data of this study then was depicted in a fishbone diagram to display the causal strategies of building the supply chain resilience strategies in the hotel industry. The last step of the qualitative data analysis was conclusion drawing to give meaning, confirming, and verifying the findings of the study. The research method of this qualitative study is illustrated below:

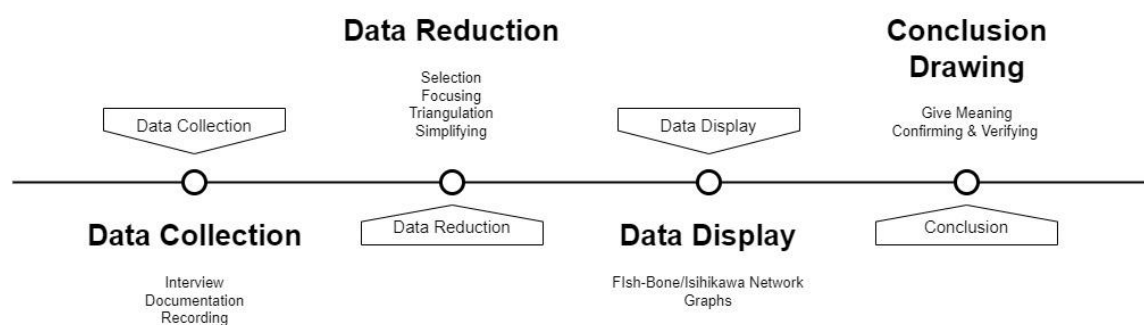


Figure 1. The Qualitative Research Method

Results and Discussion

Data Collection

Data processing of this qualitative research results was done by coding. Liamputtong (2011) argues that qualitative data generally implements coding steps in understanding the meaning or pattern of information patterns in qualitative data. Coding is the process of examining and testing existing raw data by labeling in the form of words, phrases, or sentences. There are two stages in this coding step, namely initial coding or open coding and axial coding.

In the data collection stage, all of the collected data from 10 general managers and operational managers of several hotels in Yogyakarta are being coded with the initial coding method. Initial coding is defined as giving meaning or labeling in the form of words or phrases according to the collected data (transcription data). There 24 keywords that are mentioned during the interview. The initial coding of the collected data is summarized in the table below.

Table 1. Initial Coding of Data Collection

No.	In-Depth Interview Data Collection (Keyword)	Number of Findings (Keyword mentioned)	Percentage
1	Make Covid-19 health & safety protocol to employee and guests	25	8%
2	Create Covid-19 special task force (SATGAS Covid-19)	12	4%
3	Add health & safety protocol facilities (hand washing machine, thermometer, hand sanitizer dispenser)	8	2%
4	Reduce availability of room capacity	6	2%
5	Re-schedule employee work leave	13	4%
6	Diactivate several facilities (pool, gym, spa & sauna, restaurant)	7	2%
7	Re-training employee to be more multi-tasking	15	5%
8	Reduce working days and working hours	10	3%
9	Use outsource	18	6%
10	Reduce order of supply to vendor/supplier	6	2%
11	Selective vendor/supplier selection	14	4%
12	Flexible payment and order to vendor/supplier	18	6%
13	Reduce offering price	9	3%
14	Focus on MICE service	11	3%
15	Free cancelation fee	13	4%
16	Creating new Memorandum & Article of Association (AD/ART)	2	1%
17	Rapid operation strategy reformulation	10	3%
18	Offering new service: work from hotel, take away restaurant, quarantine package	17	5%
19	Use social media dan digital marketing	23	7%
20	Use endorsment	12	4%
21	Collaborate with small medium travel agents	15	5%
22	Gain CHSE certification	20	6%
23	Contactless operational & service	19	6%
24	Create pandemic and disaster response guideline	21	6%
TOTAL		324	100%

Source: Primary data (2021)

Data Reduction

From the data collected in the in-depth interviews, the next qualitative data analysis process is axial coding to obtain a qualitative research result formulation. In the axial coding collected data are categorized into specific themes. These theme categorizations are structured based on the literature review from the previous studies related to the building the supply chain resilience strategy. Every mentioned keyword gathered from the in-depth interview are classified into specific theme categorization.

