



COVID-19, an opportunity for African airports to embrace technology and innovation

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The need to redefine the passenger journey experience

It cannot be over-emphasised enough that the air travel industry is facing one of the most challenging times of its existence. In addition to the catastrophic financial consequences of the COVID-19 pandemic on the industry, the confidence enjoyed by travellers before the crisis has eroded substantially since airports and airlines have been regarded as one of the vectors of transmission of the virus across borders.

Since the outbreak of the pandemic and in a bid to maintaining the continuity of air services during border closures in order to carry out vital humanitarian, evacuation and cargo operations, airports all over the world, including in Africa, have had no choice but to rapidly rethink their normal processes to keep passengers, crew and staff safe, and this included the continuous disinfection of all touchpoints, wearing of suitable face coverings, physical distancing, COVID-19 testing and the reinforcement of touchless technologies where available. These new protocols introduced gradually have slowly been reshaping the normality we were all used to in the air travel industry. Indeed, in addition to safety and security, a healthy air travel experience has now become a top priority for passengers. Whether they are travelling for business or leisure, domestically or internationally, passengers now prefer to choose airports that prioritize their well-being over other travel considerations.

In August/September 2020, Airports Council International (ACI) conducted a study among 4,100 travellers in 30 countries worldwide with the main objectives to evaluate the speed at which travellers are likely to return to airports, to identify the main factors influencing the speed of recovery, to assess the evolution of their habits as well as to specify passengers' perceptions and expectations towards the passenger journey (ACI, 2020). The good news is that 97% of respondents, who travelled in 2019, intend to travel again in the future, with 61% of respondents from the Africa region confirming, at the time of the survey, their willingness to travel by the end of this year itself (ACI, 2020). However, the study also revealed that 20% of respondents were not confident that airports and airlines were providing

a safe environment, and those that were planning to travel were expecting specific measures to be implemented by airports (ACI, 2020). The most expected measure was the mandatory use of masks for all passengers and airport staff, as confirmed by 48% of all respondents, followed by a 28% of respondents for COVID-19 test prior to their journey, hand sanitizing stations (28% of respondents), and interestingly, 27% of respondents looking forward for a contactless experience (ACI, 2020).

Therefore, notwithstanding the recent encouraging news of the implementation of a number of potentially successful vaccines against the COVID-19 virus, the latter has unfortunately left an indelible print in the minds and habits of most passengers, and to such an extent, that their normal travel expectations may have been permanently redefined.

As the airport industry now begins to plan for a sustainable recovery after a gradual restart over the past few months, it will be even more important for airports to listen, understand, and respond to the changing needs and expectations of the travelling public. Indeed, passengers will naturally expect to be able to clear airport formalities such as security, customs and immigration swiftly, avoiding crowds and long queues, and to have more choices about how they will interact with airlines, airports and border control authorities. This new travel mindset was already an expectation of the current generation of travellers, but it is likely that this change will be accelerated now with the COVID-19 pandemic. Addressing and tracking the new drivers of satisfaction in the redesign or new design of the passenger journey through airports will be the key to confidently reassuring passengers about the safety of air travel.

Technology and Innovation to play a centre stage in boosting passenger confidence

The impact of the COVID-19 pandemic on air travel certainly presents airports with a lot of challenges and complexities but also with a unique opportunity to think strategically and adopt a systematic approach to understanding, evaluating and adapting to the changing expectations of passengers for a safe, secure and hygienic air travel experience.

Technology and automation is bound to play a crucial role and artificial intelligence will offer an ideal platform to automate tasks and increase efficiency while improving safety and security and ensuring lower margin of errors, if implemented correctly.

The need for systems and processes at airports to cope with the new challenges posed by the COVID-19 crisis in the facilitation of passengers and handling of cargo and baggage is evident. Based on the lessons learnt from this crisis and in a bid to improving its business continuity resilience at all levels, the industry is determined to take the lead in many areas aimed at addressing public health-related issues, managing queues and crowds, and optimizing use of resources by adopting automation and

advanced technologies, facilitating data exchange and embracing digital solutions such as biometric recognition technology.

There are numbers of areas where significant opportunities exist within the control of national authorities to foster the introduction of technology and innovation, such as enabling faster clearance of passengers by border control agencies, promoting adoption of automated and electronic processing by customs, and simplifying inspection points throughout the passenger journey at airports. In a nutshell, this crisis must actually be regarded as the catalyst for change to swiftly embrace technology and innovation in passenger processing in the airport industry, and review and adapt all the national regulatory frameworks needed to support the change.

