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## Abstract:

Adam, 70 years old, was travelling to X country and when arriving at the airport he could not go through the customs clearance office because he did not download the required national mobile application on his mobile to prove COVID-19 vaccination status. X country, like many other countries, requires every person to download a national application and upload specific documents, mainly the one proving that the person is vaccinated against COVID \_19. The process of checking and approving the uploaded documents involves human being check, which is subject to errors and takes time. Besides, these national applications are recognised only within the boundaries of their issuing governments. To overcome the recognition issue, IATA and several international bodies developed digital vaccine passports to restore free movement between countries. This research provides a comparative analytical study to these applications focussing on the disadvantages that arose from such apps such as discrimination and jeopardising users' privacy and the surveillance risk. To overcome these disadvantages, this article suggests the development of a COVID-19 Smart Card (CSC) similar to a bank card, which contains a microchip where the relevant data can be obtained by scanning. Data included in CSC are to be updated whenever and wherever the users' COVID-19-related data change. To protect it from theft or any illegal usage by another person other than the owner, with every scan, validation is required either by a fingerprint, an eye print or a facial recognition. Blockchain technology must also be used to protect its data against hackers.

**Keywords:** COVID-19 Smart Card, IATA Travel Pass, blockchain, vaccine certificate, travellers' privacy, discrimination.

## **1. INTRODUCTION**

The spread of COVID-19 pandemic enormously affected the air industry.

<sup>1</sup> The availability and efficiency of the newly developed vaccines raised the hope for economic recovery in the sectors affected by COVID-19, mainly the air industry. To recover from the severe effects resulting from such restrictions; the air industries tend to require specific information related to the passengers' COVID-19 health status to effectively mitigate the risk of the spread of the virus through travelling. Most governments required proof of COVID-19 vaccination and a polymerase chain reaction (PCR) test for air travellers. The cost and the methods to prove the vaccination and the test differ from one country to another. Many countries created a national COVID-19 mobile application to allow entry of air passengers.<sup>2</sup> For Qatar's travel and return policy, pre-registration in the national application *Ehteraz* is mandatory for visitors at least (12) hours before travel to get a travel permit. The registration must include the submission of the original vaccination certificate of the recognized vaccines decided by the Qatari health authority.<sup>3</sup> The COVID-19 national apps are not recognised by other countries causing uncertainty and complexity for air passengers forming an obstacle for the recovery of the air industry. To overcome such issues, the International Air Transport Association (IATA) has developed a new digital health Travel Pass to

<sup>&</sup>lt;sup>11</sup> The year 2020 witnessed an overall reduction of 66% of seats offered by airlines and a 74% reduction in the number of passengers. In March 2020, all world destinations applied strict travel restrictions where 85% of the destinations have completely or partially closed their borders and 5% have suspended completely or partially international flights. ICAO, Air Transport Bureau, Canada, 2022.

<sup>[</sup>https://www.icao.int/sustainability/Documents/Covid-

<sup>19/</sup>ICAO\_coronavirus\_Econ\_Impact.pdf] (last date accessed 14/06/2022)

<sup>&</sup>lt;sup>2</sup> For example, travelling to or from Qatar, the passenger must fulfil two stages. The Qatari Ministry of Public Health provides a COVID-19 vaccination certificate for those who received the full course of the COVID-19 vaccine through registering in the National Authentication System (NAS) by using the Qatari ID number. Ministry of Public Health/Qatar, "COVID-19 Vaccine Certificate," Covid-19 Vaccination Certificate, 2021, https://cert-covid19.moph.gov.qa/Home/Index] (last date accessed 14/06/2022). Turkey, on the other hand, activated a 'vaccine ID card', an online application for air passengers to prove that they have taken the vaccine. It is also considered as a vaccine passport for those who want to travel to European Union. hurriyetdailynews, "Turkey Introduces Vaccine ID Card to Its Citizens - Turkey News," 2021, https://www.hurriyetdailynews.com/amp/turkey-introduces-vaccine-id-card-to-its-citizens-164640] (last date accessed 14/06/2022)

<sup>&</sup>lt;sup>3</sup> Ministry of Public Health/Qatar, "Qatar Travel and Return Policy," Qatar Travel and Return Policy, 2021, [https://covid19.moph.gov.qa/EN/travel-and-return-policy/Pages/default.aspx] (last date accessed 14/06/2022)

reconnect the world (will be referred to in this paper as ITP).<sup>1</sup> In this research, the ITP and some national apps will be explored to identify their pros and cons then the new suggested COVID-19 SMART Card will be explained as an alternative to the COVID-19 apps.

