

Comment

Measuring the customer's journey through London City Airport

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spent the majority of his career in retail, where he developed a keen customer focus. Patrick joined Tesco in 1994 and over the next 14 years he consistently drove sustainable profit growth through a variety of finance director positions, covering Tesco's construction, Thai and convenience divisions, among others. While at Tesco, he delivered substantial cost savings as a procurement director as well as finance director. Wanting to work in a private equity environment, Patrick became group finance director of the UK's largest women's fashion retailer, New Look, in 2008. He led the finance streams of New Look's 2010 IPO process. Patrick joined London City Airport in June 2011. He was attracted to London City Airport because of its unique passenger proposition.

Abstract

London City Airport (LCY) is the only London airport actually in London, handling around 70,000 flight movements and 3.65 million passengers in 2014. It is a niche business, in that some 65% of those using LCY are travelling on business and 63% are inbound, having bought their ticket at the other end of the route. Airports don't have a God-given right to the passengers and airlines they serve. Fifty-nine per cent of airports with four million or fewer passengers in Europe are loss making — in fact, 44% of all airports in Europe are loss making (up 4% in two years). Every airport offers passengers access to air travel — but is this really enough to guarantee survival? Understanding, communicating and delivering on your airport's passenger proposition is crucial to your success. It is all you have to make you stand out from the crowd. You must protect it at all costs. LCY has developed a passenger proposition based on four pillars — location, network, customer service and, most importantly, speed of transit. It should take no more than 20 minutes to get from front door to departure lounge, and no more than 15 minutes from tarmac to train. We call it the 20:15 promise — and it is a promise that presents an obvious challenge: how can we know if we were delivering?

Keywords

London City Airport, CrowdVision, customer proposition, Big Data

INTRODUCTION

London City Airport (LCY) is the only London airport actually in London, handling around 70,000 commercial aircraft movements and 3.65 million passengers in 2014. It is a niche business, in that some 65% of those using LCY are travelling on business and 63% are inbound, having bought their ticket at the other end of the route.

Airports don't have a God-given right to the passengers and airlines they serve.

Fifty-nine per cent of airports with four million or fewer passengers in Europe are loss making — in fact, 44% of all airports in Europe are loss making. Every airport offers passengers access to air travel — but is this really enough to guarantee survival?

Understanding, communicating and delivering on the airport's passenger proposition is crucial to long-term success. It is all it has to make it stand out from the crowd. That must be protected at all costs.

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VISION AND PROPOSITION

LCY's vision 'to serve our customers and communities by delivering better, faster journeys through our airport using innovation and team work' is at the heart of what we do every day.

LCY's passenger proposition is based on based on three pillars — speed, location and customer service — the most important of which is speed. It should take no more than 20 minutes to get from the front door to the departure gate, and no more than 15 minutes from tarmac to train. This is the '20:15' offer — and it's one that presents an obvious challenge. How do we know if we are delivering?

FACT OR ANECDOTE?

Like many customer-facing businesses, LCY had lots of anecdotal evidence pointing to how it was performing for its passengers. Social media interaction, feedback direct to staff, operational data — all indicated how things were going. Our ethos is that decisions made on fact are seldom wrong; decisions made on anecdote are often mistakes. How were we to gain factual information on passenger journeys?

FOURTH TIME LUCKY

LCY sought a measurement system which would tell management reliably whether the 20:15 time offering was being delivered. Several technologies were trialled. Measurements focused on the actual time taken for passenger journeys on departure and arrival. Each technology worked — to a degree — but only one, CrowdVision (the technology used to monitor crowding during the annual Hajj at Mecca), was accurate enough to allow us to understand the timing of each step of every journey.

Initially, passenger journeys were tracked manually. Being followed by a staff member with a clipboard and stopwatch is intrusive, expensive and not particularly accurate. Only passengers who opted in could be followed. Were they representative of the airport's typical passenger?

Bluetooth technology measured the time taken for Bluetooth-enabled phones to pass between two points. While cheaper than clipboards, the data gained did not allow analysis of which passengers had been tracked, or even what proportion of journeys. Privacy issues were a significant concern. It's difficult for someone to use Bluetooth to identify you in particular, unless you've chosen to include your name or some other personally identifiable information in the name of your phone. Growing numbers of passengers are choosing to make their device non-discoverable to others when not using it, however.

Facial recognition technology in a fast-moving airport environment allowed 25% of passengers to be tracked between two points. Again privacy issues and difficulties in gaining passenger opt-in were a major concern. At 3.5 million passengers per year, 25% of passengers equates to 875,000 passengers — a statistically significant number. LCY's journey has four major checkpoints, however. A 25% success rate meant $0.25 \times 0.25 \times 0.25 \times 0.25 = 0.39\%$ — which is a somewhat less significant 13,650 passengers.

