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To cite this article: A Rosyidie *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **704** 012004

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# Tourism Hospitality Industry Supply Chain in Pandeglang Regency After Tsunami 2018

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**Abstract.** One of fastest growing tourism economic zone is Tanjung Lesung, located in Pandeglang Regency, Banten. Besides Tanjung Lesung Special Economic Zone, Pandeglang Regency has many tourism potentials, which contributes significantly to the regional revenue. As a critical element of tourism, hotels provide accommodation and services for tourists. To provide the services, the flow of goods, services, and information must be designed efficiently and effectively. Unfortunately, the December 2018 Sunda Strait tsunami had impacted hospitality industry and its supply chain severely since then. To support the recovery from the impact of the tsunami, it is important to understand the relationship between each component in the hospitality supply chain in Pandeglang. Hence, this study aims to identify the hospitality supply chain in Pandeglang. The study uses the qualitative approach to describe the main components of the hospitality supply chain and with samples of interviews mostly from official governments and other related organizations within the industry. The result finding indicates that the components in the hospitality business in Pandeglang consist of three main components, namely: supplier, distributor, and customer. In addition, the relationship between components can be more efficient to increase product competitiveness in the tourism market and to support the Pandeglang recovery.

## 1. Introduction

In recent times Indonesia's rank of travel and tourism competitiveness index has emerged rapidly from 70<sup>th</sup> in 2013 to 40<sup>th</sup> in 2019 according to The World Economic Forum, The Travel and Tourism Competitiveness Report 2019 [1]. It showed that Government of Indonesia has shown improvements in the tourism sector. This is reasonable considering the contribution of the tourism sector in Indonesia is quite significant. The contribution of the tourism sector to Indonesia Gross National Product has continued to increase over the last 10 years, where in 2018 it reached 5.25% [2]. Nonetheless, this contribution does not include the multiplier effects caused by the tourism sector. The tourism foreign exchange ranking also experienced an improvement from 5<sup>th</sup> in 2011 to 4<sup>th</sup> in 2015 from a total of 12 commodity exports [3].

One of the attempts made by Ministry of Tourism is promoting and regulating the Special Economic Zones (SEZ) for Tourism in 2009. The Tanjung Lesung SEZ is one of the six Tourism SEZs, and the first Tourism SEZ in Indonesia which began operating in 2015 and located at the westernmost tip of Java Island, Pandeglang Regency, Banten. The existence of the Tanjung Lesung Tourism SEZ, as well as various other tourist attractions such as Ujung Kulon National Park, Badui and Debus Culture,



and Mount Krakatau, create a large tourism contribution and potential in Pandeglang. This potential must be enhanced considering the high level of tourism competition and its potential contribution to the economy. One of the strategies that can be carried out in the tourism industry to increase competitiveness is to implement effective and efficient tourism hospitality industry supply chain management.

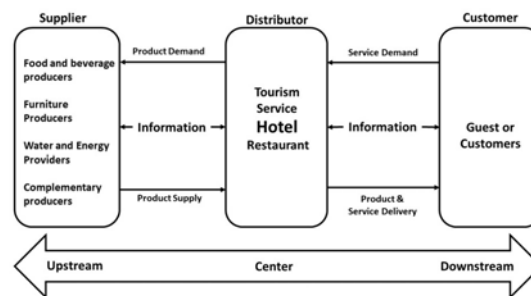
Zhang et al. [4] defines the Tourism Supply Chain as a network of tourism organizations involved in a series of diverse activities, ranging from providing an entire spectrum of components of tourism products/services, such as flights, accommodation at the tourism reception desk, and ending with the sale of tourism products in the tourism region. This network includes a wide range of subjects, both from the private and the public sector that are involved in the creation, sale, and promotion of tourism products [4]. The process to initiate an effective and efficient tourism hospitality industry supply chain management requires active contributions from all components of tourism. As a component of tourism, hotels play a critical role in providing accommodation and services for tourists. Hotel functions to provide accommodation and a variety of services ranging from lodging, dining, drinking, and other services which are managed commercially. To provide the services, the flow of goods, services, and information, the tourism hospitality industry supply chain must be designed so that the process of transforming various raw materials into products/services with final added value can run efficiently and effectively. Good cooperation between organizations has been identified as a crucial factor in the performance and survival of the tourism hospitality industry. Cooperation between various elements constitutes an important determinant of success in the hospitality by increasing excellence in tourism competition, and at the same time, contributes to the optimization of the conducted business activities.