## I. IATA TRAVEL PASS (ITP) AND OTHER NATIONAL COVID-19 APPS

On December 2020, IATA announced that it is developing a new digital health reference solution that has the potential to reopen international travel and replace the mandatory quarantine measures.<sup>2</sup> To accommodate the needs of those who do not have mobile phones, IATA suggested paper-based alternatives. The ITP is an online application designed to connect four independent components in one application; namely, travelers, laboratories, airlines and governments. An important feature of the ITP app is to act as a one-stop-shop for air passengers to get all the information they need regarding their travel plans. In addition, the ITP app would enable the passenger to create a secure digital version of his/her passport, which would be linked to the results of the COVID-19 test, proof of vaccinations, and travel information to their verified identity. Timatic<sup>3</sup> AutoCheck verifies the test results.<sup>4</sup> According to IATA, using its ITP would reduce the cost and the need for staffing and training at the airport, and at the same time, it eliminates immigration fines and repatriation costs and it will increase the certainty for the passengers.<sup>5</sup>

At the present, the number of airlines that are trialling ITP at the time of preparing this paper is insignificant and represents only 18% of IATA member's including those airlines whether trialing, testing, or implementing the ITP<sup>6</sup>. Examples of some major

<sup>&</sup>lt;sup>1</sup> Some airlines are in the stage of trialling this ITP; however, many airlines and governments are still reluctant to take this step.

<sup>&</sup>lt;sup>2</sup> IATA, "IATA Travel Pass Initiative," [https://www.iata.org/en/programs/passenger/travel-pass/]. (last accessed 14/06/2022)

<sup>&</sup>lt;sup>3</sup> Timatic is believed to be the most trusted solution for air passengers' travel requirements. [https://www.iata.org/en/publications/timatic/] (last accessed 17/06/2022).

<sup>&</sup>lt;sup>4</sup> Alan Murray Hayden, "IATA Travel Pass,", Canada, (2020). [https://www.fidi.org/sites/default/files/public/2020-

<sup>12/</sup>IATA%20Travel%20Pass%20presentation.pdf] (Last accessed 17/06/2022).

<sup>&</sup>lt;sup>5</sup> IATA-Timatic [https://www.iata.org/en/publications/timatic/] (Last accessed 14/06/2022).

<sup>&</sup>lt;sup>6</sup> Iata.org, "IATA - EU and UK Digital Covid Certificates Recognized by IATA Travel Pass," 2021.

airlines trialing ITP are Singapore Airlines, Qatar Airways on its flights from Doha to Istanbul<sup>1</sup>, Etihad Airways<sup>2</sup> and Emirates, which uses the ITP pilot across six continents to cover all its destinations.<sup>3</sup> In addition, the General Authority of Civil Aviation (GACA) of the Kingdom of Saudi Arabia has confirmed its acceptance of the ITP's predeparture COVID-19 test results for departing and arriving passengers.<sup>4</sup>

On the other hand, other major airline like American Airlines (AA) did not take any steps towards implementing ITP. Rather, AA, Aer Lingus and British Airways (BA) and others partnered with another health application called 'VeriFLY' for their passengers that is used in more than 60 countries and millions of users.<sup>5</sup> BA uses VeriFLY as an alternative for travellers to other destinations such as North, South and Central America.<sup>6</sup> The reluctance of the majority of airlines and governments in implementing the ITP and its actual limited application would defeat its functionality in reconnecting the world and would increase the divergence of the aviation industry.