Then, the categorized keywords are tested with data triangulation to get the data validity. This study conducted triangulation by interviewing several general managers and operational managers of 3- and 4- stars hotel in Yogyakarta including comparing with another supporting documents such as hotel documentation and operational records. Triangulation is the usage of more than one data source in a study of social phenomena that can be used to check the validity of the data (Suryani & Utami, 2020). Using more than one data source will result in higher confidence in the findings (Bryman, 2012).

Table 2. Axial Coding of Data Reduction

Theme Categorization	In-Depth Interview Data Collection (Keyword)	Number of Findings (Keyword mentioned)	Percentage	Number of Source of Data (Data Triangulation)	Data Status
Work Flexibility as HR Strategy (Hao et al., 2020)	Re-schedule employee work leave	13	4%	5	Data valid
	Re-training employee to be more multi-tasking	15	5%	6	Data valid
	Reduce working days and working hours	10	3%	3	Data valid
	Use outsources	18	6%	10	Data valid
Supply & Demand Uncertainty (Sodhi & Tang, 2021)	Reduce availability of room capacity	6	2%	1	Data invalid
	Diactivate several facilities (pool, gym, spa & sauna, restaurant)	7	2%	2	Data valid
	Reduce order of supply to vendor/supplier	6	2%	2	Data valid
	Selective vendor/supplier selection	14	4%	4	Data valid
	Flexible payment and order to vendor/supplier	18	6%	5	Data valid
	Reduce offering price	9	3%	1	Data invalid
	Free cancelation fee	13	4%	4	Data valid
Disaster Management Operating Procedure (Hao et al., 2020)	Make Covid-19 health & safety protocol to employee and guests	25	8%	10	Data valid
	Create Covid-19 special task force (SATGAS Covid-19)	12	4%	10	Data valid
	Add health & safety protocol facilities (hand washing machine, thermometer, hand sanitizer dispenser)	8	2%	10	Data valid
	Creating new Memorandum & Article of Association (AD/ART)	2	1%	1	Data invalid
	Rapid operation strategy reformulation	10	3%	3	Data valid
	Gain CHSE certification	20	6%	9	Data valid
	Contactless operational & service	19	6%	8	Data valid
	Create pandemic and disaster response guideline	21	6%	8	Data valid
	Multi-Business and Multi-Platform Channel (Hao et al., 2020)	Focus on MICE service	11	3%	3
Offering new service: work from hotel, take away restaurant, quarantine package		17	5%	5	Data valid
Use social media dan digital marketing		23	7%	8	Data valid
Use endorsment		12	4%	5	Data valid
Collaborate with small medium travel agents		15	5%	5	Data valid

Source: Primary data (2021)

Data Display

Data presentation is an important phase in qualitative data analysis that involves presenting the results of the qualitative analysis in a graphic format. Data visualization in a graphic style is a method of presenting information concisely and efficiently. Visual displays provide a space to

organize data and show connections between different pieces of relevant data. A main goal of graphic format diagram is to provide ready access to information and convey a message, a discovery, or a particular perspective on a specific data or topic (Iliinsky, 2010).

Data display in this study is portrayed by using fishbone or *Ishikawa* diagram. The *Ishikawa* diagram shows the cause-effect diagram of how to building the supply chain resilience in the hotel business based on the data reduction results. It helps to track down and identify the elements for aiming the main goal or main effect. The *Ishikawa* diagrams of this study is shown below:

