# Course Project Part 3(Phase 1)-EXECUTIVE SUMMARY

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BIA-674 supply chain ANALYTICS

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# Executive summary

**Problem Statement**

The covid-19 pandemic is also known as the coronavirus pandemic. It is an ongoing global pandemic that started in December 2019. Mid-April 2020 was the rapid time when COVID was at its peak and it was first detected in Wuhan, China. Our course project is based on a case study Building the supply chain for Covid-19 vaccines.

**Business Overview**

MediCrystal is a leading German pharmaceutical glass manufacturing company that offers a solution for a whole range of basic volume tubular glass parenteral packaging, including ampoules, vials, cartridges, and sterile pre-fillable syringes. The company has manufacturing plants in South Asia, America, and Europe. They have customer all over the world and supplies their products to over 120 countries. The company MediCrystal signed an argument with major pharmaceutical firms to supply pharma glass products for the packaging of 2 billion doses of covid vaccine. The demand is also unpredictable and there are concerns related to shortage and stockout. The company has shared excel with 4 exhibits that show different information which was discussed in the executive summary part 2.

**Procurement Analysis**

The VP at Medicrystal has explained 3 critical areas for her team that are **Supplier risk, Inventory SKU Data, and Capacity constraints**. These 3 areas are an important part of the supply chain and need to be considered by both the supply chain professionals and the companies. Supplier risk is the most important risk for a company. In this, the organization or company is dependent on the supplier to achieve business objectives. The risk is associated with doing business with the third-party supplier and this could affect the profitability of the company that is doing business with them. It is easy to keep eye on the internal department of the company and action can be taken for it if something goes wrong but when the supplier is an outsider, the risk increases, and the company can be held responsible for the bad decisions of its supplier/vendor. This can impact their reputation and can raise legal issues. The company can resolve the supplier risk issue by using a scoring model that can help them to see which supplier is the riskiest and they can make decisions accordingly. It is important to do this because the soon we identify the risk, the sooner we can decide how to solve them and how to protect the supply chain by working with an outsourcing supplier. To mitigate the supplier risk, the company developed an excel model which shows 4 risk domains that can help to overcome this supplier risk and those 4 risk domains are as follows…

**Financial Risk:** Financial risk includes the revenue, credit rating, cash from operations, and the name of different suppliers.

**Regulatory Risk:** Regulatory risk includes the environmental incidents and labor unrests of different suppliers

**Operation Risk:** Operation Risk includes S-OTD (Supplier on-time delivery) and a single source of different suppliers

**Data Management Risk:** Lastly, data security covers both IP Protection and Data security.

Due to the pandemic, the suppliers are facing different challenges and they are facing difficulty in supplying the material to their companies. To overcome this problem and see which supplier is the best for giving orders, the VP of the company has decided to develop a high-level risk-scoring methodology to score the different suppliers and review mitigation activities currently in place. Now, based on the data available, the manager has decided to identify 2 main risk domains, finance and regulatory, and under this, she intends to score each supplier based on the risk factors: labor unrest and environmental incidents.

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Description automatically generated with low confidenceVP has hired us to identify other risk domains and develop a risk-scoring methodology. I believe all the 4 risk domains are important and we should take into consideration all 4 of them so that an actual decision can be made that to whom the order should be given so that they are manufactured on time by the supplier and supplied on the time. This will help in the ongoing and smooth production of manufacturing of COVID-19 vaccine and will help the people of world to overcome this virus as soon as possible. Staring with the data given to us, we can see this data in the table below…

Now, first, let’s look at the scoring of all 4 risk domains. I have used different scoring for all of them and the same is mentioned below for every risk domain.

**Financial Scores and its ranking**

In the financial scores and ranking, I have taken into consideration the revenue, cash from operations and credit scoring. Scoring parameters for each of it are given below.

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Now, we can see above the different scoring for revenue, cash from operations, and credit rating. I have given the highest weightage to cash from operations i.e 50%. This is because I believe it is the most important part for the suppliers. This is because if the supplier doesn’t have sufficient cash from operations, then it would be difficult for them to manufacture the supplying items and it can create problems accordingly. Moreover, the revenue score shows which supplying company has the highest revenue and the last credit rating shows what is the credit rating for all the suppliers. All of them have their importance. If we see the results, we can conclude that Real Glass is doing great in terms of the financial risk domain. They have the highest revenue and highest cash from operations. However, it is important to notice here that their credit rating is poor compared to other suppliers and it is an important aspect.

**Regulatory Risk Score and its ranking**

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Description automatically generatedIn this, we have included labor unrest and environmental incidents.

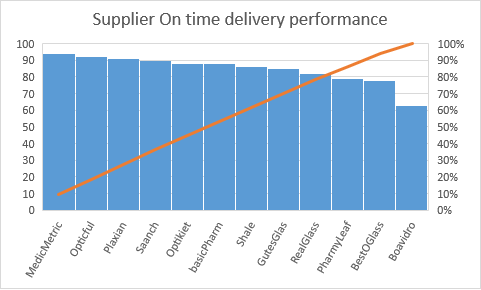
As we can see in the above screenshot, we have given weightage to the Labor unrest and Environmental Incidents. In this, we can conclude that Shale, Real Glass, and Plaxian have labor unrest and environmental incidents and the rest of them are good to go. Labor unrest is when the labor is dissatisfied, and environmental incidents include natural and non-natural hazards. However, this is not it and many other parameters should be considered to decide.

**Operations Scoring**

The operating scoring includes the standard out-to-deliver time.

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The scoring is simply done based on percentage. I have multiplied the out-to-delivery time by 100. According to this MedicMetric, Opticful, Plaxian, and Saanch have their out-to-delivery time performance in 90’s.

**Data Management Risk Scoring and Ranking**

The data management includes different parameters such as single source, IP protection and Data Security.

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As we can see above the excel screenshot is for the scoring of the data management. I have done scoring of a single source, IP protection, and Data security. The total scoring Is also shown for the parameters, and it can be concluded that companies that have a score below 70 are riskier than the others.

**Final Total Scoring and Ranking**

Below mentioned is the ranking of all the risk domains together. It will be easy to make decisions using this excel as it contains all the information.

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Now, we can make several conclusions from the final excel model that we have made. Some of the most critical insights and conclusions are as follows….

* The credit score rating should be improved by all the suppliers so that their risk of bankruptcy and debt goes down. We can see that some of the suppliers have 1 or 2 credit rating which is not a positive sign, and they should work hard to improve it.
* Data management policies should be shared with all the suppliers so that they can regulate them and use them in their manufacturing standards. Moreover, the company can comply with them. This is mostly for all of them as they have a total score of below 85 so everyone needs to work on it.
* Overall if we see GutesGlas, Saanch, Boavirdo are the three highest with the top 3 scoring.
* Plaxian, Real Glass, Opticful and BestOGlass seems high-risk vendors as their total scoring is less than the others. They should improve themselves and work on their special attributes.

Lastly, this is not it and only 4 risk domains are not enough to make a decision of selecting the accurate supplier. Company should see other options too other than these suppliers. Moreover, instead of using a single supplier the company can use more supplier at a time to diversify their risk. It is not an easy task and have a complex web structure which makes it difficult to take any decision easily. I hope with the information collected and in-depth analysis, the company should with 2 suppliers instead of one such as they can use a combo of GutesGlass and Boavirdo as their main suppliers and keep rest of them as a alternative.