Unfortunately, on December 22, 2018 a tsunami hit Banten Province and Lampung Province including Pandeglang Regency. Data from BNPB showed 270 people were killed, 77 went missing, 1.143 were injured, and 14,395 were displaced (as of December 25, 2018). Furthermore, 443 houses, 350 boats, 69 hotels, and 60 food stalls were destroyed [5]. The tsunami was clearly a big impact to Pandeglang Regency that has tourism as one of its mainstay economic sectors. The tsunami has massively impacted the tourism sector in Pandeglang. Losses and damages experienced by the hotel industry as a crucial element of tourism, further impacted various sectors and related operations. This research aims to critically understand the relationship between each component in the tourism hospitality industry and to identify the hospitality supply chain in Pandeglang Regency. Such knowledge will help to understand the importance of including the awareness of disaster resilience in the tourism industry. It also will help in the formulation effort to create a more efficient and effective relationship between components to increase product competitiveness and support the recovery of Pandeglang tourism.

## 2. Literature Review

### 2.1. *Tourism Hospitality Industry Supply Chain*

Tourism in many countries is considered as an important part of the economy, and in the global context it is still considered as a growing sector [6]. According to Szpilko [7] the idea of tourism being an important economic indicator has been significantly increasing since after world war II, as these findings were also enforced by the United Nations World Tourism Organization (UNWTO). Working around the customers and guests' hotels, tourism sites, travel agents and many other business providers have to be innovative, and the idea of supply chain management is among the main aspects of providing excellent service as various firms are interlinked to cooperate for the tourism hospitality supply chain [6]. According to Cooper, et al [7] a supply chain can be described as a flow of goods (product and services) and a backward flow of information. It is composed of seven main business processes which are: customer relationship management, customer service management, demand management, order fulfilment, manufacturing flow management, procurement, product development, and commercialization. Supply chain is an important factor in any business and that applies to the tourism hospitality industry. According to Briandana et al [8] the tourism supply chain (TSC) is actually a network or system of various organizations dealing in such activity, ranging from the provision of various products or services. Tourism supply chain is heavily based on the tourist product which considers the regions and cities as well [9].



**Figure 1.** Tourism Hospitality Supply Chain adapted from Xu and Gursoy [10] and Kothari et al, [11]

In the supply chain of the tourism hospitality industry, there are several key components that need to be discussed, as seen from the concept shown in figure 1. The first group within the supply chain are the suppliers or upstream portion, containing Food and Beverage (F&B) producers or suppliers, furniture suppliers, water and energy suppliers and complementary producers (e.g., electronics providers or souvenir craftsmen). These suppliers are the important part of the tourism supply chain as they are the main providers and the main reason why tourism hospitality could work within a location. There are the distributors within the supply chain, tourism services, hotels, and restaurants distribute the goods and services made by the upstream portion of the supply chain towards the downstream portion which are the customers [12]. Every portion of the supply chain is important and has its own purpose on its presence within the supply chain. The customers create the demands, and the suppliers create the produce meanwhile the hotels, tourism services, and restaurant distributes these products. Each of the component in tourism hospitality industry linked with information and goods supply and demand.

### 2.2. Impact of Disaster to Tourism and Hospitality Supply Chain

Due to the locations, coastal areas can be prone to many challenges, including threats from several hazards such as tsunami, flooding, landslide, spill and chronic pollution, sea-level rise, earthquake, storm, storm surge, climate variability and change, and coastal resource degradation [13]. Disasters can have various impacts on coastal areas, both direct and indirect. The direct impact can be recognized as the immediate consequences of the disaster, broken structures due to the disaster. While indirect impact does not provoke by the disaster itself, they can affect a larger scale or even different economic sectors [14]. Both impacts could result in serious damage, both impacts could complement each other and created a much more devastating effect on various sectors, one of which is tourism.

The tourism sector keeps growing and contributes much to opening job opportunities and increasing locals' incomes [15]. The economy and transaction created can be through foreign [16]. Even if the locals are not working in the tourism sector, it is still stimulating other sectors directly, indirectly, or induce effects [17]. Tourism sector also stimulates the infrastructure investment for both the tourists' needs or other stimulated business sectors, which further leads to the economic growth [18]. The sector would also contribute to the technical knowledge transfer, encouraging research and development, and accumulating human capital in the region [19]. Thus, the tourism sector would greatly be contributing to the locals' economy. The increasing capital can increase the vulnerability when a disaster hit.