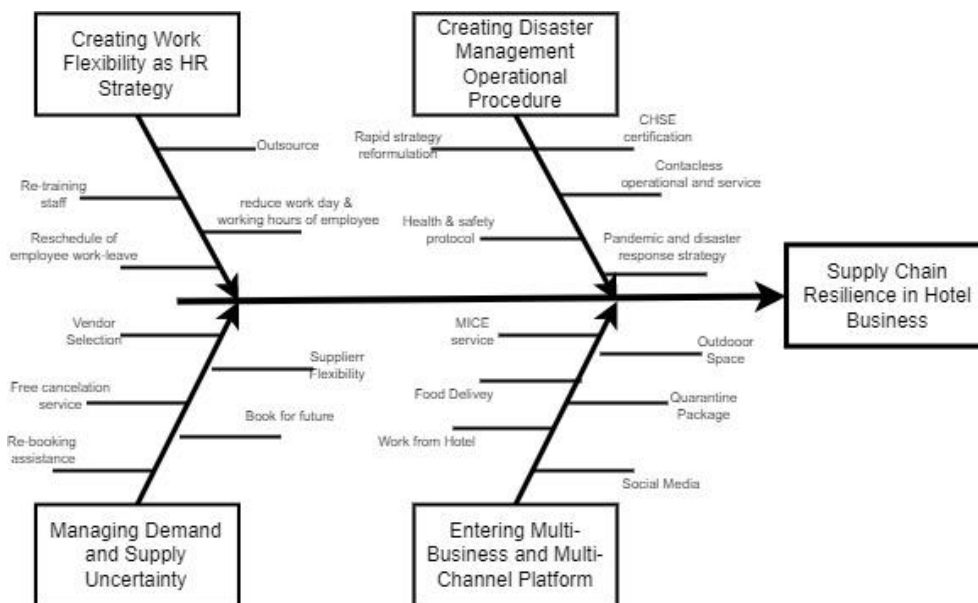


Figure 2. The Ishikawa Diagram of Building Supply Chain Resilience in Hotel Business

Conclusion Drawing

Building supply chain resilience in the hotel industry requires four big strategies which are creating work flexibility, demand and supply flexibility, multi-business and multi-channel platform, and operational strategy reformulation. These four approaches will drive the success of surviving the pandemic condition for the hotel business and ultimately improve the business performance. These strategies are not only necessary for facing the current pandemic situation but also for the post-pandemic situation to maintain the supply chain resilience and be more prepared for the unpredictable future pandemic situation.

Creating work flexibility as HR Strategy

Creating work flexibility is one of the strategies that could be taken in response to the uncertainty condition during the pandemic situation. Hotel could use the minimum level of its permanent staffs for the main important and tactical type of work and use additional human resources by using third party or outsource service for more technical type of work. Hao et al. (2020) highlight that one the HR approach in the pandemic situation is employ outsourced labor for some service procedures to enhance cost-efficiency. Several Hotels in Yogyakarta mentioned that during the pandemic they are more focused on the strategic and tactical level of operation, while the technical and daily level of operation is bestowed to the outsource staffs such as vocational students. While the number of guests increases, the hotel manager will add more students to work temporarily only at the high season period.

Since the number of permanent employees is minimized, there is a need for making this less manpower could perform another job outside their regular job. Re-training staffs could be taken to make current staff be more multitasking person. "Because the number of employees is so limited, we make our employees be more multitasking such as making security become gardener, or the marketing staff helps the operational staff" (general manager 3-stars hotel in Yogyakarta). Although there are some

disadvantages of this strategy, re-training the limited employees to perform multitasking jobs help hotel to save the operational costs.

Another approach to creating work flexibility is by reducing working hours for employees and rescheduling the employee work-leave. This approach not only taken to reduce the daily operational cost but also to ensure the minimum capacity of the office space to maintain the physical distancing protocol. This finding is similar with the case study of Tufts (2003) about SARS lessons in strategic planning for hotel in Toronto, Canada which many hotel workers had their hours reduced to adjust with the decrease in the number of visitors. In some cases the reduced working hours and working days, were part of a work sharing agreement between the employee and employer. Hotels can also take advantage of the low business season to train multi-tasker staff, support staff development, encourage employees to take annual leave, and reduce workdays and hours (McKercher, 2020).

Managing demand and supply uncertainty

The demand and supply in hotel Industry are very unpredictable during the Covid-19 pandemic situation. To build resilience in the upstream supply chain, several hotels in Yogyakarta eliminate their non-strategic suppliers by doing supplier evaluation and selection strictly based on the key performance indicator of its suppliers. The hotel manager also request more flexibility from its supplier in term of supplies delivery time, quantity, and price. Before the pandemic, the supplies delivery can be scheduled and planned earlier. But during the pandemic situation, as the supply and demand uncertainty condition, it is harder to ensure the needed supplies for its operation. Japutra and Situmorang (2021) discussed that during the pandemic situation all the stakeholders in the hotel supply chain need to develop new agreements to help increase the sustainability and resilience of their businesses. For example, as payments to vendors/suppliers have been hampered by the low income, hotels and suppliers could redesign their payment structures (Ivanov, 2020).

