

How airports can leverage their data and overcome COVID-19

4 SIMPLE STEPS TO GUIDE YOU TOWARDS SUCCESS



COPENHAGEN OPTIMIZATION

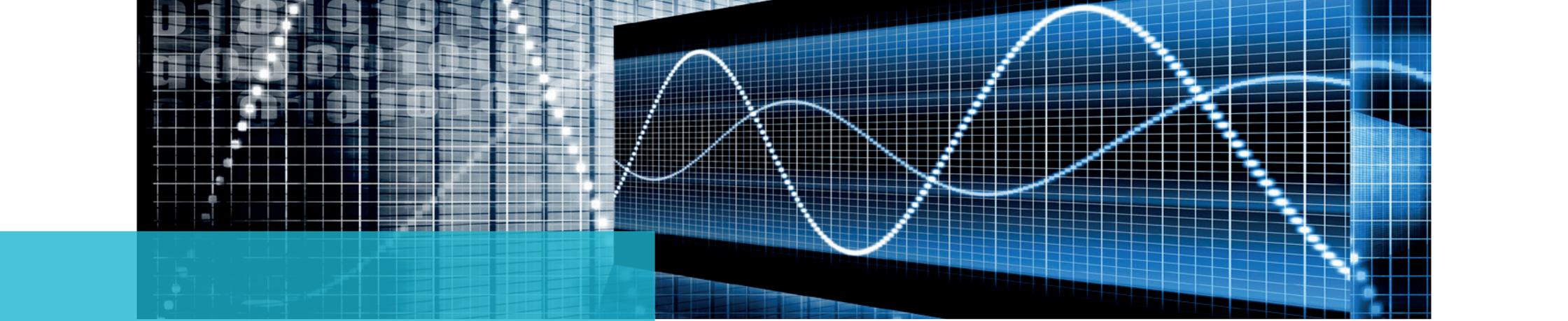


Through daily operations, airports are producing vast amounts of data. However, for many airports the use of data remains an untapped potential. COVID-19 and its severe effect on aviation has highlighted a need for airports to be more agile when planning operations. Optimized utilization of existing data will become the foundation of COVID-19 recovery.

Airports will need to adopt a data-driven approach to operations ensuring compliance with guidelines and the need for physical distancing, while simultaneously adapting to an evolving demand of the use of infrastructure.

This guide presents four simple steps to help you get started on leveraging your airport data.





1

Discover the potential of your existing data

The first step towards becoming a more data-driven organization is to realize the potential of available data, more so than considering the lack of data as a challenge. An opportunity driven mindset is key during a crisis and even the very best airports in the world do not have full data coverage. The most successful airports work with what they have, understand what they need, and how they can improve for the future.

Industry knowledge, benchmark data, alternative data sources, and the like can produce planning, analytics, and improvement initiatives that significantly improve and prepare operations for COVID-19 recovery.

Airports should still strive to improve the collection and quality of data; however, this process is only reinforced by gaining knowledge and experience by working with what is presently available.



The background of the slide features a dark blue scientific calculator with a green LCD screen, resting on a white surface. Behind the calculator are several data visualization elements: a blue line graph with data points, a blue bar chart, and a grid with numerical values. The overall theme is data analysis and business intelligence.

2

Make the first analysis based on available data

You already have enough available airport data to get started. Will your first analysis be spot on? Probably not. But it will be a lot better than no analysis, and airports can continuously adjust their input parameters based on how they match operational reality. More importantly, it will give the airport something to work with, a tool to communicate to key stakeholders, and provides the foundation for evolving airport data analytics.

To demonstrate the variety of data sources available, let us consider planning for physical distancing at check-in. To do so, we need to understand:

- How many passengers will arrive at check-in, when will they arrive, and at what check-in area?
- How fast are passengers being processed?
- What is the required distance between passengers?
- What is the size of the queuing areas?

If we focus on the first point, there are numerous ways of establishing when passengers arrive at a check-in area:

1. **Automated passenger tracking** provides valuable information on passenger arrival and transaction times as well as use of infrastructure.
2. **Surveys** are utilized by many airports and they are a good way of collecting data for processing rates and knowing when passengers arrive. Depending on the methodology, they can also define which flight each passenger is on. The drawback to this method is that it can be expensive and challenging to gather a significant amount of data points.
3. **Baggage tag scans** provide an additional way of determining passenger arrivals as they are collected once the bag enters the baggage system at check-in. While the show-up profiles generated need to be adjusted for any wait time, they produce a passenger arrival for every single flight.

