

# Logistics and Supply Chain for Dubrovnik Restaurants

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Logistics and Supply Chain for Dubrovnik Restaurants

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## **Abstract**

Aim of this study is to show the importance of the supply chain for Dubrovnik restaurants but also to point out some potential problems that can occur and that are happening during the transportation of the food and beverage. During the season there is a huge demand all over the country and it is important to have good chain of supply to make sure that the restaurant will get their food and beverage in time. Because of that the purpose of this paper is to understand the function and importance of Logistic and Supply Chain for Dubrovnik restaurant. To find out the way that the restaurants are getting supplies and some potential problems that happened to the restaurants, the questionnaire was made and distributed across the city. Questionnaire was made of 11 questions and the restaurant owner/manager was able to circle the letters with the answer that was applicable to the restaurant. The results that are gathered will be able to understand the issues of supply chain and how to deal with them. Results were placed into the excel sheet and with the results graphs were made. Using the information it was easy to understand the key issues that the restaurants were dealing with.

**Keywords:** Supply chain, issues, restaurant, Dubrovnik, Croatia, season

## Logistic and Supply Chain for Dubrovnik Restaurant

Since the hospitality is playing a huge role in Croatian GDP, to be more specific, 19.6%, (OECD, 2020), and it is huge contributor to Croatian economy, during season, the country needs good logistic management. During the season few million people visit Croatia. In 2019, 21 million people visited Croatia. According to: (e-Građani, 2020). Huge part of the tourists arrives in Dubrovnik. During their stay they are eating in different restaurants. During the peak of the season, restaurants are earning a lot of money; therefore they are spending a lot of food and beverage as well as other items. Since Dubrovnik is at the very south of Croatia and most of the food and beverage factories are located in the middle and north part of the country, it is very important to have good supply chain and logistic component. Many restaurants are using food that is not grown in the south part of the country and it can't be brought into the city by ship. Good example would be Dolina Neretve. It is very rich part of the country. "It has 18 000 ha of land for producing food. Every year more than 40 000 tons of tangerine is produced", according to (Naša Neretva, 2015). There are many more fruits and vegetables that are produced. There are many parts, not just the trucks that are bringing items from one location to another. During the season all restaurants need food and that's why it is very important for firms to find the way how they are going to bring the food and other items.

In 2019 1.5 million tourists visited Dubrovnik. We can see that that is huge amount of people because the year after, because of coronavirus, only 220 000 people arrived. (statista, 2021). With lot of people arriving in the town, it usually means that while they are on the vacation, they will spend money. Tourists are spending 185 euros per day out of which more than 85 euros is spent on the accomodation. According to: (Total Croatia News, 2019). For all those people that arrive in the town during the season there has to be good network between the restaurants and suppliers. Because of the dynamic season restaurants need to have a lot of food and items and a lot of connections.

Most of the tourists that arrive in Dubrovnik are foreigners and they want to try different food but also local one. Dubrovnik is well known for many different meals that are famous across the world. Some of them are: šporki makaruli, rožata and arancini (World Travel Guide, 2020). Many of them arrive with the plane. For example: in 2017 in June there were 338 729 tourist arrivals by plane. Same year in August 440 789. In 2018 In June there were 365 348 arrivals and in August 481 863, according to (Dubrovnik Airport, 2022). That is why many restaurants have connections with local producers but also with the farm where they can be sure that all that food is grown without a lot of pesticides.

Supply Chain is very important for entire industry to operate normally. Supply chain specific for the restaurants is the process where different types of restaurants are making a relationship or a contract with their suppliers and distributors on how to make a menu and in that way meet customer orders. (Hyun, 2020).

With supply chain and logistic part comes a lot of problems. Supply chain is not just a process to deliver product from point A to point B. The study that I am doing is looking for potential problems for supply chain for restaurants in Dubrovnik. We will discuss different “levels” of the problems. It will also be mentioned that different problems happened for the supply chain due to Covid-19 pandemic. It consists of 5 different components (ProcurePort, 2021). Those are planning, sourcing, inventory, production and transportation and return of goods.