According to Loayza et al [20] disaster has always affected the economy although not always negatively, depending on the scale of the disaster. Even so, there are many pieces of literature which cover the negative impacts of disaster on economic growth. Felbermayr and Groschl [21] found that in the top 1-percentile of disaster index distribution could reduce GDP per capita at least 6.38%. There is also an evidence of negative correlation between Foreign Direct Investment (FDI) influx and natural disaster incidents in Malaysia and Thailand [22]. Khan et al [23] have also found that natural disasters have affected economic growth negatively averaging -0.016, which covered fiscal balance (-0.011) and FDI (-0.00271) in Belt and Road initiative countries. In the tourism sector, disaster has contributed to the declining of tourist arrivals on some destinations [24]. For example, Earthquake in Umbria, Central

Italy back in 1997 shown that tourist arrivals fell drastically a month after the shock, compared to the same month in the previous year [25]. Disaster impact on the supply chain can be seen from the obstruction of the flow of goods and services. Although there are differences in characteristics in each region, disasters do have a significant impact on supply chain management [26].

Recovery is needed to stabilize the tourism sector post-disaster since tourists would be associating the tourism destination with the disaster. Therefore, it would be necessary for the tourism sector to improve its marketing campaign by re-establishing the tourism image while reducing bad publicity due to the disaster [27]. Due to the varying destructive effects of disaster, the recovery of each tourism destination would be varied depending on the level of destruction caused by the disaster. However, improving the understanding of the tourism supply chains will widely contribute to efficiency in disaster recovery process and risk reduction [28].

### 3. Methodology

The research was conducted with qualitative approaches to describe the main component of the hospitality supply chain and its relationship with the other components. In the early stages of research, a desk study was conducted to compile the components and variables of the tourism hospitality industry supply chain. The desk study concluded that the hospitality business in Pandeglang consist of three main components which are supplier, hotel, and customer. Then, this research used content analysis of documents with relevant information. To gather data and information, the authors conducted in-depth interviews with the stakeholders that are relevant to each of the components and variables of the tourism hospitality industry supply chain in Pandeglang. Some of the stakeholders interviewed were Government of Tourism Office, and Regional Disaster Management Agency in Pandeglang Regency, Indonesian Hotel and Restaurant Association, Association of The Indonesian Tours and Travel Agencies, Pandeglang Community, and other stakeholders who represent each component. Data obtained from in-depth interviews are the impact of the tsunami on Pandeglang tourism especially its hospitality supply chain, as well as the relationship between components in the tourism hospitality supply chain before and after the tsunami. Then, all the information is synthesized to find their current relationship and a way to make it more efficient and effective.

### 4. Result and Discussion

#### 4.1. Impact of Tsunami to Tourism in Pandeglang

The Sunda Strait Tsunami that occurred on December 22, 2018, has devastated some of the areas in Banten Province and Lampung Province. According to the Head of Data and Information Center of Indonesian National Board of Disaster Management (*Badan Nasional Penanggulangan Bencana/BNPB*), Pandeglang Regency was the area worst affected by the natural disaster, especially in its tourism and public residential areas along the coast from Tanjung Lesung, Sumur, Teluk Lada, Panimbang, and Carita [29]. The Sunda Strait Tsunami had caused many damages to Tanjung Lesung, including its tourism infrastructures (recreational facilities got carried away by the tsunami wave and the beaches became dirty) and substrate or material on its coast, also coral reef that grows and develops in the oceans. Data from the Directorate of Regulatory Utilization of the Directorate General of Control of Spatial Use and Land Control, Ministry of Agrarian Affairs and Spatial Planning showed that post-tsunami, approximately 60% of Tanjung Lesung area was damaged [30]. The condition of tourism facilities damaged by the tsunami could be seen clearly at the Resort and Beach Club, Kuntianak Beach, Bodur Beach and Cipenyu Beach. Moreover, even though not all destinations in Tanjung Lesung got hit by the tsunami, the other destinations also felt the impact where most of them were experiencing the decrease in tourist visits. The tsunami has made the tourists experienced trauma, which caused them to be reluctant to visit the tourism areas in the Pandeglang Regency. According to the Tanjung Lesung SEZ administrator, the number of tourist visits after the tsunami decreased significantly. For example, the hotel room occupancy at Tanjung Lesung Resort and Beach Club was only 1-3 rooms per week until April 2019 [30]. In August 2019, the condition in Tanjung Lesung was slowly recovering. At that time, the Operational Director of Banten West Java (BWJ) Tourism Development, said that the region has recovered approximately 50-60%. He stated that the main problem was not infrastructure development