If all the above data sources are available, they provide the opportunity to cross-validate as shown in the example below. Data validation is a topic on its own, but the importance must not be underestimated.

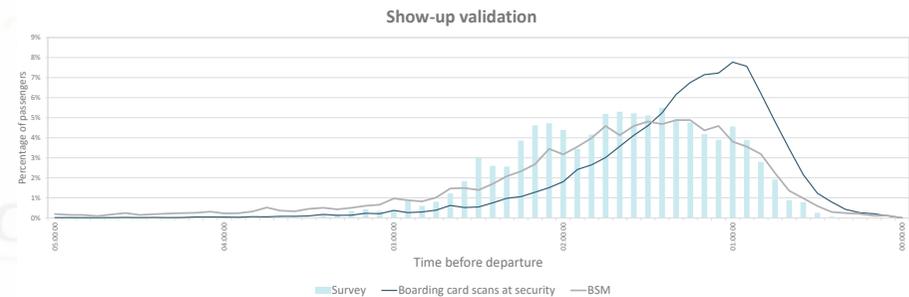


Figure 1: Comparison of three different data sources for passenger show-up. The correlation between baggage tag scans (grey line) and passenger surveys (teal) indicates that the baggage tag scans could be used as an alternative source for passenger arrival at check-in and validates the findings of the survey. The security passenger arrival is used to further validate the survey and baggage data.

Add to this the flight schedule, a qualified assumption on load factors, transaction times at check-in, the required distance between passengers, and the size of queue areas. All this information will enable an airport to run scenarios on how many check-in counters an airline will need in the COVID-19 recovery phase, what queue space is required, as well as allowing the airport to dispatch staff to potentially challenging areas as forecasted by the analysis.



3

Deliver value
in small releases
– one step at a time

Using analysis and scenario planning as a means to handle COVID-19 has several advantages. It is an opportunity to showcase the power of data and analytics at airports, while also supporting changing legacy processes. It will not be possible to obtain complete data coverage on all affected areas during the crisis. Still, it is possible to deliver tangible results, initiatives, and recommendations to support your airport operation by using already existing data.

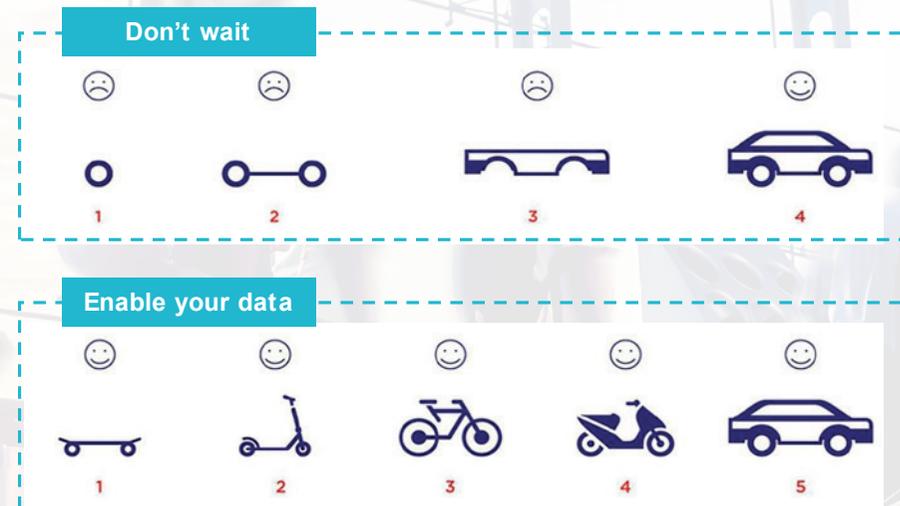


Figure 2: The skateboard model. Same end state but different ways of getting there. It is possible and important to deliver value from the beginning and continuously build upon your capabilities.

Source: Implement Consulting Group with SAS



The Skateboard Model is taken from process change and project management. It shows how successful airport transformation delivers value in small releases and makes the change process tangible while engaging stakeholders and hence, making results much faster. You often see airport operation projects analyzing data for more than 12 months, with no change and no impact during those 12 months. The great change projects in airport operations manage to analyze and implement in small releases.

The same applies to data. Recommendations include:

1. Leveraging the data already available to create tangible results for the organization – this will drive the demand for additional analytics
2. Looking for alternative data sources when the primary source is not available
3. Stakeholders will often hold additional data. Engage with them and showcase the value added that data sharing can generate
4. Validating all data
5. Using the data to implement small and continuous improvements





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