## **1. Planning**

First question that organization needs to ask themselves is: are they going to produce their own goods or they will buy goods from different suppliers. There are restaurants that are having for example small garden and from there, they are growing some vegetables. One of the restaurants like that is on Korčula. If the restaurant decides not to produce their own product the need to decide where are they going to do sourcing. They need to choose smart so that they can get food quickly during the season.

Supply chain is very complex. Not every detail that has to be dealt with in reality can and should be respected in a plan and during the planning process. Therefore, it is always necessary to abstract from reality and to use a simplified copy of reality, a so-called model, as a basis from establishing a plan. The “art of model building” is to represent reality as simple as possible but as detailed as necessary, i.-e. without ignoring any serious real world constraints (ACADEMIA, 2004.)

## **2. Sourcing**

Sourcing is not that easy because, the firm needs to make sure that the company that is producing something will be able to give them products during entire season. The vendor also needs to offer some good prices.

### **3. Inventory**

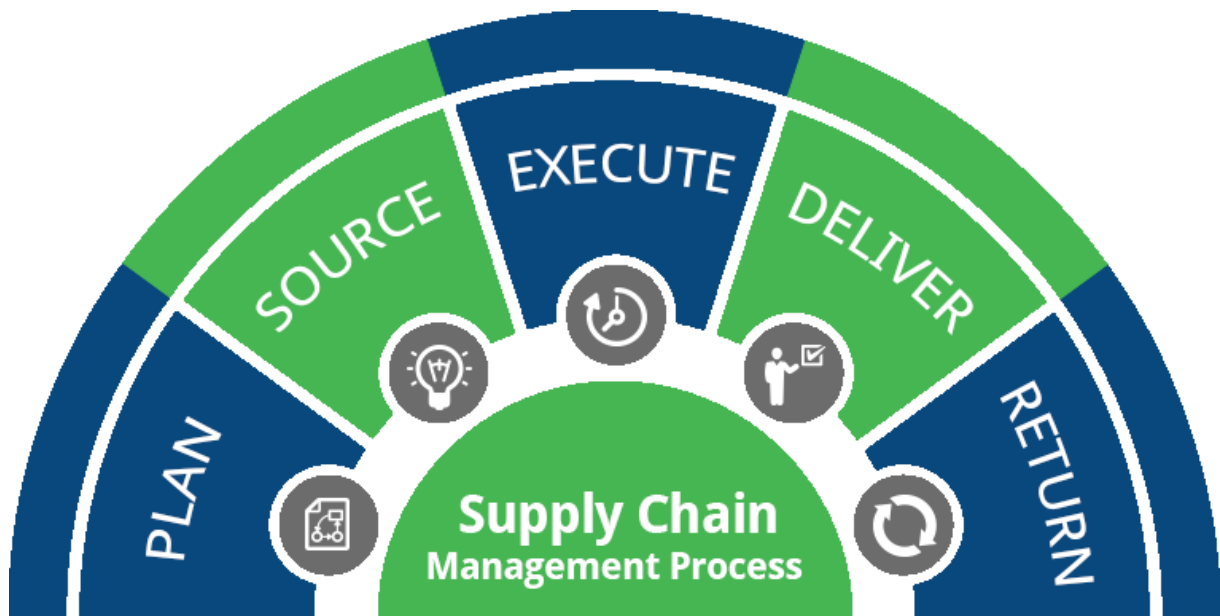
Having more options instead of one is always a good thing. For example: if the firms that you are buying vegetables are not able to send you some amount of food, it is good to have another one so that your restaurant is not suffering. The season is long and everyone is trying to get most out of it. Some food needs to be bought on the daily base and can't be frozen but on the other side if the restaurant is using some things that can be frozen and if that kind of food is bought from other parts of the world, than it is better to have storage filled with it, to be sure that the amount of the food is secured.

### **4. Production and Transportation**

When the production is over the firms need to transport the food from point A to point B. If the firm doesn't have their own trucks or vehicles to transport, they need to call another firm to do it for them. The transportation company already has all logistic and the entire plan how to make sure that the product (food or beverage) reaches destination and during that time, that the food doesn't go bad. The warehouse location is also very important, so that the firm can make plans whether they need to have more truck on one location or they need to have more people in the warehouse that will plan the next part of the journey and so on.