Growing appeal for touchless and remote processes

The current crisis has highlighted the need for greater use of mobile and automated solutions, including touchless self-service and biometrics, and the greater use of data, including health information, to enable seamless and safe air travel.

Digital transformation will play a more prominent role in ensuring that efficiency, safety and customer experience are all addressed at passenger touchpoints such as: check-in, self-service bag drops, security checkpoint, border control and boarding gates, and retail and duty-free outlets, amongst others. Touchless processes will undoubtedly be an integral part of the future of air travel. Whilst this is not a new concept, having been around for some years now and forming the backbone of ACI's vision for the future of travel, this pandemic has certainly accelerated its adoption. Many airports and airlines have already turned to touchless kiosks or virtual/mobile processing to replace traditional check-in and bag drop functions.

The accelerated use of digital identity, and potentially coupled with some health information, to provide clearance for passengers to travel, is likely to gain much momentum. In the short term, this may be proof of COVID-19 test results, and in the longer term evidence of vaccination against COVID-19.

Some passenger processes will also take place off-airport before the start of the journey so that less face-to-face contact is required. For instance, check-in and bag drop processes may move largely off-airport, to hotels and conference centres, and services will more commonly include bag pick-up and delivery. A greater and smarter integration with other transit systems is also expected in order to enable a more seamless and touchless journey. These approaches will eliminate or greatly reduce the need for physical exchange of travel documents between staff and passengers. It may also speed the overall passenger process, with the benefit of enhanced health protection, and resulting in reduced queuing and other process efficiencies which is much needed at a time when revenues are severely impacted.

The situation at African airports

Africa, the second-largest and second-most populous continent, is unfortunately still lagging behind when it comes to the introduction and use of technology in delivering new and innovative passenger processing and improved customer experience at airports.

This current state is mainly due to barriers posed by the current complexity of introducing digitalisation in airport processes, data ownership issues, lack of stakeholders' collaboration, regulatory obstacles to enable fully online or mobile processes and funding priorities not necessarily geared towards technology and innovation. For instance, most African countries currently do not have biometric passports or national identification cards which enable the chips in those documents to store the biometric data passengers, which is the first main requirement to positively identifying a passenger in the travel process and thus allow for contactless experience. Data ownership is also a huge challenge in Africa with governments claiming the sole ownership and not allowing third parties to access, verify or use biometric data.

Nevertheless, over the last years, a few countries in Africa, such as South Africa, Morocco and Ghana, have started to introduce technology to improve the overall passenger experience, mainly with self-service and automated processes. Lanseria International Airport in South Africa is so far the only airport on the continent with self-bag drop facilities. The room for self-service and automation growth is huge on the continent, and with the COVID-19 pandemic, there is an opportunity for all African airports, irrespective of size, to embrace this technology as it will gradually and confidently help to embark on the contactless passenger journey experience. Addis Ababa Bole International Airport of Ethiopia has clearly understood this vision and is currently integrating this technology at its new airport.

Financial implications versus long term investment

It is important that in the process of introducing a contactless experience at airports, the entire journey must be redesigned to identify all the touchpoints that can be made contactless and this can be achieved through a journey mapping exercise taking into consideration the different passenger profiles, setting clear objectives and goals, and matching the technology that will fit each and every process. It is important to bear in mind that there is no "one size fits all". There is always a solution that fits every budget and every process.

Finance will indeed be an issue in the current testing times for the airport industry, but solutions implemented now will bring significant return on investment in the long term. Innovation does not have to mean expensive technology as better use of data for efficient operations, and a move to cloud-based computing may be low-hanging fruit to save costs in the short and long term. For instance, during the COVID-19 pandemic, the cargo industry has demonstrated this flexible approach and resilience when

substantial capacity constraints resulted from the imposed passenger travel restrictions. A harmonized approach to modify processes, e.g. loading cargo on aircraft and moving to paperless operations, overcame some significant challenges in exceedingly short time scales. The same approach should now be used in other areas of airport operations.

The future of air travel as envisioned by the NEXTT initiative

New Experience Travel Technologies (NEXTT) is a joint initiative of Airports Council International (ACI) and International Air Transport Association (IATA). NEXTT encapsulates the shared vision of both associations for the future of travel encompassing the complete journey from home to end destination by focusing on three concepts for passengers, baggage, cargo and aircraft operations, namely: (i) off-airport activities, (ii) advanced processing technology such as robotics and biometrics, and (iii) interactive decision-making (NEXTT, 2020).