In the downstream of the supply chain, hotels in Yogyakarta takes some customer service activities such as booking for the future, free cancelation fee, and rebooking assistance. *“It is quite difficult to get the guests, so we offer some service that gives more advantage for the guest to make an early reservation”* (Operation Manager F Hotel 4 stars Hotel in Yogyakarta). The earlier the reservation can be made, the more accurate the demand can be measured. *“Making the guest do early reservation not only helps us to ensure the demand and but also generate faster income, it is important for Hotel’s cash flow”* (general manager 4-stars hotel in Yogyakarta). Study of Hao et al. (2020) claimed that restoring customer confidence is critical to tide through a crisis. In his regard, it is interesting to note that several hotel can implement policy that make it easier for consumers to rearrange their order in the midst of uncertainty condition such as the free cancellation service and re-booking assistance.

Creating Disaster Management Operating Procedure

The quite dynamic business condition requires Hotel Industry to reformulate its current operational strategy. Lean and agile operational strategies tend to be more fit to adapt to the pandemic condition. To respond to the requirements for Covid-19 prevention both for the employees and guests, hotel in Yogyakarta reformulate its operational strategy focused on how to get the Cleanliness, Health, Safety, and Environment Sustainability (CHSE) Certification from the Ministry of Tourism and Creative Economy (KEMENPAREKRAF). The operational task is also directed to the contactless operation and service to ensure the health and safety protocol is fulfilled. This finding is similar with the study of Sun (2020) that assess how hotel industries in China response the pandemic outbreak. Hotels upgraded its worry-free service to include special cleaning standards and anti-pandemic cleaning measures (Sun, 2020). Some hotels establish Covid-19 special task force (SATGAS Covid-19) that responsible for any specific Covid-19 issues. Hotels must explain about their protective measures to the employee and customer and thus restore business stakeholder’s confidence (Valle, 2020).

Hotel industry in Yogyakarta also does the rapid operational strategy reformulation to react to the fast-changing business condition. *“Before the pandemic, we evaluate and review the strategy every 6 months with the board of directors. But now we do more strategy reformulation to respond to the dynamic condition*

faster. It can be every month or sometimes every two weeks?” (general manager 4-stars hotel in Yogyakarta). Some hotels in Yogyakarta also develop Pandemic and Disaster Business Strategy Book to anticipate the probable future condition. In case this pandemic or another disaster will happen again in the future, the management already has an emergency response plan so it is more ready to face the challenge. *“We learn from the history, this condition may be will happen again in the future. So, we reformulate our Anggaran Dasar dan Anggaran Rumah Tangga (AD-ADRT) and make disaster response strategy as a guideline so we can be more prepared and ready”* (general manager 4-stars hotel in Yogyakarta).

Hao et al. (2020) mentioned that hotels should organize and maintain a team of experts to respond to the pandemic and update the guidelines for the hotel's response to the pandemic. Hotels who had developed their disaster management guideline and procedure will obtain a better advantage such as more understanding of the disaster condition and become more well-prepared to cope with a similar situation in the future.

Entering Multi-business and multi-platform channel

In the downstream of its supply chain, hotel in Yogyakarta does market expansion by creating new business and services and market penetration by entering a multi-platform marketing channel. Several hotels in Yogyakarta develop their service more on Meetings, Incentives, Conferencing, and Exhibition (MICE) guests rather than on stay-in guests. They also new business services such as opening the Quarantine Package that includes room, food, PCR test, and doctor visitation for tourist guests or domestic citizens who are required to do quarantine and self-isolation before doing activity in Yogyakarta. For the domestic guests, new business services are developed which are Work from Hotel and Staycation that offer a cheaper price. In the restaurant service, some hotel also serves food delivery and open its restaurant for takeaway since people are still afraid to dine-in at the restaurant. They also join online food delivery platforms such as Go-Food, Grab-Food, and Shopee-Food to make customers could order the food easier through the online platform. As the disruption of market condition during the pandemic, the hotel industry must innovate and renew its product and services by deconstructing and reconstructing existing products, marketing strategy, distribution channels, delivery methods, and consumption points (Gallen, 2020).

