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SPACE & BEYOND

The First Aviation & Aerospace Chronicle in Bangladesh
A **BSMRAAU** Publication

Bangabandhu and Space Science in Bangladesh

Stepping into the Space Age

A report on BSMRAAU undertakings and accomplishments

Braving the Impact of COVID-19: Aviation Sector of Bangladesh

Face to face with the Vice Chancellor of BSMRAAU

Creating the next generations of space and aviation professionals

Viewpoint

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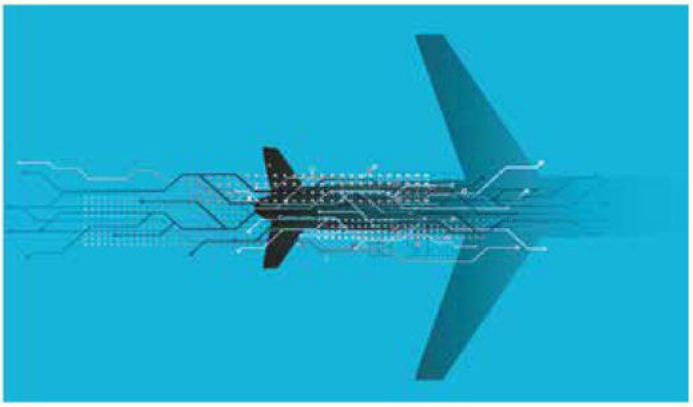
240 terabytes

of data from the aircraft



Data Science in Aviation Industry

Aviation industry is one of the most sophisticated transportation industries in the world.

During the air transportation, an airline company generates huge volume of data related to engine systems, fuel utility, weather, passenger information, etc. Data Science technology introduces a greater opportunity to the aviation industry to manage and utilise this large volume of data for a flawless industrial operation.

Now a days, the more advanced aircrafts, sensors and other data collecting tools generate more complicated data sets that need to be managed by Data Science technology.

International Air Transport Association (IATA) facilitating around 280 airlines or 83% of the total air traffic has made an initial release of Airline Industry Data Model (AIDM) which aims to assist seamless flow of data. In addition, IATA also has the New Distribution Capability (NDC) scheme which aims to provide customers' access to full and rich air content as well as a transparent purchase experience.

Data Science will enable air carriers to provide the personalised experience that customers are looking for.

Airline Safety

Immense amount of data gets generated when a flight is in operation. On an average, a six-hour flight collects around 240 terabytes of data from the aircraft. The Airbus A350 has around 6,000 sensors in the aircraft, and it generates 2.5 terabytes of data every day.

Thus, the data collected from the airlines can be scrutinised and analysed to improve flight safety using Data Science technology. Data Analytics also helps to identify major risks and the solutions to ensure passenger safety. This will become more crucial day by day when air traffic is expected to double in the next few years.

Smart Maintenance

Issues like luggage mishandled at the airport during check-out or at the conveyor belt can be easily addressed based on the data collected through Data Analytics.

Data Science can also help to optimise the airspace in terms of flight routes, runway bandwidth and types of aircraft, etc. that creep up the increase in airport traffic.

Compensations given to the passengers or expenses on aircraft maintenance can jolt the financial condition of an airline. Cancellations or delay-cost have become a barrier to the financial growth of the airlines. When the technicians have access to real-time data, they can easily identify the problems and probable glitch to get it solved or the parts replaced.

Messaging Automation

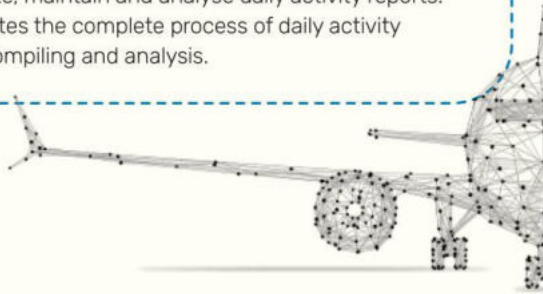
A customer should have the right to know immediate, proper and effective resolution to all his queries and grievances. If they did not get it, the result would be loss of customers. The faster resolution increases chances of customer retention. All this can be achieved with the help of Data Science that can determine the right data collected at the right time and analysed to be put to the right use.

Customer Satisfaction

Passengers' preference and spending behaviour can be identified by using Data Analytics. Airlines can identify their customers' needs even better with the help of data they collect and analyse. Data can be collected not only during the process of rolling out an offer but also even after it.

Performance Measurements

Aviation industry is more competent than any other on a global as well as domestic level. Sometimes it can be a little overwhelming for the airlines to generate, maintain and analyse daily activity reports. Data Science automates the complete process of daily activity reports generation, compiling and analysis.



> Time heals but only when we make up our mindset to do so.

Cost Reduction

As per the aviation rule, any damage that a passenger suffers due to baggage loss is compensated by the airlines. This increases the expenditure of the airlines. The application of Data Science has arrived as a saviour in these circumstances. It has resulted in reduction of costs with the introduction of real-time baggage tracking system. The data thus collected and analysed saves baggage from being lost, damaged or delayed.

Application in Bangladesh

Some private operators of Bangladesh have started using Data Analytics and Data Science to promote faster and easily accessible service to their customer. For instance, royalty card, special pricing, discount and offers are designed based on the customer consumption pattern and frequency, review and satisfaction data.

But there is an unlimited potential for the application of Data Science left behind. The air transportation network system is complex, multidimensional, highly distributed, and interdependent where Data Science is the faithful future of modern aviation industry that can make it more advanced and competitive as well as environment friendly.

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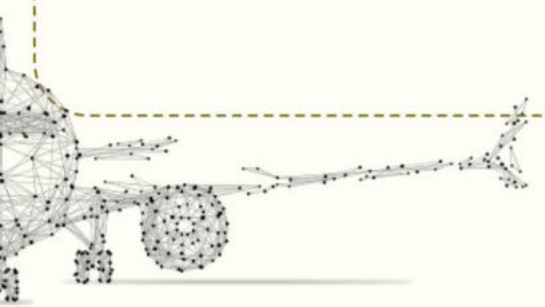

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