# How to deal with the unexpected

**By Paul Denneman**

LESSON-1

How to deal with the unexpected. That will be the main subject of this course on risk and business continuity management. In the first lesson I will take you to the background of supply chain risk management. What is supply chain risk? Just looking at some definitions. I took one from a Chinese boy who wrote a dissertation on it and I think that is, an interesting one because it's combining certain elements what we will later see in the risk management model. And he is saying risk is deemed as a negative outcome from uncertainty and it can be measured from the likelihood and the consequence of uncertainty. So what is important in this definition is that it's negative and that it's uncertain. So that is always one of the elements in risk. We do not know what is going to happen, when it's going to happen, if it's going to happen, it will have a consequence and most of the times that one is negative. But should it always be negative? An interesting one is the definition in the ISO 31,000 and there they say risk is the effect of uncertainty on objectives and an effect is a positive or a negative deviation from what is expected. So in the official let's say risk management standard they are also calling it a positive effect. And that sounds strange because normally we would say that a positive risk is an opportunity but indeed it can be possible that we have a risk but that the outcome is not that negative. Another definition is supply chain risk management is the firm's ability to understand and manage its economical, environmental and social risk within the supply chain. And I think that one is nice. It's good because it's bringing in that triple P element people, profit and planet. And of course, the supply chain is bringing those elements together specially in their risk management. So what can be some consequences? What is mentioned in all those definitions of that disruption? Of course, first of all we will have a financial impact. The financial impact can be big. I will show you later the probabilities of let's say having a final impact and how big that can be. Next to that we can have a logistics impact. That impact is severe. We have seen in the COVID19 situation that there is a lot of productivity loss in the past period. On the third part we can have a reputation impact. Our brand can be damaged because something is happening.

All elements of risk looking to a profile of risk and this picture from if we want to model the risk, we can use a simple risk profile. So looking at one side, what is the probability that a disruption is taking place and what is the impact on the supply chain? So where is the point that the supply chain value being delivered is impacted? Every supply chain is configured in such a way that it can deliver its maximum value. So a lot of risk with a high probability. We have taken measures already in-house supply chain that the impact is rather low. But of course, there are also what we call the low probability high impact type of disruptions. The COVID 19. The lockdowns we have in several countries is one of those examples. It's happening once in a lifetime, but once it's happening, it's having a high impact. And that means that the supply chains, although they are configured in such a way that they can deliver the maximum of intended value, even if there are several high probabilities operational risk, it can happen that my supply chain value what is delivered. It's getting low or even negative when certain types of risk are happening. So in the event of a low probability, high impact systematic failure, a supply chain cannot only fail to deliver its intended value, but it may also result into a negative value. And that's what we're trying to prevent enrichment risk management. But what risks are we now actually facing? So looking at an outlook that is being made by the World Economic Forum every year we see changes in types of risk. So if we categorize them, we have economic risk, environmental risk, geopolitical risk and societal risk. And last but not least, the technological risk as we are looking at the landscape for 2021, it's not strange that infectious diseases is one of the most likely risks and having a big impact. We only looked at 2019. Then we saw that we had an indication for that risk of infectious diseases, but the impact was recorded high, but the likelihood was being recorded as very low. So risks are changing all the time. And that's also something we have to take note of when we make measures. It's not a one time operation. We have to analyze look at risk all the time. The other thing we notice in the risk landscape is that a lot of the risks are environmental. That's what we think. What it's going to happen? The third I want to mention is that cybersecurity is regarded as, let's say, a fast mover in the risk landscape we are seeing. We are expecting more disruptions on that part. Taking another one. What is the top ten of supply chain risk in this one was taken from 2019. At that moment, before the COVID crisis, we saw trade wars as one of the highest risk, but also the rising demand fragile supply chain was there as an important risk. On the third place, we were worried about recalls and safety of products. Climate change was one of the things what we expected that the supply chain could impact again not only the climate change, but also the environmental regulations that we have to pay more for having certain resources. The economic uncertainty mentioned almost in every risk assessment, cargo caught up in industrial on the hazardous transport, battles at

the border. And last but not least, an interesting one that drones are going to delay our air traffic. This was 2019. What did happen? Some did happen but they are maybe not happening because we took precautions. In the other part, what are the elements of risk? In the past year we had COVID crisis. So basically, what we saw in the as the most important risk was of course non occupational diseases, pandemics health incidents and after that only safety IT and Telecom Outage. Looking to the supply chain what is most impacting our supply chain? Looking over a number of years always the loss of productivity is mentioned as the highest impact increased cost of working and less service. So all elements which are directly related to the cost to the making of our product of course there is also a loss of revenue or damage to brand reputation but that part is not as big as the loss of productivity. What are the consequences of loss of supply chain disruptions? They can be very expensive but in most of the cases, let's say 80% of the cases the loss is limited to less than 1 million. That's still a lot of money but it's limited. We have some damages but we can deal with them. But interesting is also the part that almost 2% will have a loss of over 100 million. So if we take only the example of Maersk who had a cyber-attack what was caused by a tiny piece of software what was implemented or installed in their systems and within seconds their complete infrastructure went down. That happened in 2017 and the cost they had taken over it was over $300 million. So between the 80% of what is hardly impacting in money we have 20% what is over 1 million and even far over 1 million. So, it makes sense to have some risk management precautions.

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