Finally, through a UK government technology scheme, LCY was introduced to CrowdVision.

CROWDVISION

CrowdVision's core business is live crowd analytics. This means monitoring crowded places and automatically generating real-time insights into the crowd

as it develops — how many people are present, how they are distributed, how they are moving, how they may move next — and whether anything strange is going on. The ability to understand the ‘crowd as creature’ in real time sets CrowdVision apart from other video analytics solutions.

CrowdVision technology had already successfully proved itself in monitoring very large crowds, for example, at the annual Hajj in Mecca. Its management team wanted to prove that their software was scalable to a broad variety of locations. LCY offered such an opportunity.

One hundred and ninety data-capturing ‘cameras’ were installed into the ceiling of the airport’s terminal. These cameras track each passenger journey through the airport, second by second, metre by metre. CrowdVision software discretely identifies each passenger by the top of their head. As a result, the data is completely anonymous. Passenger journeys are translated into derived analytics, which can then be reviewed by airport staff.

WE NEEDED A DASHBOARD

The CrowdVision system went live in April 2014. It was immediately clear that the quality of the data delivered was beyond expectations. Ninety-eight per cent of passenger journeys were accurately tracked. The software was so accurate that it had to be trained to ignore airport staff members who moved against the flow of passengers.

CrowdVision cameras collect 70 gigabytes of data each day and initially we were overwhelmed by the sheer volume. Data are only of real use if they can be translated into information that can form the basis of actionable decisions. We chose to present the information in a simple graphical interface — a ‘dashboard’ — which allows staff to understand whether the airport is delivering its 20:15 commitment in real time and, if not, what they need to do about it.

The status of the airport as a whole can be seen on one screen (Figure 1). The passenger journey is broken down into discrete stages reflecting the different steps

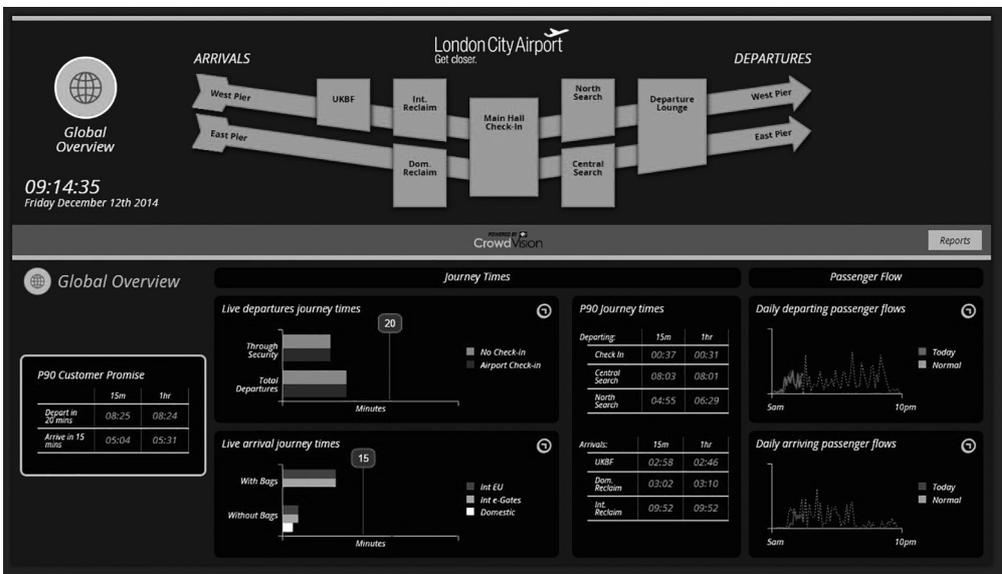


Figure 1 The CrowdVision dashboard

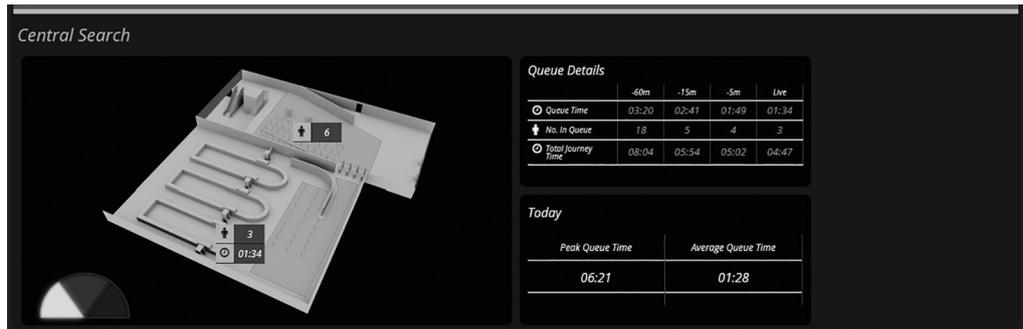


Figure 2 CrowdVision dashboard: central search detail

passengers take, in order that pinchpoints and blockages can be identified and dealt with.