## II. CHALLENGES FACING COVID-19 VACCINE APPS

Several issues might be of concern by using the COVID-19 vaccine apps. Issues related to surveillance, centralised or decentralised data storage, international data transfer, medical discrimination and social inequality, uneven global mobility regime, privacy and public health, the need for data protection and freedom of movement.

<sup>&</sup>lt;sup>1</sup> The main purpose of this trial was to enable the air passengers to 'securely and effortlessly navigate their travel plans and to apply the strictest data privacy regulations. Qatar Airways, "Trial the IATA Travel Pass COVID-19 'Digital Passport' Mobile App," (Doha, 2021) [https://www.qatarairways.com/en/press-releases/2021/January/QR-IATA-Travel-Pass-App.html] (Last accessed 14/06/2022).

<sup>&</sup>lt;sup>2</sup> IATA, "IATA - Etihad Airways One of the First Airlines Globally to Launch IATA Travel Pass," 2021, https://www.iata.org/en/pressroom/pr/2021-01-19-02/.

<sup>&</sup>lt;sup>3</sup> Emirates, "Emirates Becomes First Airline to Implement IATA Travel Pass across Six Continents," September 23, 2021, https://www.emirates.com/media-centre/emirates-becomes-first-airline-to-implement-iata-travel-pass-across-six-continents/.

<sup>&</sup>lt;sup>4</sup> IATA Pressroom, "IATA - Kingdom of Saudi Arabia Amongst the First to Accept IATA Travel Pass," 2021, accessed September 13, 2021, https://www.iata.org/en/pressroom/2021-releases/2021-08-18-01/.

<sup>&</sup>lt;sup>5</sup> Daon, "VeriFLY," accessed January 21, 2022, https://myverifly.com/#/.

<sup>&</sup>lt;sup>6</sup> BritishAirways, "British Airways | British Airways Extends Successful Trial Of Digital Health Pass Verifly," British Airways News, 2021, https://mediacentre.britishairways.com/news/22102021/british-airways-extends-successfultrial-of-digital-heath-pass-verifly?ref=News.

## A. Privacy and data protection

The issue of user's privacy and protecting the personal data uploaded to the COVID-19 apps is highly important. ITP according to IATA is secure as the travellers' data are encrypted and saved on the user's phone only who have the sole right to decide to share their information and they are in control of sharing or not sharing all information related to them and even they can choose to delete such information at any time.<sup>1</sup> ITP uses decentralized blockchain technology to encrypt users' data.<sup>2</sup>

# **B.** Governments Concerns Regarding ITP:

It is important to clarify the relationship between ITP and the government. The main issue here is to ask whether IATA imposes any travel requirements on the travellers. Does it interfere with the border control or security procedures required by the government? Who decides what procedures that are required for the entry of air passengers? Who would verify the recognized laboratories for COVID-19 tests and the approved types of vaccines? IATA makes it clear that all these issues are under the sole authority of the government. IATA here is like a messenger who would connect the traveller with the other three components as mentioned above. The beauty of this issue here is that whenever there is a change in these procedures, IATA would timeously implement the new update into its application.

However, the downside of the fact that IATA does not interfere with the entry procedures is the difficulty of achieving the unification of border control procedures. This situation, in my opinion, might cause uncertainty and ambiguity for travellers and would reflect badly on the air industry, in particular in the recovery period from the impacts of COVID-19. A step to minimising the effect of the lack of uniformity in this regard is the IATA's call for the governments to issue and accept vaccination certificates based on the 'WHO Smart Vaccine Certificate data standards including QR

<sup>&</sup>lt;sup>1</sup> Hayden, "IATA Travel Pass.", *ibid*.