in the post-tsunami Tanjung Lesung tourism, but it was restoring the trust of the public and tourists. It was difficult to convince the public and tourists that it is already safe to visit Tanjung Lesung again. Therefore, they had to do more promotion of the tourism areas in Tanjung Lesung and tried to convince the public that it is already safe to visit it. It can be understood that there are direct and indirect impacts of the Sunda Strait Tsunami on Pandeglang tourism. The direct impact, as the immediate consequences of the disaster, are the damage in the infrastructures of the tourism areas in Pandeglang, destroyed the recreational facilities and polluted beaches. According to multiple interviews with Indonesian Hotel and Restaurant Association (PHRI), Indonesian Hotel and Restaurant Association (PHRI) and Mutiara Carita the indirect impacts of the tsunami, that will last for a long time, is the fear and trauma felt by the tourist because of the tsunami and this causes them to feel reluctant to visit tourism areas in Pandeglang especially the coastal areas and thus causing a decline in the number of tourist visits to the regency. Restoring the trust of tourists and public in general to come visit the coastal tourism areas in Pandeglang Regency is a difficult task and requires cooperation between the people or actors in the tourism actors and the government, just like the Operational Director of Banten West Java (BWJ) Tourism Development said. This is in line with the literature review that says it would be necessary for tourism sector to improve its marketing campaign by re-establishing the tourism image while reducing bad publicity due to the disaster [27].

#### 4.2. Tourism Hospitality Industry Supply Chain in Pandeglang

As mentioned before, tourism has a huge impact in the world and it is currently no different in Pandeglang, where coastal tourism is considered as a growing economic tool with great potential [31]. To support the recovery from the impact of the tsunami on the hospitality industry, it is important to understand the relationship between each component in the hospitality network in Pandeglang. This meant that having a proper supply chain within the tourism industry of Pandeglang is a very important aspect and an aspect that is being worked upon by many different organizations such as PHRI Pandeglang, HPI Pandeglang, Association of The Indonesian Tours and Travel Agencies (ASITA) Pandeglang, and many other different organizations while also being backed by the government. The following provides results hospitality supply chain as drawn in figure 2.



**Figure 2.** The Post Tsunami 2018 Tourism Hospitality Industry Supply Chain in Pandeglang

##### 4.2.1. Supplier Component

###### a. Food and Beverage (F&B) Producers

The food and beverage industry within tourism has an important role, with that statement the suppliers of these sectors are also of high importance. Although throughout the year, food and beverage industry has only increased its retention and in recent years it has become an important aspect in customer satisfaction, as suggested by Albayrak and Caber the importance of F&B offerings improve the overall satisfaction of tourists [32]. Although, the recovery of the F&B suppliers in Pandeglang after the tsunami in 2018 was done at a decent pace, within 4-7 months after the tsunami happened the suppliers have started their operations again according to interviews with PHRI and DISPAR. According to interviews with PHRI, HPI, and Management from Mutiara Carita, Food and Beverage producers and suppliers in Pandeglang provide their services to local consumers and to the centre of the supply chain which are hotels and restaurants. According to

PHRI and Government Tourism Office (*Dinas Pariwisata/DISPAR*) most of the suppliers in Pandeglang are privately owned and not directly affiliated to organizations like PHRI, but they are still being assisted by them so these businesses could recover from accidents, disasters, and are also taught to use systems provided by these organizations to help them in providing an efficient and consistent supply chain. These suppliers and producers play an important role within tourism as they allow hotels and restaurants to flourish and provide for their guests in multiple attractive ways. F&B producers also provide the local tourist sites with either raw products or completed products depending on the scope and demands of distributors such as restaurants, night markets, and hotels[10].