The NEXTT vision used to remain a long-term focus on the future of travel for many airports, with its implementation considered in a phased manner. However, with the COVID-19 pandemic, the scenario is altogether different and the adoption of these concepts has become extremely relevant today and will certainly constitute the most relevant framework for airports willing to instil efficiency in their processes whilst at the same time complying with the needs of passengers for a safe, secure and healthy air travel experience.

Pre-COVID-19, NEXTT's vision of off-airport activities was that passengers would have full control of their journey in the comfort of their home prior to reaching the airport by providing them with a number options regarding online or mobile check-in procedures, off-airport baggage or cargo drop-off, travel authorisations and customs procedures to be managed digitally, and online shopping and booking of ancillary airport services, amongst others.

These off-airport options, as envisaged by NEXTT, are extremely relevant now during this ongoing crisis to reduce contact and crowding at airports, to help physical distancing and to alleviate on-site capacity airport constraints, and will certainly become even more relevant in the post-pandemic world. In addition, with health declaration being part and parcel of the mandatory border control formalities, the concept of a passenger's digital wallet, that will include all health-related information including COVID-19 test and vaccination, is bound to form an integral part of the off-airport passenger processing process in the future.

Pre-COVID-19, NEXTT's vision of advanced processing related to the use of technology for identification purposes, automation and robotics to create a seamless, secure and harmonised process for passengers and baggage handling at various automated touchpoints at airports, viz. document check at entry, check-in, self-service bag drops, access to security checkpoints, border control and boarding.

In the post-pandemic world, the need for contactless processing will become an even stronger recommendation, if not a norm in the long term, as evidenced by the ICAO Council Aviation Recovery Taskforce (CART) Report and Recovery Guidelines released during the crisis, which now recommends the increased use of technology to facilitate contactless processing of passengers at various stages of their journey (ICAO, 2020). Thus, the passenger experience at the airport will involve the biometric verification of identity and health status at walking pace for a completely uninterrupted and touchless journey. Passenger touchpoints, such as kiosks and other process points, will be touchless, activated by biometric recognition, including voice or motion, and will offer the possibility to seamlessly interact with mobile technologies.

Similarly, electronic bag tags will provide luggage with a digital identity and will help in reducing passenger and staff touchpoints to tag luggage, which is in line with the contactless journey experience envisaged during and post-COVID-19 crisis.

The third concept of NEXTT, i.e. interactive decision-making, is quite forward looking in terms of control and personalisation of the travel experience of passengers through a better communication and coordination of data sources. Airports would experience enhanced understanding of the needs of their passengers because of the collaboration offered with open Application Programming Interface (API) platforms. On the other hand, tracking technologies and situational awareness would increase the reactivity of passengers to changes made during their travel journey.

During the current crisis and in a post-COVID-19 world, the need for accurate, relevant and up-to-date information on travel requirements and authorizations, especially with respect to health protocols, has all its pertinence for passengers. For airports, advanced information on passengers and on their specific needs will also become key in anticipating potential issues and adjusting the processes and resources allocation to enable a pleasant and seamless passenger journey experience through the airport. Solutions, such as mobile apps and exchange of data through APIs, will be critical to enable passengers to navigate through their journeys.

The way forward

Although short-term growth projections have dramatically changed, the need to provide immediate solutions required to mitigate COVID-19 risks when travelling, and to improve efficiency for airports and airlines remain key drivers of innovation and technology.

Around the world, technology, through contactless solutions, self-service and automated processes, and biometrics, is gradually taking the centre stage in helping both airports and airlines overcome the

challenges of the new reality of air travel. While the global crisis has placed air transport industry growth ambitions on hold, it has also presented an opportunity for meaningful innovation and transformation to be accelerated, a sure investment for the future.

In the current context, where the COVID-19 pandemic has impacted heavily on air travel, passenger trust and airport operations, the concepts, on which NEXTT rest, are certainly the way forward to achieving the paradigm shift in the passenger journey experience.

For African airports, the time is opportune to confidently embrace technology and innovation so as to improve, once for all, on the efficiency of processes at all levels whilst guaranteeing passengers with a safe, secure, healthy and harmonised air travel experience within and out of Africa.

References

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