<sup>&</sup>lt;sup>2</sup> Airlines.IATA.org, "IATA Travel Pass to Provide Confidence for Industry Restart | Airlines.," 2021, https://airlines.iata.org/analysis/iata-travel-pass-to-provide-confidence-for-industry-restart.

codes and by the data, elements set out by ICAO<sup>1</sup>. By following these standards, governments will be able to verify and recognise the authenticity of the tests' results and vaccine certificates issued by other countries creating more certainty for air passengers. In addition, governments should start working together much more effectively through unilateral actions and coordination to regain global connectivity quickly.<sup>2</sup>

An important issue that some countries are keen to protect the personal information of their citizens and not exposing them to other governments, which might misuse them. As mentioned above, by using ITP, travellers will upload, in addition to other sensitive data, a digital version of their passport. The issue of e-privacy and protecting fundamental human rights and preventing other countries from obtaining air passenger name records was raised by the European Parliament in its appeal to the European Court of Justice, which issued an annulment judgement against the 2006 bilateral agreement on passenger data disclosure between the U.S.A and the EU<sup>3</sup>. According to the 2006 agreement, European airlines flying to or over the United States were required to file the passenger name record with the U.S. Customs. The main concern was the possibility of misusing such information and therefore, leading to the criminal prosecution of the EU citizens<sup>4</sup>. The question that arises here is to what extent the personal information of air passengers under the ITP is protected from being disclosed or misused in any way by some governments. To answer this question, it is important to note, as I explained above, that the passenger's information is not stored centrally. They will be stored on the passenger's mobile phone and it will be encrypted. Besides, only the passenger will have the right to share the data stored on the ITP application with the airline or the border control authority. Indeed, this is the general process that is required by any passenger who is willing to travel to any country where they have to go through several formal requirements, which will include the disclosure of their personal information as pre-entry conditions whether they are using the ITP or not. Therefore, in my opinion, in

<sup>&</sup>lt;sup>1</sup> Iata.org/Q&A, "260421\_ITP-FAQ-Comms Team\_FINAL\_revMR (002)260321\_IATA Travel Pass Q&A IATA 2021 © All Rights Reserved Page 1 of 7."

<sup>&</sup>lt;sup>2</sup> IATA, "IATA - IATA Urges Support for Common European Digital Vaccination Certificate."

<sup>&</sup>lt;sup>3</sup> Lord Freeman and Lord Harrison, "House of Lords - The EU / US Passenger Name Record ( PNR) Agreement Report with Evidence 21st Report of Session 2006-07," no. May (2007).

<sup>&</sup>lt;sup>4</sup> et al. Larsen, Paul B., Aviation Law: Cases, Laws and Related Sources (BRILL, 2012).

principle, ITP will not endanger the privacy of the travellers. It is merely a method to connect several parties without any interference.

Finally, the issue of the credibility of the ITP and gaining the trust of the government is essential. According to IATA, it 'has earned trust as a partner of governments, industry, and international institutions, which lends credibility to the ITP endeavour and any other competing apps that use the same trusted IATA standards.'<sup>1</sup> The confidence issue is required by both passengers and governments in the passenger's verified COVID-19 status.<sup>2</sup>

## C. ITP Requires Pre-Booking as a Condition to Use it

The functions that ITP provides to the passengers, which includes building a digital passport, presenting COVID-19 test results and vaccination certificates, receiving up-todate reliable information on travel rules and restrictions are enormous. However, air passengers will not be able to use the application and benefit from all these functions until after booking a flight with one of the airlines that are trialling it and the flight is included in the trialling agreement. This fact limits to a considerable extent the benefits of this application for air consumers in general making it an airline-oriented tool. If IATA wishes to serve the aviation industry to recover quickly in reconnecting the world again, it would modify its application making it open to all potential air consumers regardless of which airlines they are willing to travel with and of course, being able to use it before booking their flight. This step would enable the prospective air passengers to get all the travel information they need, helping them to plan their travel. Of course, some of the functions of this application might not be operating such as the digital passport unless the passenger has booked a flight with an airline that is trialling it. The proposed idea is to create a single platform for air passengers that enables them to check the latest travel requirements and restrictions applied in each country. A more advanced step would be using ITP as a requirement for applying for a visa representing COVID-19 vaccine proof besides playing its role as travel pass that includes the vaccine certificates and test results that is globally recognised. The blockchain technology and

<sup>&</sup>lt;sup>1</sup> Iata.org/Q&A, "260421\_ITP-FAQ-Comms Team\_FINAL\_revMR (002)260321\_IATA Travel Pass Q&A IATA 2021 © All Rights Reserved Page 1 of 7."