**b. Furniture Producers**

Within the tourism industry furniture producers, craftsmen, and suppliers play a supporting role. Their importance highly depends on the location of their placement, if located within a tourist site that contains multiple accommodations such as hotels, inns, and boarding houses, they provide an invaluable service and are especially important for the hospitality industry, they also support other industries such as restaurants or any kind of food and beverage provider [33]. After the tsunami disaster happened in Pandeglang in December of 2018, the furniture producers gained an upsurge within their market due to the disaster, several businesses needed either repairs and/or renovations, Mutiara Carita management mentioned in an interview that they did renovations after the disaster according to several interviews with PHRI, DISPAR, and even though they were not hit that hard by the tsunami.

According to the interview with HPI, PHRI and Mutiara Carita, the furniture producers are in the same situation with other suppliers, they are privately owned and can either use their own system or obtain training and education from bigger organizations for help to restore the operation. Most of them are not directly affiliated with any organization but can request assistance from these bigger organizations as a part of their supply chain. They also provide services to other businesses than hotels and restaurants, with some providing services towards renovations and rebuilding. The furniture producers are an important part of the supply chain in the tourism industry within Pandeglang, as they provide crafts and useful furniture to both new businesses and older businesses, they provide the goods in helping these service providers on achieving maximum comfortability and enjoyment to their customers [34].

**c. Water and Energy Providers**

Usually, these types of providers/producers in Indonesia are government-owned or are managed by the local government, of course, this is due to the regulations and a lot of theories regarding water stress which is something that needs to be reconsidered. Water stress is a function of renewable freshwater availability, abstraction rates, and consumptive use, global water use is increasing due to the increase of population and economic growth of a location, changes in lifestyle, technologies, and international trade, this is especially important in the aspect of tourism which is a rapidly growing economic provider to many countries [35]. These providers were luckily not affected that badly, most of them were either too far away or were not located within the tsunami area. According to an interview with BPBD most of these businesses lost power for around 3 days after the tsunami happened but was able to recover due to assistance from multiple organizations and the government.

In Pandeglang and generally in Indonesia energy providers such as electricity and water are managed by the government and are handled by the local government of each city, respectively. They are both managed by corporations and have different owners depending on the level of the government. Water supply is managed by local governments although this does not apply to most hotels and restaurants as they usually have their own water supply or have a way to obtain water themselves[36], meanwhile electricity is all managed by the government and is classified as BUMN(Badan Usaha Milik Negara) which translates to state-owned enterprises[37]. Getting a constant supply of both energy and water is important especially for all the business owners within the tourism and hospitality industry, as having access to them means that they will be able to produce and provide for the consumers.

**d. Complementary Producers**

Complementary goods are goods that fit a supporting role, these items appeal depend on the other items popularity, in other words they complement and support other popular goods within the tourism industry, collaboration among each supplier and providers could highly benefit each other, they could establish a common incentive which would benefit the industry as a whole [38]. In an interview with and data given by BPBD of Pandeglang, there were massive physical damages to a lot of complementary producers in Pandeglang, many were also dispersed due to the disaster and took approximately 6 months to recover from the disaster.

According to interviews with PHRI, DISPAR, BAPPEDA and BPBD, complementary producers are also in a similar position with the other two, they are mostly privately owned and manage the supply chain systems themselves while also having access to assistance from the government and bigger organizations. But complementary producers have a different market than the other suppliers, their market is wider due to the complementary producer being a broad term, these producers occupy different types of goods and services, goods such as electronics, hygiene, and clothing are all categorized as complementary goods within the tourism industry[39]

#### *4.2.2. Tourism and Hospitality Component*

Hotels and restaurants within the tourism sector are also classified as a part of the hospitality industry which is heavily interconnected with the tourism industry, these industries and sectors provide to customers, guests, tourists, and etc. either services or goods. The hospitality industry is a broad term that describes many different services and goods, and they are an important aspect within tourism and outside of tourism. Meanwhile the tourism service providers such as travel agents. They are integral in providing success to each other [40]. As the centre of the supply chain hotels, restaurants, and tourism service provider are the distributors of the tourism industry of Pandeglang, the Hotels and Restaurants are all privately owned meanwhile according to and with HPI which is an association of tour service providers says that most of the travel agents, tour guides and operators are associated with a bigger organization or are at least being licensed by them, and most of them have their own supply chain system and the way they manage it is usually internal. A lot of these hotels also have a local supply chain meaning that they deal with locals for matters such as food and beverage, furniture, and complementary products. These hotels also vary from small inns to a few 4-star business hotels and resorts. Resorts are quite popular in Pandeglang due to its coastal area, and in an interview with the management from Mutiara Carita, a 4 Star resort located in Pandeglang, their supplies are mostly local, ranging from equipment, food, beverages, furniture, and other complimenting goods. As the centre of the supply chain, these businesses are important in distributing the goods that are being provided by the supplier whether it be raw goods, processed goods, complementary goods and many more, they act as the middle man of the supply chain within the tourism and play an important part of the whole cycle [10].

