Blockchain in travel
for beginners

Blockchain - you have probably heard about it and may have dismissed it as another development in the technology industry, without realising its wide-reaching implications. This expert insight aims to explain blockchain and its potential.

By ATPI's Trond Bidar Bjorøy

Expert Insight

Introduction

Blockchain is a term that has been circulated widely, particularly over the past year. Whilst still in its infancy, the technology has been predicted to transform business models, entire service industries, and even our society and current power structures. The buzz surrounding blockchain has been comparable to that of the Internet in the early 90s, and so it's important to understand its importance and implications before dismissing it as a fad or technological jargon.

What this expert insight covers:

1. What is blockchain?
2. The influence of blockchain
3. Its impact on the travel industry
4. The traveller experience
5. Its impact on Travel Management Companies (TMCs)

Trond Vidar Bjorøy

Before joining as Head of Product Development and Implementation in 2013, Trond worked for several years in the corporate travel industry in various roles focusing on business and product development. During this time, he gained a wealth of experience in innovative technologies, not limited to the travel industry.

First things first: What is blockchain?

Blockchain is a decentralised database, or distributed ledger, that stores a continuously growing list of assets and transactions across a peer-to-peer network.

Imagine the online encyclopaedia, Wikipedia. It is a decentralised platform, which means there is no central authority approving or setting the rules. It is open, which means that individuals can access relevant information and update the content. It includes a record of activities, that cannot be tampered, so we can track changes.

Blockchain registers transactions between two parties efficiently, and in a **verifiable**, permanent way. Exchanges are validated through **cryptography** and are logged in blocks of data that cannot be forged. This record is replicated on every computer that uses the network.

What is cryptography?

Cryptography is a method of storing and transmitting data into an unreadable format, where only authorised users can read and process the information. If you are sent information, you will not be able to read it without the key used to decrypt the data. This also means that both the creator and the receiver cannot claim that they did not create or receive it.

But how does it make blockchain verifiable?

Imagine an excel worksheet and how you can input new rows as you please. Instead, blockchain databases use cryptography to authorise that new rows have followed pre-agreed rules and involve authorised individuals. After the new information has been validated, it broadcasts it to its peers across a network, ensuring all peers have the same data in their databases.

Back to basics: The blockchain solution

Why has blockchain been referred to as the next generation of the Internet?

The Internet's primary objective was to allow individuals to share and exchange information. Although it has developed into an incredibly powerful tool, its application has also revealed problems that aim to be solved by the blockchain. Instead of sharing information, blockchain will be the "internet of value", enabling actual exchange of digital assets without intermediaries, such as the financial services industry. It's important to note that this is not limited to exchanging money, but any digital asset, from music to legal contracts.

What problems does blockchain aim to solve?

Data protection – In the current system, companies such as banks have centralised networks and are more vulnerable to wide-scale cyber-attacks. Blockchain aims to decentralise information so that only the parties directly involved will have access to the relevant information. Furthermore, it eliminates counterparty risk, as there is no third party.

Transparency – Information will be stored in an open, shared database, protected from tampering or revision. Individuals would freely transact with one another, without the use of an intermediary, and would be in control of all their information and transactions. This also means that they will be able to understand and analyse their own timely and accurate data.

Speed of exchange – If you were based in the U.K and wanted to send money to an individual in Hong Kong, the exchange would likely take a few days with the service provider taking a portion of the money. Through using blockchain, you could instantly and directly send money for little to no fee.

Ownership of digital assets – Instead of storing your assets in a bank or relevant third party, you would have complete ownership of them. This also means that everybody, no matter how much or little they possess, would be able to exchange value in the same way; the walls of exclusivity would be broken down.

Could it really impact the travel industry?

Blockchain is often discussed in the context of the financial services industry, such as banks. This is because they are a widely used intermediary service, with identifiable problems, that have the potential to be solved through peer-to-peer value exchange.

You may have heard of *Bitcoin*, the digital currency that allows real-time worldwide transactions to occur without the use of a bank. However, the reality is that blockchain has the power to make all intermediary services redundant. Although this is a scary thought for the travel industry, it also provides an opportunity to utilise this new technology to create developments and add value to the service customers receive.