A simple traffic light system gives staff graphical confirmation as to how each element of the passenger journey is performing. Green means things are flowing smoothly, while problems such as congestion or unacceptable queue times are highlighted using amber and red.

Each element of the airport journey can be explored in more detail by drilling down from the simple dashboard map. For

example, see the central search detail in Figure 2.

SO DOES LONDON CITY AIRPORT DELIVER 20:15?

The answer is yes — as an example of our executive reporting shows for the departures journey w/c 2nd November, 2014 (Figure 3). The line chart represents customer journey times over the course of the week. Our 20-minute target translates to 1,200 seconds. All journeys were comfortably under this.

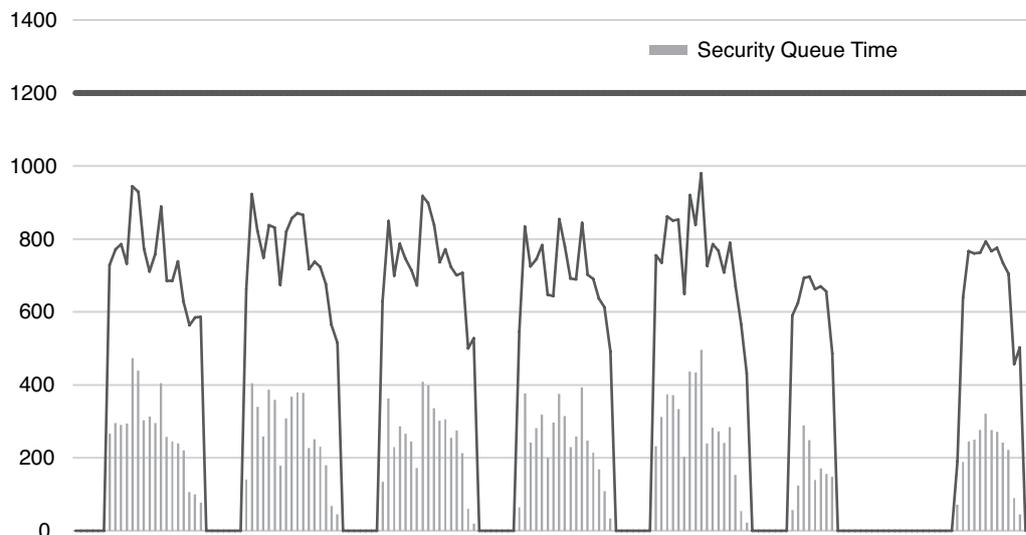


Figure 3 Customer journeys, departures, w/c 2nd November, 2014

'THERE ARE MORE QUESTIONS THAN ANSWERS'

Understanding how and if we deliver the time-based element of our proposition is only the beginning. We are just starting to come to terms with the richness of the data generated from understanding how passengers use the terminal — and the opportunities are incredibly exciting. The terminal becomes congested at peak times of day and for the first time we can measure empirically just how congested it is (Figure 4).

SO IS THIS 'BIG DATA'?

Collecting this much data every day has felt pretty big to the airport's IT team. Our belief is that the key to Big Data is knowing what questions you want to ask of the data you have. On top of this we have tried to keep things simple through our graphical interface and being focused on a few important questions rather than too many interesting ones simultaneously.

THE TIP OF AN ICEBERG

So far, CrowdVision data has allowed LCY to:

1. know if we are delivering on our proposition;
2. improve the efficiency of our operations (as we see things changing);

3. identify 'pinchpoints' and how investment improves them;
4. deepen our partnerships with airlines by combining our data.
5. understand passenger density and flow.

This is just the start of our journey. We are focusing on the opportunities to use data to make a financial return. That can be direct (data on concession performance/hotspots) or indirect (delivery of a proposition which attracts return custom).

For example, we are exploring the idea of feeding passenger journey measurement data — along with data supplied by external agencies, such as Transport for London — into an app that could be used by regular travellers to guide them through their journey from start point to end point.

The app would inform a business traveller when it's necessary to leave the office to get to the airport in time — either by road or by public transport.