#### *4.2.3. Customer Component*

Customers, guests, tourists, or whatever they may be called are the most important part of the hospitality tourism industry as without their existence, these industries would be meaningless. These consumers are what keeps the industry going as they are the main component that keeps the cycle going. They provide economy and jobs to these industries and are massive in terms of saying power. Consumers within the tourism industry could range from multiple different backgrounds, needs, wants, and preferences. As Pandeglang is known for its coastal areas and its local cuisine and culture, most of the consumers that visit Pandeglang are tourists and travellers, and according to Halim [31] Pandeglang's, Tanjung Lesung coast has been visited by 88.310 International tourists and approximately 4.500.000 local tourists in 2002, this shows massive potential and improvement to the city. As this data was 18 years ago, according to an interview with PHRI, Pandeglang has improved itself in different ways, creating new supply management systems within the tourism industry, more transportation access to different tourism locations, and developing new events to attract tourists. These developments show that the consumers are the most important aspect within the supply chain as they are the ones that will use and enjoy all the goods and services provided by the tourism and hospitality industry [41].



## 5. Conclusion

The findings indicate that the hospitality business in Pandeglang consists of three main components namely supplier, hotel, and customer, and how the tsunami had a massive impact in all these industries that is within the Pandeglang supply chain. The Pandeglang tsunami had lasting negative effects to all of the components within the supply chain of the tourism and hospitality industry, luckily it was able to recover at a decent pace while incurring massive economical costs, not to mention that it scarred the coastal tourism of the city. The tsunami itself has damaged the infrastructure of the coastal areas while also having a negative impact towards the reefs within the seabed, it also negatively impacted the tourism image of the coastal areas as people now are traumatized to visit and afraid that this disaster might happen again in the future.

The supply chain within the tourism industry in Pandeglang has also been affected direly by the disaster. The supplier components itself has sustained massive damages both to the infrastructure and to their economy and has given opportunities to some such as the furniture suppliers having increased demand due to damages to the infrastructure of suppliers such as the food and beverage, complementary suppliers and the hospitality industry itself. Some parts of the infrastructure which are the water and energy producers were in luck due to not sustaining any damages because of the distance between the disaster and the location itself. The hospitality supply chain has a role as the provider of tourism hospitality goods and services, which also contributes to strengthening the relationship between suppliers and customers of the tourism hospitality industry. The last component which is the endpoint of the downstream of tourism supply chain is the customer. In Pandeglang, customer keeps the whole industry running as they are the key factor that keeps the supply chain evolving through the year. But when compared to between the supply chain within Pandeglang and an optimal supply chain there are some considerations to be made. In an optimal supply chain, partnerships and cooperation's with other companies could benefit each other, and other aspects such as having affiliates and international relations could be beneficial. Meanwhile in Pandeglang, currently the only large organizations are few and most of the suppliers are local and not affiliated with others making the supply chain not too effective and efficient [42] and can be said that the relationship between components also has not been optimal yet in terms of recovery of the tsunami and tourism market.

Although there is cooperation between component associations that linked each component in the hospitality supply chain, this is still not optimal in terms of coordination and implementation of recovery efforts due to the tsunami in the tourism market in Pandeglang. This can be improved by increasing the communication and coordination within each component, which will help to increase market awareness and demand to driving the tourism hospitality supply chain to the more sustainable supply chain forward [43]. The relationship between components can be more efficient to increase product competitiveness in the tourism market and to support the Pandeglang recovery after Tsunami 2018. In conclusion it can be seen that the supply chain within the tourism industry of Pandeglang is a very important aspect of the industry itself and within Pandeglang itself there are many improvements that can be made especially after the tsunami happened.

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### Acknowledgments

This work was supported by the Ministry of Research and Technology/National Research and Innovation Agency through BP-PTNBH Kemenristek / BRIN 2020 research funding and as part of the output of the research entitled The Impact of the 2018 Tsunami on the Economy of the Hotel Industry in Pandeglang Regency.