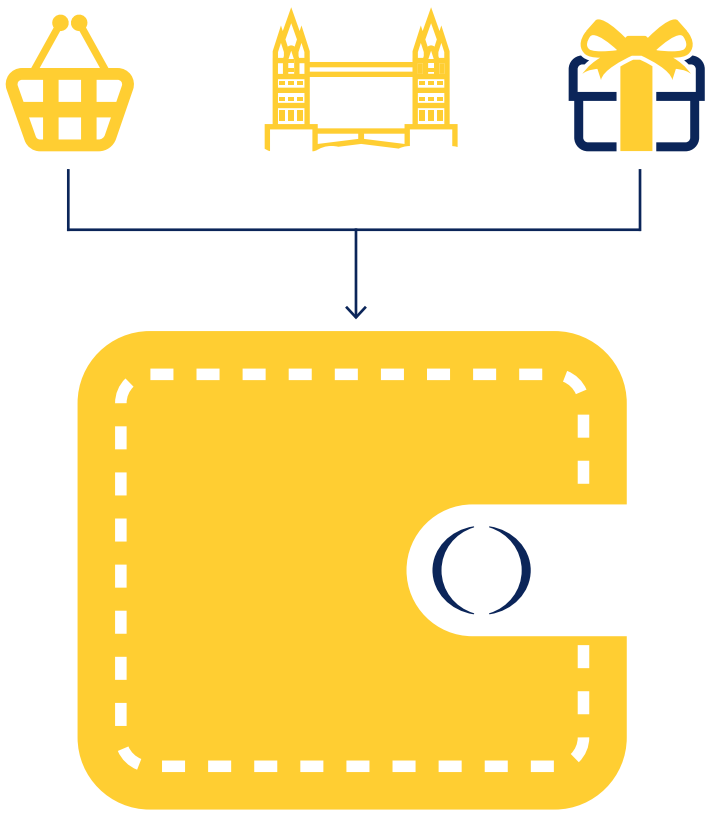
The following pages will discuss the most exciting initiatives available, from both start-ups and well-established players. Suggestions will also be made of technologies that could be improved by blockchain within the travel industry to enhance the customer experience.

The traveller experience: Loyalty programs

Imagine if you could access all your loyalty rewards programs, across different companies and industries, in one digital wallet. Envisage being credited your reward points in real time and being able to redeem them immediately, or transfer them to a friend. Finally, imagine receiving promotions only personally relevant to you.

While the user experience of loyalty programs running on a blockchain will probably be like nothing we have seen before, interoperability between different loyalty programs isn't new or a game changer in itself. However, running a loyalty program today is expensive and the business value lies in the cost-efficient collaboration that the blockchain enables between programs. Making loyalty programs capable of interacting with each other will become easier, cheaper and more secure.

One of the most notable blockchain loyalty programs is *Loyyal*, which aims to unite existing schemes and create co-branded rewards in one app. For example, if you were to travel to Dubai, you could earn points while visiting museums and other attractions, which could then be spent with various partners.



The traveller experience: Air travel insurance

Earlier we introduced *Bitcoin*, a digital currency. Similarly to *Bitcoin*, *Ethereum* also has a cryptocurrency called *Ether* that utilises a blockchain-based platform. However, *Ethereum* is becoming increasingly popular due to its many additional aspects, the most notable being its smart contract feature. This allows peer-to-peer contracts to be negotiated and facilitated, without risk of fraud or the cost associated with traditional contracts.

German start-up *Etherisc* developed an app called *Flight Delay*, based on *Ethereum*. It utilises smart contracts to ensure automatic and instant pay out, directly to your account, if your flight is delayed or cancelled. Instead of a long and difficult process, through using blockchain, *Etherisc* have been able to condense the process into just one second.

Similarly to *Etherisc*, Irish start-up *Travacoin* has designed a blockchain-based voucher system which simplifies the refund and compensation process for delayed and cancelled flights. In 2016, *Travacoin* were awarded runner-up in the Passenger Innovation Award at IATA's World Passenger Symposium.

Etherisc's Flight Delay app

How will the technology affect TMCs?

We could see a revolution in the payment and settlement process offered by TMCs and airlines. Currently, there is a delay when using two central settlement systems (BSP and ARC). Instead, blockchain could enable instant payment from agents to carriers. Whilst this seems advantageous for airlines, it could affect TMCs as they often offer buyers credit until they are required to settle.

Other parts of travel including hotels, events and ground transportation are fragmented. Using blockchain technology, there is the opportunity to consolidate settlement and commissioning processes. No parts of travel are likely to remain unaffected by the blockchain but hopefully they will see improvements, from booking, ticketing and payment, to the trip itself.

What's next?

At the moment, the only way blockchain has infiltrated the travel industry is through accepting payments in cryptocurrencies (such as *Bitcoin*). However, blockchain holds great promise and we predict that as the technology becomes mainstream and solutions start reaching critical mass, we should see new business types emerge and witness the blockchain revolution.

Want to join the discussion?

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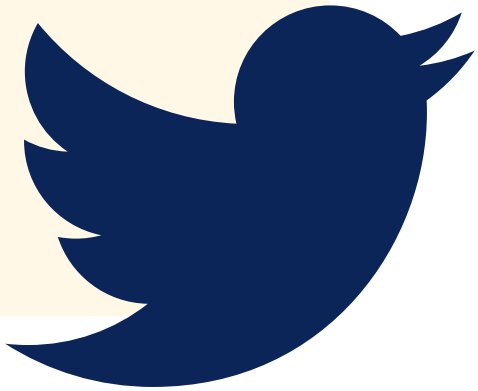

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With over 100 offices worldwide, the company has successful operations in corporate travel, corporate event management, online travel technology and specialist travel management for a number of key industries.

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