<sup>&</sup>lt;sup>2</sup> Hayden, "IATA Travel Pass."

the Timatic used by ITP makes it a reliable source of information where tempering with such information is highly unlikely. If ITP has become globally recognised to be part of visa application and a travel pass, it would save the governments huge amount of fraud and misleading and incomplete information required by the international passengers. Had such global pass agreed, the latest incident of mix-up visa of Novak Djokovic<sup>1</sup> would have been avoided.

# III. THE RELATIONSHIP BETWEEN ITP AND EU GREEN CERTIFICATE/NATIONAL AND INTERNATIONAL COVID DIGITAL CERTIFICATES

Several countries have developed a national mechanism for them to relax the free movement restrictions applied in their aims to defeat the spread of COVID-19. For example, in the United Kingdom, an NHS COVID Pass application that can be also downloaded as a pdf file for domestic and international travel was adopted. The purpose of the NHS COVID Pass is to show only the vaccination record or the COVID test results with no other personal health records being revealed in it <sup>2</sup>. In Qatar, a mobile application called *'Ehteraz'* was developed as a requirement for domestic movements and as a Pre-Registration System for those coming to Qatar <sup>3</sup>. For international travel, *Ehteraz* includes, in addition to the vaccine certificates, the PCR test results and a copy of the travellers' passports in addition to any other information that might be required depending on the departure place. Saudi Arabia has also developed in national health applications (*Tawakkalna*)<sup>4</sup>.

In the EU, the European Commission has approved the 'EU Digital COVID Certificate' (DCC) between its members and nine non-EU countries which entered into application

<sup>&</sup>lt;sup>1</sup> TheTimes, "Novak Djokovic Denied Entry to Australia after Visa Mix-up | News | The Times," TheTimes, 2022, https://www.thetimes.co.uk/article/novak-djokovic-granted-medical-exemption-to-play-in-australian-open-dx6gss525.

<sup>&</sup>lt;sup>2</sup> UKNHS, "NHS COVID Pass - NHS," 2021, https://www.nhs.uk/conditions/coronavirus-covid-19/covid-pass/.

<sup>&</sup>lt;sup>3</sup> Qatar e-Government HUKOOMI, "Pre-Registration for Those Coming to Qatar Using Ehteraz App," 2021.

<sup>&</sup>lt;sup>4</sup> Pressroom, "IATA - Kingdom of Saudi Arabia Amongst the First to Accept IATA Travel Pass."

on 01 July 2021 to be used for all movement methods<sup>1</sup>. The national health authority in each of the included countries is in charge of issuing its COVID-19 certificates, which will have a common design with other EU countries. The DCC will be free of charge and is available for EU citizens and residents, and it is verified across all European Union countries. The purpose of the DCC is to provide a digital and/or paper proof with QR code that a person either has been vaccinated against COVID-19 or has a negative test result or has recovered from COVID-19. The QR code and the digital signature are designed to protect the certificate against falsification and guarantee its authenticity. Another purpose of implementing this certificate is to encourage the EU Member States to refrain from imposing additional travel restrictions on the holders of this Certificate unless such restrictions are necessary and proportionate to safeguard public health<sup>2</sup>. An EU gateway was created to verify all certificate signatures. However, to protect the personal information of the users of this certificate, such data does not pass through the gateway. 'The European Commission also helped the Member States to develop national software and apps to issue, store, and verify certificates and supported them in the necessary tests to onboard the gateway.'<sup>3</sup>. It is worth noting that the DCC is not a precondition for free movement, however, it will exempt travellers from travel-related testing or quarantine.