### **5. Return of Goods**

Customer can return the product if the product is bad. The firm needs to assure they have the replacement. What is important is that restaurant also understands that the delivery firm is in the middle of the season and that they also need some time to replace some things.



### Practice

During the season the supply chain is very important and everything needs to go smooth. Companies should train their employees for different situations that can occur. Companies need to have backup plan if something goes bad. It can be to send another truck if one goes bad (for example: engine stops working), they need to have some extra people if some amount of people can't go to work. They need to be trained for some hard situation to stay calm and resolve that situation in best manner.

Some companies will have warehouses in some big cities so it is easier for them to transport food and it is also faster option. For example: if something needs to be delivered in Dubrovnik it would be good that the firm has warehouse in Split.



## **From field to plate**

Restaurant will most probably find the vendor in the town that has contact with other suppliers. That is fine for the restaurant. How does vendor gets items? Since the vendor needs to have food, beverages, napkins, glasses and other products they need to have good connection. Vendor will find biggest food producers in the country. They will make sure that the producers are qualified for that and that is safe to buy from them.

They will make contract on how much items they need during the season (with the possibility of increase or decrease), and they will then find the firm that will deliver those items (unless that vendor has his own trucks). Disruption to any step (especially disruption for food producers), can make problem in the kitchen. That is why restaurants usually have few suppliers.

## **Supply Chain “crisis”**

As it is already mentioned using the picture above there are many different situation that can happened during the production and delivery. For producing some products, the company will need energy. If the firm didn't buy good equipment there will be problem because even in the field the firm needs good machine to produce the product, therefore in this situation the machine needs energy. Another problem is that during the year there might be too hot or too cold and the harvest won't succeed. Source: (agroklub, 2012) In this situation it can happen that for example because of the drought some fields for food won't have enough water to make food grow.

Container capacity is one of the most important things because the food and beverages needs to be placed somewhere. We could see now when the corona hit, that there was a shortage of container in the world and that made a problem. Here we are maybe not talking directly about containers that we need for bringing food to Dubrovnik but trucks, but it is same thing, if there are no trucks there won't be a way to bring items.

Not enough transport and workers in another issue. According to: (Dnevnik.hr, 2021) ,it can be caused by a lot of things: working age problem, country economic situation, people choosing different education and working paths, transportation can be disrupted if there is instability in the country because of the war. Workers are one of the most important parts of supply chain. Another issue in Croatia is that people are working for small salaries and most of the workers will go to work outside. They will work the same job for bigger salary. (Express, 2019)

Products can be gone. The real problem is if the stored products are gone. Restaurants around Dubrovnik are trying to have enough food for few days or weeks in advance because of the amount of people in the city. While working in the restaurant in the Old Town, many things were observed and one of those things is that the restaurant didn't had problem with the amount of products stored in the restaurant during season.

Truckers are important because they are bringing food from and other products from the factories to Dubrovnik restaurants. Example for the importance of the truckers would be when last year in UK there was a shortage and the stores were without food and other items.

In the end, if there is a shortage of items, the restaurant might increase the prices and that can have bad impact of the restaurant. And the thing is, it is no restaurant fault at all.

### **Problems for the producers**

During the summer in Croatia the temperatures are very high between 30 degrees Celsius and 37 degrees Celsius. ( Državni Hidrometeorološki Zavod) With temperatures that high, drought is very common in the country. A lot of food that is grown in the country is located in Dalmatia and during summer that can be problem for the producers. The real life example would be when 2019, drought destroyed Croatian fields. Source: (agro klub, 2012) It is said in the article that they were expecting 20% less income that year because of the drought. If that happened, it won't be bad only for producers but also for the restaurants because they won't get food they need.

Another issue is the harsh winter. There are some products that will be affected if the winter is too cold. Croatia is well known for hot summers and cold winters. When the frost hit the field it can ruin entire effort done by the farmers in one day. There were few events that happened in Croatia and had impact on the producers but as well on the restaurants.