Some hotels also build and renovate their facilities to become outdoor spaces. Restaurant and meeting room or hall are renovated to be semi-outdoor to accommodate the health and safety protocol. Since the Covid-19 viruses are spread through the air, the guests feel more comfortable and safer to have an event or meeting at an outdoor space. *“We build outdoor Joglo as a new facility for meeting since our customers need a place to hold an event in outdoor”* (general manager 4-stars hotel in Yogyakarta).

Hotels should also endeavor to update channels to contact, attract, and sell to customers (Valle, 2020). To broaden their promotion and marketing communication target, hotels in Yogyakarta use multi-platform channels such as social media marketing, endorsement, and online travel agents. The digital and online marketing channels can increase the promotion and marketing message coverage. It also gives more advantages since the marketing cost is cheaper and more negotiable. *“Before the pandemic, we tend to use some big travel agents to promote our Hotel. But now we realize that in social media and the online community there is a lot of potential small to medium travel agents that have a lot of customers. So, we try to approach them to increase the number of our guest.”* (general manager 4-stars hotel in Yogyakarta). Strategy to enter the social media and online marketing platform is also become the one main strategy of hotel in industry in China to create its business resilience. Study of Shao (2020) explained that emerging mobile applications for hotel marketing via private domain and social media helps hotel to raise the marketing message coverage. Hotels should seize the opportunity to use social media, live streaming endorsement and online platform to display products, interact with customers, and promote sales (Ni & Wang, 2020).

Implication and Conclusion

This study has explored a conceptual framework that includes four main strategies to build supply chain resilience in hotel industry. Based on the in-depth interview with ten general managers and operation managers in some 3- and 4-stars hotels in Yogyakarta, this study found that there are

four main approaches in building the supply chain resilience for hotel industry. The first approach is creating work flexibility as HR strategy for employees by re-training staff, rescheduling the work-leave, reducing the working hours, and using vocational students as outsourced human resources. The second approach is managing supply and demand uncertainty conditions by selecting strategic vendors, creating supplier flexibility, and flexible demand (free cancellation fee, booking for future, and re-booking assistance). The third approach is creating disaster management operating procedure by focusing on CHSE certification, developing health & safety protocol, developing pandemic and disaster emergency procedures, and doing more rapid strategy review and evaluation. The last approach is creating multi-business and multi-platform marketing channels by using social media and digital marketing, offering new outdoor facilities, and offering some new services such as food delivery, work from the hotel, and a quarantine package.

These findings of the four main strategies framework will redound to build conceptual understanding about building the supply chain resilience considering that amid this Covid-19 pandemic situation many hotels industry is still struggling with its supply chain management. This research's four main strategies conceptual framework can be explored deeper to uncover critical phenomena in building the supply chain resilience amid pandemic situations specifically in hotel industry that many researchers have not explored yet. Thus, a new theory about supply chain resilience in a pandemic or disaster situation may be developed and be used for future studies.

As with the majority of studies, the result of the current study is subject to several limitations. There may be some possible limitations in this study. The first limitation of this study is sample of respondent may does not reflect the general population or appropriate population concerned because of the limited ability to gain access to the appropriate scope of participants and Another limitation of this study is the lack of previous research studies on the topic, as the topic about supply chain resilience specifically in pandemic or disaster situation is quite new.

Since the results of this study are still subject to several limitations, some suggestions can be addressed related to this research's topic to make the study more comprehensive. Future studies related to building supply chain resilience in pandemic conditions can be conducted in different time settings, locations, and industries. Later, the four main strategies as the conceptual framework finding in this study can be examined deeply and individually to expand that conceptual framework and give more comprehensive information about how to build supply chain resilience in pandemic situations.

Building the supply chain resilience is not only necessary to respond and survive this current Covid-19 pandemic situation. But more importantly, in the post-pandemic period, hotel industry can bounce back for the business that weakens because of the pandemic. Hotels that are already succeeding with the supply chain resilience strategy will arise at the post-pandemic period. Furthermore, the supply chain resilience strategy can establish a more prepared operation management system to face unpredictable and challenging conditions such as the next pandemic or another disaster that might be happening in the future.

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