

The way forward

The evolution of airport IT systems and collaborative decision making will transform operations at the world's gateways in the years ahead, writes John Jarrell.

Air travel has grown dramatically in recent history, with analysts expecting the number of airline passengers to double over the next 20 years.

As a result, there has, inevitably, been a pronounced demand on airports to manage the increase in air traffic. The surge has placed a particular strain on airports that continue to deploy old-fashioned legacy IT systems that are unable to cope in response.

The struggle to meet demand is becoming a serious issue for airports, especially in light of the competitive growth observed in alternative methods of transport such as high-speed rail travel.

EUROCONTROL estimates that by 2030, 10% of demand will fail to be met, meaning 260 million passengers will be unable to fly due to a lack of airport capacity. However, for many airports, cost, geographic, environmental and regulatory restrictions are holding back physical expansion and infrastructure development.

Therefore, in order to effectively manage an increasing number of passengers, airports are looking to innovative technology to maximise the physical infrastructure available.

Integration across actors in the airport eco-system

Most airports are operating with legacy IT systems, some of which are over 30 years old and may no longer be fit for purpose.

This situation may have arisen from fragmentation of IT development throughout the airport, making integration and data sharing between partners an expensive, complex and time-consuming task.

As a result, a lack of information relating to which passengers are at the airport and where to locate aircraft and baggage means that airport operations are under permanent strain.

One key way to improve operational efficiency throughout the airport is to integrate different players within the airport eco-system in a collaborative decision making (CDM) model.

Typically, in the current airport, each division operates without the necessary knowledge or information to maximise collective performance, and, subsequently, no single partner has the 'complete picture'. As a result, co-ordination of operational processes is compromised.

If airports were better able to integrate these processes, they would be in a position to handle a greater quantity of passengers with improved efficiency.

Airport collaborative decision making (A-CDM) involves integration of data across all actors in the travel eco-system



(including travel sellers, airlines, airports, ground handlers, passengers, air traffic controllers and border agency officers), so that they are able to share data in real-time and can work together more efficiently and transparently.

For example, in terms of aircraft take-off, an integrated IT solution can calculate the most efficient start up time for each aircraft – aiming to minimise delays, congestion, fuel consumption and passenger frustration. This can only be achieved by considering all actors and sharing operational data such as the target off-block time.

Streamlined collaboration within the airport will enable better decision making, and also facilitate inter-airport co-operation. This is of particular relevance for passengers who are making a journey via a hub airport.

Disruption management

Deployment of a CDM model in the airport environment is particularly important in the context of disruption management.

According to the Central Office for Delay Analysis in Europe, if all the hours and minutes of flight delays were to be added together, 70% of the total would be related to flight turnaround processes at the airport.

If airports are to retain and attract airline customers and travellers, it is important that all flight-related services within the airport should run as smoothly as possible to reduce delay, frustration and associated costs.

This inevitably necessitates more joined-up thinking and integration between airports, airlines and ground handlers which can be achieved with deployment of a CDM model.

Airports becoming business-oriented service providers

Cost containment is challenging for airport operators as a result of expensive asset bases which must be maintained and enhanced over time to cater to customers' changing needs.



In response, airports must now position themselves as sophisticated and business-oriented providers.

In fact, by building on data obtained from passenger activity in the airport, airports will be in a position to develop a new business model to provide value-added services to reduce pressure on aeronautical revenues.

Increasing revenue per passenger will come from enhancing and creating new retail experiences that will encourage people to spend more time and money at the airport on shopping, leisure, entertainment, dining and personal/business services.

Going a step further, airports could greatly enhance their revenue if they were able to offer services in advance of passengers arriving at the airport.

Merchandising could be tailored to increase targeted sales of airport services.

For example, if a flight was delayed for an extended period of time, and a passenger had previously been spending a large amount in duty free, then the airport could offer them a luxury lounge upgrade.

Passenger activity within the airport could be recorded every time a boarding pass is scanned: at check-in, at security controls, on making purchases and before boarding the plane.

This would enable the airport to provide passengers with real-time information regarding changes to their journey and offers further chances for service provision.

Enhancing the passenger experience to drive loyalty

In line with the need for airports to become service providers, and, in light of competition from both other airports and alternative modes of travel, expectations of the passenger continue to grow.

Travellers expect a seamless journey from booking to arrival, and the airport is becoming an increasingly important part of the passengers travel experience.

A recent report from Amadeus, entitled *Reinventing the Airport Ecosystem*, identified key developments that passengers would like to see over the next five years.

These included: remote check-in and bag collection, use of mobile phone to navigate through all key touch points, self check-in kiosks, and frequent flyer cards as permanent boarding passes, permanent electronic bag tags, automated self-bag drop, 'self-service' immigration/passport control/boarding and, notification of baggage loading.

For leisure and business travellers, removing stress and streamlining processes such as bag drop-off can reassure passengers around one of the biggest causes of anxiety in the airport.

Unsurprisingly, passengers require speed, simplicity, convenience and reliability of airline and airport processes. Mobile technology means that travellers are accustomed to receiving information on demand.

If airports are able to enhance the passenger experience, they will maintain an advantage over their competitors, and passengers will begin to perceive air travel as an enjoyable and stress-free endeavour.

As passenger growth rapidly increases, airports must not only maximise the resources available, but also simultaneously reposition themselves as service providers. This must be done without neglecting the quality, and even enhancing the passenger experience.

By deploying the latest IT solutions, airports will be able to retain passenger numbers in an increasingly competitive environment. 

About the author

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