## **Different ways of transportation**

Since there are different food and beverages that are delivered to the restaurants there are different ways they need to be stored. During the season when the temperatures are high, meat and fish needs to be stored in the tanks that have temperature that is very cold so that the food won't go bad. It is also similar thing with fruit, vegetables but also different drinks need to be stored right.

## **Method**

Getting data is important part of research; therefore, by going to different restaurants, information will be gathered using survey. Survey will be based on the research problem and after gathering data there will be some solutions offered to current and potential problems for supply chain for Dubrovnik restaurants. All the issues covered in the questionnaire, were identified from prior research as mentioned in the introduction. Survey was written in English.

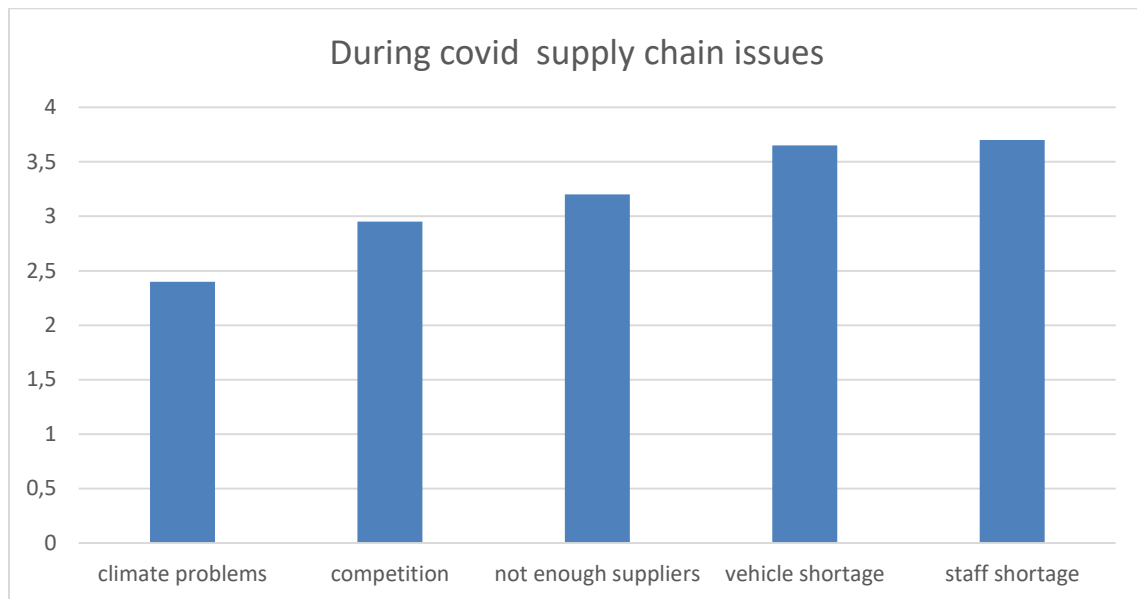
This research measured findings in the way that each letter in the questionnaire will be defined as a number. For example: a=1, b=2, c=3, d=4 and e=5, and in that way the table was made where with the answers were written and using the information, standard deviation and average were provided.

The instrument is made of 3 sections. The first one were demographic type questions, were the type of restaurant was described. Second one was towards quantifying the restaurants suppliers for food, beverage, food and beverage. The third part was directed towards many different supply chain issues. Those issues were specific towards supply chain during the pandemic.

My questions were mostly 5-points Likert scaled questions. For the first part (demographics), there were 3 questions. For the second part that was about restaurant suppliers, there were 3 questions. For the question that was talking about issues during the pandemic, there were 2 questions.

## Results

Figure 1



For my data collection participants were restaurant owners/managers. For data collection many different things were asked in the questionnaire. For example: number of suppliers for food, number of suppliers for beverage, number of suppliers for food and beverage. I was also looking at potential problems in the supply chain.