On arrival at the airport, the app would inform the traveller as to how long it will take to check-in, how long it will take to get through security, how busy the departure lounge is and where there is available seating. The app would allow the traveller to purchase food and drink from outlets at the airport, in advance, and then enjoy at-seat delivery. All the time, the app would be providing updates on flight times and departure gates, meaning passengers can

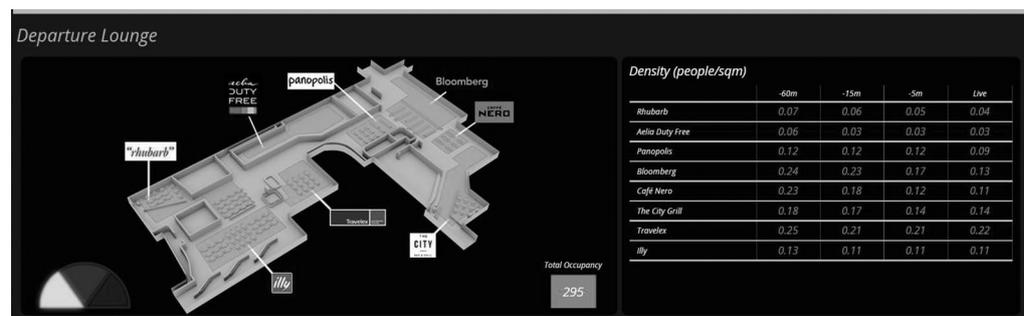


Figure 4 Density data, departure lounge

enjoy peace of mind, a coffee and catch up on work safe in the knowledge we'll prompt them when its time to board.

Every airport has bespoke needs — and will use these tools to answer different questions.

SO IS IT WORKING?

I'll let a passenger sum it up for us. He tweeted: 'Bloody love @londoncityair. From plane to DLR in NINE MINUTES'.

And it doesn't get much better than that.

To sum, up, and briefly, it's all about the passenger. And about considering the passenger as 'guest'.

We've used LCY as the example, but for any customer-facing business the imperative is the same. No-one has a right to customers and you've got to provide something that sets you apart — and ideally something that you have control over.

For us, it's the airport experience — what our customers see and experience in the brief time they're with us.

It's also true, however, that the customer has to understand your 'system' and how to make it work. At the risk of being disingenuous, while it's obviously about providing what the customer wants and needs, it's also about ensuring that the customer appreciates, and can use, what you're providing.

The challenges of our business have led us down a path that is technology rich — but that's the future everyone's facing. And in the future, as now, customer service will mean customer education, customer encouragement and, above all, customer management.

CAA data says that LCY is the most promoted UK airport (Figure 5). Passengers already like the proposition we deliver. CrowdVision will allow LCY to keep things that way.

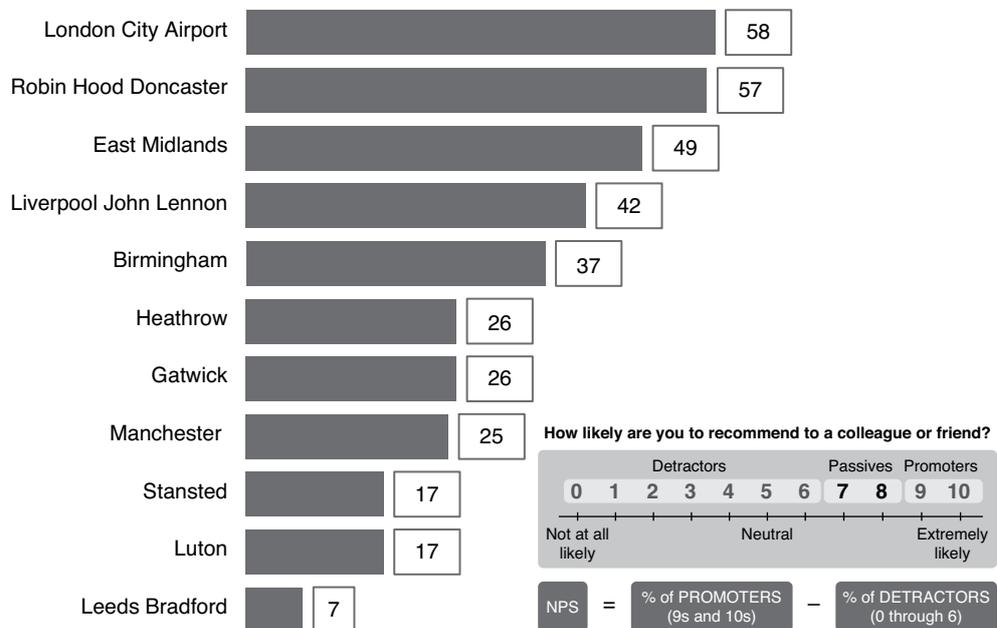


Figure 5 Likelihood of recommending to a friend/colleague
 Source: Taken from 2013 CAA data