

Application of Blockchain in the Tourism Industry



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Blockchain in Tourism

Introduction to Blockchain's Application

In the current Covid-19 pandemic situation, tourism industry has taken an extreme strain. The implementation for safe harbour for tourists and tracking of previous travels shall be the focus point of the governments, once cross-border travel is safe again. The ever-increasing interest in blockchain has led to its research and implementation in diverse areas and the potential still remains untapped. Many countries economically thrive on its tourism industry, however, the usage of blockchain in tourism has not been explored in an advanced manner yet.

This technology should be conceived as favourable as the blockchain ecosystem could transform the ever-growing business models. Blockchain can be implemented in various aspects of tourism. In order to ensure a wholesome tourism experience, users can be enabled to have cryptocurrency-based payments and a wallet in a blockchain based application. Smart contracts can be enabled to ensure compliance with the law, and to ensure the desired level of interoperability is achieved. Interoperability has become essential in tourism as communication among all the stakeholders is necessary. From baggage tracking to check ins, the interoperability of communication between nations and entities focused on tourism across the globe can be achieved through blockchain.

Therefore, it will be possible for blockchain at various levels to interact with each other to build user friendly experience while cutting various costs and saving time. At the end of the journey or travel, the user may also be allowed to review each product and service used throughout to ensure more honest, sincere and genuine reviews and ratings. Various application on blockchain within the tourism industry have been discussed in this discussion paper.

“The application of decentralised blockchain in the tourism industry may prove to be extremely beneficial. Tourism products and services are prone to shifting demands and thus nations in order to be up to date require the course of digitisation.”

Payment System in Tourism

Leveraging blockchain in payment systems

Payment system for any industry have been made much simpler and easier by fintech organisations who have been providing such services to banks. Though easy, increasing fraud on credit cards and online banking prevails. The first ever use case of blockchain was seen to be bitcoins, a peer to peer exchange mechanism in order to eliminate third parties like banks and financial institutions. Therefore, the usage of blockchain to make payments cannot be overlooked. Users can be given an option to make payments in cryptocurrencies in jurisdictions which do not prohibit it. This will not only ensure compliance with the existing privacy laws in various countries but also reduce the possibility of financial frauds since the payment in cryptocurrencies can only be made with a private key. Payments for hotels, website and travel tours can be facilitated easily through a platform based on blockchain. Further, many people still carry cash when they travel which can be risky. Even the online international payments have hefty fee on transaction. The cost for currency exchange rates can be eliminated if payment is made in cryptocurrencies.

Currently there is a lack of regulation governing the exchange of cryptocurrency into fiat local currencies in foreign jurisdictions. This is mainly due to the reason that most jurisdictions do not recognise cryptocurrencies as currencies or a medium of exchange. Therefore, the foreign exchange rules of any country should not ideally apply on such conversions. However, there is little jurisprudence surrounding this issue.

“For establishing blockchain as a payment system, more clarity is needed in the cryptocurrency governance in different countries. Countries such as the United Arab Emirates and Sweden have realised the true potential of blockchain and have been implementing various use cases into daily governance”

Identification mechanism

Categorisation of foreign/domestic national

Identity management is an intrinsic part of tourism. A traveller needs to verify identity at every stage—from booking tickets, entering an airport, checking in luggage to booking a room. In fact, in many instances, a physical copy of the identity is insisted upon. Though such identities are available through an online portal and can be verified online, it is still in the control of a central authority. Remembering thousands of passwords every day to access such online facilities may be even more complex. With the lack of privacy norms in many countries, the travellers would perhaps feel safer to own and control their own digital identity.

Example Scenario: Application for ticketing

A foreign individual may visit various places in a country for either business purpose or tourism purposes. For this, at times places such as museums, hotels, parking spots require documentation of a foreign national. A parking spot may ask for documentation requirement of the car rental and identification. Further, often the museum tickets are categorised as national and international. For this purpose, the documents and tickets to places such as museums can be stored on blockchain to be verified whenever need may arise. A digital ticketing mechanism for various events can be used through application on a blockchain. This will also lead to paperless economy where the need to carry physical proofs of any tickets or documentation with regards to proving of identity under a foreign national category can be discarded. Moreover, cultural places can use the blockchain to identify their revenues by placing selling of tickets under foreign and domestic category.

A digital identity contains more data than one can imagine and therefore its security is pivotal. Currently, Microsoft is working with Mastercard to provide a digital identity platform on blockchain which can be used for various purposes.¹

“Start-ups like Cambridge Blockchain are also working on identity compliance checks to improve the user experience. If such a compliance mechanism is adopted in the tourism industry, not only will

¹ Microsoft, Mastercard, Microsoft join forces to advance digital identity innovations (December 3, 2018)

the KYC cost for the companies be reduced but the process of identity management will be streamlined for the users.”