The way the research was conducted was that restaurants from Dubrovnik were chosen. There were different types of restaurants: pizzeria, fine dining, casual, konoba, café. All restaurants were included since that research was conducted specifically for the restaurants so there was no point of leaving some of them out. The research was conducted in the way that questions were written on the paper, printed out and distributed across the restaurants. The restaurants that the research was conducted were in the Old Town but outside the Old Town as well. There were 20 different restaurants that participated in the survey. All the restaurants that were offered to fill the questionnaire accepted.

Most of the restaurants were working for more than 6 years. Because of that it was easy to compare the situation before and during covid pandemic. When it comes to number of suppliers they are using, the questionnaire had 3 questions. For only food, only beverages and food and beverage. Most of the restaurants were getting food from 4 till 6 suppliers but some of them had between 7-9. Beverage was similar because most of them had between 4 and 6 and some of them had 7-9. One restaurant had between 10-12 suppliers. Talking about getting food and beverage we had mostly 4-6 suppliers and one restaurant had between 10-12 suppliers.

Figure 2

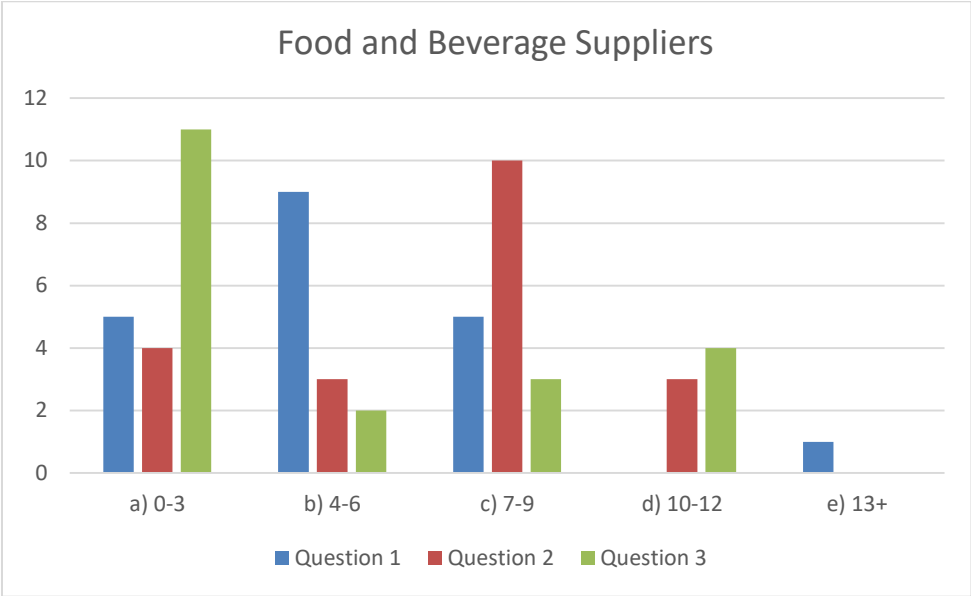


Figure 3

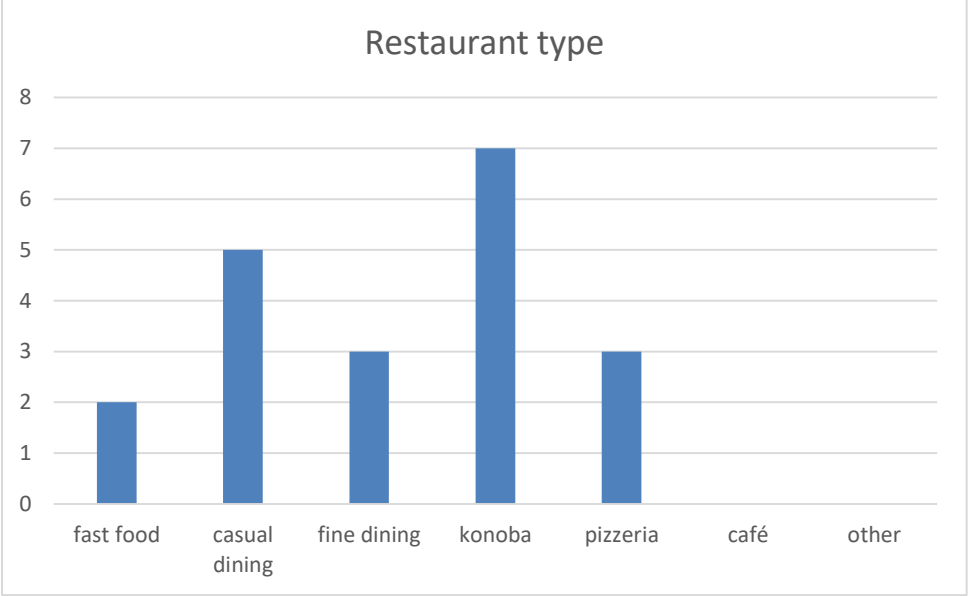
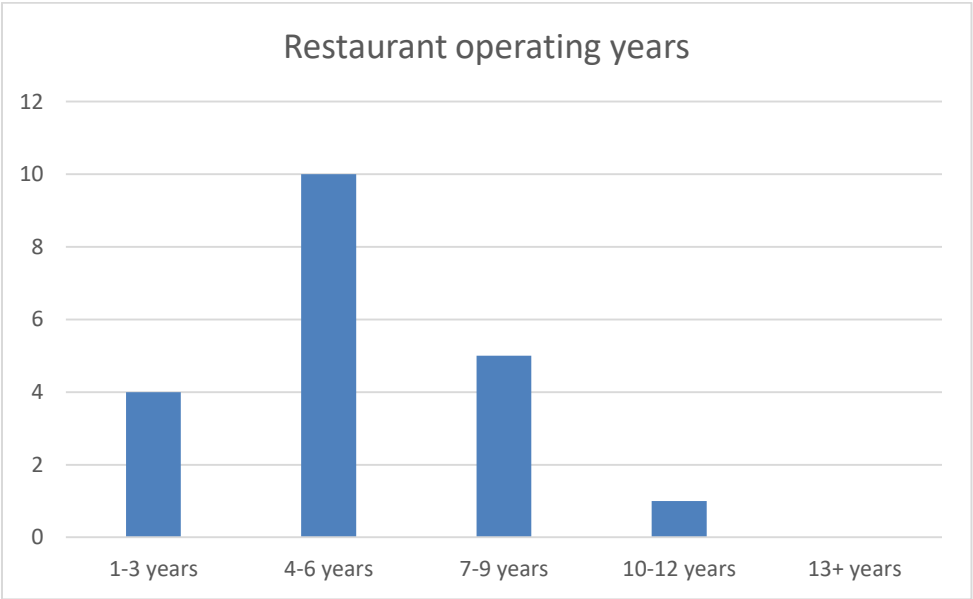


Figure 4



**Discussion**

The purpose of this study was to easier understand key elements and the problems regarding logistics and supply chain for Dubrovnik restaurants. There were many different issues that were found during the research but key ones were: staff shortage before and during the pandemic, vehicle shortage before and during the pandemic and climate problems. Using the results that were gathered from different restaurants across Dubrovnik, it was easy to understand the key issues.

The data suggests that it would be good for the restaurants to find more staff during the season but also for the companies that are producing food and beverage, to find people so that they can withstand the impact of the season.

Results showed that it would be good to have a plan in the case of emergency (Covid-19) so that entire supply chain is not suffering. Supply chain companies can use different data to see what they can expect and how to react. Another result showed that using plastic houses would be great opportunity and way to protect food from climate problems. The result strongly show that by taking care of food plants it will be easier for entire supply chain to work normal and without problems during the season.

The findings show evidence that with right logistic management and good planning, the restaurants and supply chain companies can improve their work and reduce the amount of problems that can happen during the season.

### **Limitations**

Like most of the projects had limitations, this one had one as well. The sample size was maybe relative small (regarding the fact that there were restaurants). Therefore for some future research there can be similar survey with bigger amount of restaurants or some other firms included.

Another limitation is that one restaurant didn't work before Covid-19 so information couldn't be taken from that restaurant regarding the questions that were related for the situation before the Covid-19.

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