The issue is what is the relationship between ITP and other COVID-19 related national and regional passes and applications? Are they connected or does one replace the other regarding air travel? As regards the DCC and the UK NHS Pass, they were recognised by IATA as verified proof of vaccination for travel and can be uploaded into ITP according to the announcement made by IATA on the 19th August 2021<sup>4</sup>. This recognition is a good step for easing movement for air travellers and a good step for a recovery in air industry. 'Travelers holding an EU DCC or UK NHS COVID Pass can now access accurate COVID-19 travel information for their journey, create an electronic version of their passport, and import their vaccination certificate in one place. This

<sup>&</sup>lt;sup>1</sup> European Commission, "EU Digital COVID Certificate | European Commission," 2021, https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/safe-covid-19-vaccines-europeans/eu-digital-covid-certificate\_en#how-will-the-certificate-work.

<sup>&</sup>lt;sup>2</sup> European Commission.

<sup>&</sup>lt;sup>3</sup> European Commission.

<sup>&</sup>lt;sup>4</sup> Iata.org, "IATA - EU and UK Digital Covid Certificates Recognized by IATA Travel Pass."

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information can be shared with airlines and border control authorities who can have the assurance that the certificate presented to them is genuine and belongs to the person presenting it.<sup>1</sup>. As explained above, the digital COVID certificate forms only one part of the ITP in addition to other parts such as the digital passport and other data included in this application. Thus, the ITP is broader in its function than the DCC and other national COVID applications.

In Saudi Arabia, the Saudia Airlines have taken further steps by allowing its passengers to choose between using this national application (*Tawakkalna*) and the ITP, which Saudi Arabia has recognised earlier <sup>2</sup>. In a more significant step, on 29th July, Qantas and Jetstar have announced that the ITP will be the ticket to fly with them <sup>3</sup>. This step is a substantial success on ITP and it will promote the application of this application.

Finally, other airlines did not clarify the relationship between ITP and their applications. This situation resulted in more difficulties for air passengers in such cases where they have two different applications without knowing the relation between them and whether they have to use both or only one is enough. In case one application is enough, who will decide which one, the national one, and the ITP.

# IV. THE FUTURE OF ITP AND THE PRESSING NEED FOR INTERNATIONAL HARMONIZATION

The impact of global implementation of the ITP or at least a single global digital health pass will be tremendous. This situation would accelerate the speedy recovery of the aviation industry, it will save passengers time, money, and effort. Besides, it will save air passengers, the unnecessary airport queues and ensure a smooth passenger experience. More importantly, it would create more certainty for air travellers and governments by eliminating, as possible, fraud, mix-up and misrepresentation of information related to COVID-19 vaccines and tests.

<sup>&</sup>lt;sup>1</sup> Iata.org.

<sup>&</sup>lt;sup>2</sup> Pressroom, "IATA - Kingdom of Saudi Arabia Amongst the First to Accept IATA Travel Pass."

<sup>&</sup>lt;sup>3</sup> Airlines.IATA.org, "IATA Travel Pass to Provide Confidence for Industry Restart | Airlines."

Unfortunately, at the time of preparing this paper, the number of the airlines trialling it and the routes and flights it is applied to are extremely limited resulting in hindering the restart of international travel. Global recognition of ITP will result in achieving the desired harmonization of digital vaccine standards as it is developed by a reliable and prestigious agency, IATA that has members around the world.

According to a recent study about passenger preferences for using digital technologies at airports in Norway, the study found that over half of respondents prefer to use a mobile boarding pass and there are high levels of interest in using digital technologies at airports<sup>1</sup>. At the present, customers are in favour of using technology and they dislike spending a long time in the formalities at the airport. ITP, if adopted, will shorten the time travellers are required to spend at the airport. Moreover, the need for adopting the ITP emerges in the present situation where the lack of global standards whether related to COVID-19 vaccine certificates or to border control rules and procedures. Therefore, for the aviation industry to recover, the development of solutions that can recognize and verify standard certificate forms is urgent. If adopted, the ITP would be a structural shift in industry and consumers' behaviour. Needless to say that its success will depend on several factors such as the development of the airline and the technology used in the concerned airport and the flexibility of the travel procedures enforced. However, ITP needs some improvement in order to accommodate the community of air consumers rather than being limited for those passengers who already booked their flight. ITP has twofold roles, the informative one and the functional one. The informative role provides users with the latest travel rules and restrictions required by the different countries around the world. If IATA enables ITP to be used by the general community of air consumers without the pre-condition of booking a flight would be an upgrade in this application and a great step to help air consumers in planning their travel. Besides, using the functional feature of ITP, which includes the digital passport, COVID-19 vaccines and tests, would play a great role for the governments if the application is recognised as part of the visa application. Therefore, IATA is encouraged to approach