It is pertinent to note that the notion that the data available on blockchain is up for public viewing is a false notion. Each data set on the blockchain is encrypted with a private key. One may question the reliability of such data on the blockchain since it is updated by the users themselves and therefore the possibility of fake identities, though reduced, cannot be eliminated. Microsoft suggested in its whitepaper that in order to ensure trust, endorsements from the existing trust providers can be obtained. These endorsements will be in the form of attestation bearing a time stamp which will be stored with the identity of users. Overtime, the network built will ensure greater confidence by both the users and the verifiers.

Obtaining Visa on Blockchain

The process of obtaining visa in any country is still largely paper based. Even for traveling the same country on the same occasion again, all the documents must be repetitively submitted to the authorities. Further, people often must stand in long queues for immigration checks for stamping the paper-based documents. It is not common for people to face issues on occasion when they misplace their passports. Every country has different set of regulations for visas and immigration and therefore there might be complexities in compliance of the same. At times, due to improper documentation, people are sent back to the destination countries and are banned from entering the country again. The cases of fraudulent identity are also no less.

Thailand has announced its plans to implement electronic visa on arrival (EVOA) on a blockchain system. ShareRing, will provide gateway service and OneID will provide security service by safely encrypting the data to store on a blockchain. The “Blockchain Visa” by the government of Malaysia is also worth noting. Blockchain Visa is not a visa on blockchain but a Visa for people working for development of blockchain and cryptocurrencies. The visa process is to be online which will allow the organisations to fill the gaps in developing such a technology. The authors propose creation of visa on blockchain akin to the Thailand’s EVOA across all nations which will streamline the process across the globe. This will make the process of verification faster since all the documents will already be encrypted on a blockchain and can be authenticated.

Elimination of Intermediaries' Cost

Eliminating third parties

The very essence of the blockchain as designed by “Satoshi Nakamoto” was to facilitate the elimination of any intermediaries and third parties. This helps in creating a trustless ecosystem for parties involved. While the presence of an intermediary is at times considered pivotal for reaching out to the users, it also leads to increasing cost for end consumers. The presence of intermediaries is highly dominated as travel agents who offer to book flights and hotels and also in the supply chain management for procuring essential items at the hotel. There are start-ups which primarily focus on removing the cost of these intermediaries through application of blockchain. For instance, Winding Tree, which advertise themselves to be a ‘free’ or ‘no fee’ platform where suppliers, hotels, airlines procedures are made much simpler and are given access to the marketplace on a blockchain. Travel chain is another such organisation which allows users to monetise their data if they consent to share it with the prospective service providers.

Transparent Rating Mechanism

Provide decentralised ratings

The tourism business is highly affected by rating and reviews available on a public platform. Businesses like hotel bookings, car rental services etc. are highly relied upon based on their reputation on the internet. However, such information is centralised and often in control of the owners. The possibility of filtering out some unfavourable reviews cannot be eliminated. For instance, ratings on Airbnb are centrally controlled. Further platforms like TripAdvisor provide rating and reviews for hotels and other tourist attractions, however, they may not be as reliable since their monetisation model is not very evident. It is also not uncommon for rating and reviews on a centralised platform to be inaccurate and maliciously created. In order to overcome this issue, a reputation-based mechanism can be created which will ensure accuracy and transparency. Each information recorded on the blockchain will be signed with the private key and therefore the likelihood of false reviews and ratings is miniscule.

Rewards Mechanism to Encourage Honest Rating

In order to encourage such honest ratings, a reward-based mechanism can also be created where such rewards could be in the form of a digital token which the users will be able to redeem upon using the services again. Such digital tokens can also be fully recorded on blockchain.

Conclusion

The above-mentioned use cases are a drop of the maximum potential of blockchain to serve the tourism industry. Information related to baggage, and any transfers, lost luggage, awaiting shipments, passenger details etc. can be tracked through blockchain. It is seen that consumers are becoming more vigilant every day of what they consume. Therefore, now it may be possible for them to track which farm the basic food ingredients are delivered from and how fresh the food on the table is. Having an integrated system where these blockchains are made interoperable will prove to be time and cost efficient and not to mention the better user experience.

About Authors

This discussion paper has been co-authored by Shivani Agarwal and Samaksh Khanna on the W-Investment platform currently available at- www.winvestment.wordpress.com.

W-Investment is a platform through which we wish to create awareness on matters related to fintech, blockchain and cryptocurrencies law and regtech in order to contribute towards the growth of the economy and create a global society. Through the platform, the authors have published various whitepapers and discussion papers involving diverse use case of blockchain. Moreover, W-Investment is also engaged in fintech reporting and analysis of case studies in regulations surrounding fintech globally. W-Investment is also proud to be a signatory of the World Economic Forum's Presidio Principles which establishes the Blockchain Bill of Rights.

Some of W-Investment's publication include-

Blockchain and its compliance with the Indian Personal Data Protection Bill, 2019
Blockchain: Technology that can save the Amazon Forest
Blockchain and its application by the Arbitration Council of India

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