**SCRIPT**

**Slide 1**: Good day, this is (name), (student ID). I am here today to present about the topic delivery drone. So first let us see what a drone is.

**Slide 2**: A drone is a UAV (unmanned aerial vehicle) or we can also call it pilotless vehicle. It is a new addition to the transportation industry and is still in the infancy stage of being used regularly.

In 2018, the research and advisory company Gartner Inc. described drones as an “emerging technology that will become a source of competitive advantage over the next decade” [Maghazei & Netland, 2019]. We know that delivery persons are called superheroes as they come to our rescue in any situation. Now the world is moving towards technology and that’s why a super machine is created who will do the same as delivery person.

Now the question that might come up is how can drones be used in the transportation industry?

**Slide 3**: Now we will look into the impacts on the transportation industry by drones. So, how did the transportation industry change? did it change in a good way or bad or both?

The concept of UAVs dates to the mid-1800s which was used by the British Naval in 1917 [1]. It’s been more than a decade and here we are slowly adapting to drones. There are both positive and negative sides for delivery drones such as high buying price and battery life. However, as the technology is advancing, the battery life and other cons can be fixed. Some of the companies have already started testing delivery drones such as Amazon, DHL, and FedEx. [Nurgaliev et al., 2023]

Domino’s Pizza is also testing the use of drones for pizza delivery in several countries,

including the US, New Zealand, and the UK. Matternet has tested the use of drones to deliver parcels in urban areas and transport medical samples in hospitals [Nurgaliev et al., 2023].

From this graph, we can also see that the funding for unmanned aircrafts have increased from 4% to 31% over the course of 10 years and is expected to increase further [4].

In the past we couldn't imagine of our parcels being flown to us but now things are changing slowly. It has already been started. Despite the challenges, the future of drones in the transportation & logistic industry looks promising.

Moving forward to the next slide.

**Slide 4:** How do we know that delivery drones are sustainable or disruptive innovation? When we look at Figure 1, delivery drones seem like a loss project. why? because drones are still not highly developed and only 1 observer can observe 1 drone at a time and 1 drone can carry 1 package. the labor cost is very high then and is higher than all the other modes of delivering products. If the drones can function on their own and does not require observation all the time, then drones are the best method of parcel deliveries. That is what the manufacturers of drone delivery are working towards now [3] and this is what explains disruptive innovation. Disruptive innovations may underperform today but may fully perform what the market demands tomorrow [4]. However, in figure 2 we can see that Just over 2 in 5 US adults, they have a lot or some trust issues about drones delivering to homes or businesses. Despite the statistics, it is later found that once the survey participants experience drone deliveries personally, they are willing to change their mind about drone deliveries [5].

**Slide 5**: This is the SWOT analysis for delivery drones. First Let us look into the strengths.

The delivery time has been decreased as drones are faster than trucks and the deliveries to remote locations have become easier. It doesn’t cost much money as no petrol cost, and it can be exposed to dangerous situation such as during military operations.

Now we discuss the weaknesses -

As drones are lighter in weight, they cannot carry more than 2-4 kgs and also, they cannot be used during any weather turbulence. They also require trained staff for maintenance.

Now the opportunities for delivery drones -

Amazon and DHL can deliver products within few hours if they use drones. Surgeons for organ transplantation can use drones to receive the organs as soon as possible. [Laksham, 2019].   
Finally, the threats,

Public safety is a concern if the drone crashes in the middle of a residential area. Also, privacy is an issue as drones can fly into any home anytime.

Moving on to the next slide of PESTLE analysis.

**Slide 6**: Pestle analysis is used to determine the changes that may occur in the business or the risks and the benefits. In this slide we can see the pestle analysis for delivery drones in Norway. We will discuss the 4 main PESTLE factors.

According to the four PESTLE factors—Political, Legal, Economic, and Technological—Norway is considered suitable for the "Delivery drones" business due to its high rate of technological adoption, ease of doing business, political stability, steady economy, and drone strategy and framework in place, which makes it simpler to enter the drone delivery business. [Kumar, 2019].

After using SWOT analysis and Pestle analysis, it can be concluded that delivery drones have a bright future in the transportation and logistics industry. Also, the statistics have given us proof of that. From the SWOT analysis we saw it has more strengths and opportunities than weaknesses and threats. From the pestle analysis, we can conclude that in the Norway, drone deliveries have already been adapted and Norway is working towards it to further boost their economy. With that I would like to finish my presentation. Hope you have enjoyed it. Thank you and have a good day.

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