<sup>&</sup>lt;sup>1</sup> Nigel Halpern et al., "Segmentation of Passenger Preferences for Using Digital Technologies at Airports in Norway," *Journal of Air Transport Management* 91 (March 1, 2021), https://doi.org/10.1016/j.jairtraman.2020.102005.

the governments in order to collaborate by benefiting from ITP during processing visa for international applicants.

Another important question that arises here is whether the ITP will be a temporary solution to the existing restrictions and therefore, it will cease to exist once the pandemic ends or it will continue to be used by the airlines. Taking into account the functions that the application has and the practical benefits of its digital passport that are verified thoroughly by Timatic and encrypted and decentralised features, the author believes that it should continue to be used in the future with maybe some modifications to suit the existing circumstances.

At present, ITP merely displays the travel restrictions as established by each government, which is of great help for travellers. A great step that IATA by its Travel Pass would be to assist governments in adopting a unified system of border control by becoming part of visa application providing reliable information related to COVID-19 vaccination status or its exceptions if existed and the digital passport of the applicant.

## V. CONCLUSION

COVID-19 has been dominating the world for quite a long time with no clear endpoint. The air industry was one of the most affected industries by the pandemic where numerous restrictions were imposed worldwide limiting the free movements of international passengers. As a way out of this situation, or a solution to minimise the effects of these restrictions, IATA has created the ITP mobile application hoping to reconnect the world again. This application does not enforce any rules in any country. Its role as a one-stop-shop for air travellers that connect them with other stakeholders in the air industry is indispensable. Besides, travellers' rights and privacy are protected, because they are the sole persons who can decide to share such information with other parties or not.

As for the traveller, ITP has twofold tasks. First, it provides prompt up-to-date information about the travel requirements in the destination place. The second task is to allow the travellers to upload the documents as required at the destination, such as the test results, vaccine certificate. Most importantly, to create a contactless smooth process

at the airport, the travellers will be able to upload in advance a digital passport and digital verification of their identity. The author recommends that IATA extends the use of its function to the general community of air consumers instead of limiting its use to air passengers who have already booked specific flight with an airline that it is trialling it. Furthermore, because all data in ITP are encrypted and secured, makes it reliable for the governments' use. This feature would qualify ITP to be implemented by the governments as part of visa application process. In fact, governments are encouraged to work in partnership with IATA to benefit from the accuracy and reliability of COVID-19 vaccination or its exemptions information embodied by ITP besides providing reliable digital passport of the applicant. This step would eliminate as possible fraud, misrepresentations that might be made by international applicants for visas.

The world is in choice of one of the two options, either to keep the enforcement of individual divergent restrictions and requirements that are isolating countries from the others and therefore worsening the economic situation. The other option for the governments is to cooperate with other stakeholders in the air industry to harmonize travel requirements so the air industry can recover soon. At present, many leading airlines have adopted it. However, there is an urgent need for other airlines to take the step of incorporating it. The author believes that airlines and governments can be more flexible and implement ITP similar to adopting the general terms and conditions of carriage by air prepared by IATA. Of course, governments will still have the flexibility to implement their national rules that they believe to be more proper for them.

Finally, to achieve a better degree of harmonization regarding COVID-19 restrictions, governments need to agree on a unified international verifiable health proof for air travellers and to unify, as possible, automated border control processes. These targets can be accomplished by implementing the ITP. This step will create certainty and will improve travellers' confidence in planning their air travel. Besides, it will save the government and airlines time and effort in verifying the different types of certificates issued by other countries.

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