

Trusted Rewards with BlockChain

A Proposed BlockChain Strategy for Customer Loyalty

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Executive Summary

All consumer-facing organisations are in a perpetual struggle to attract and retain customers, and their loyalty programmes are a vital part of this struggle. But some loyalty programmes do not provide great value in the eye of the consumer, thereby failing to encourage consumers to continue to attain and redeem rewards, and every successful loyalty programme is always striving to improve consumer engagement and retention.

Even within an established and successful loyalty programme, it is a slow and cumbersome process to set up new promotions or to provide users with new loyalty partners with whom to redeem rewards. Consumers move faster than loyalty programmes can keep up.

We present a vision of a strategic solution enabling large numbers of loyalty programmes to interact with large numbers of consumers in a controlled, verified, trusted manner using a market-leading Private Blockchain Distributed Ledger. This will provide a more rapid way to set up loyalty programmes and new loyalty partners; securely, with technology that exists right now.

Introduction

About Rex

For over 35 years we have been helping organisations realise maximum benefit from their investment in Information Technology. We combine world class consulting and technical expertise with our proven methodology to ensure that our customers receive Best in Class solutions and services delivered rapidly and within budget.

Our team of technology and business experts work in partnership with our customers to help them achieve increased profitability, maintain regulatory compliance and uphold a strong safety record.

The marriage of skills, experience, technology and culture is key to our ability to making Information Technology work as well as it can for our clients.

Rex and Loyalty

Rex work with some of the world's smartest and largest companies to support their loyalty operations.

Problem Definition

Consumers need to trust the company to whom they grant their business and they need to trust and value the loyalty programme the company provides if it is to encourage consumers to continue to do business with that company.

Companies themselves need to demonstrate Best in Class capabilities to be market leaders in their loyalty area, for which they need to seek out new and innovative ways of engaging consumers.

However, it is clear that some consumers never actually realise the benefits of participating in a loyalty programme – they never acquire enough rewards to be able to redeem them for something meaningful. The consumer loses interest in acquiring the rewards and may drift to a competitor's offerings. Often, this happens multiple times and a consumer is left holding a large number of rewards but each set of rewards is in its own 'silo' and the consumer cannot combine them.

Some have proposed to solve this simply by having larger loyalty programmes that span multiple retailers. But this type of arrangement is still limited by a seemingly arbitrary list of retailers who are members of the programme, which may or may not be of interest to the consumer. Also, this type of arrangement is very vulnerable to domination by a single very large participant who runs the programme for their own benefit and may not provide sufficient incentives for a continued influx of new participants.

Some proposals have been made to provide a loyalty programme by making the rewards a crypto-currency that runs on top of a public BlockChain such as Ethereum. However, this seems like a difficult idea to implement because one would have to get consumers to trust a crypto-currency as well as trusting the company, which is going to be problematic. In addition, such a programme falls foul of the “one size fits all” problem because different countries/regions will have different preferences for rewards and the mechanisms used to collect and redeem them. All of this is before one even considers the lack of appetite amongst well-known brands for getting involved with an un-tried crypto-currency.

We believe the key characteristics of future loyalty solutions are:

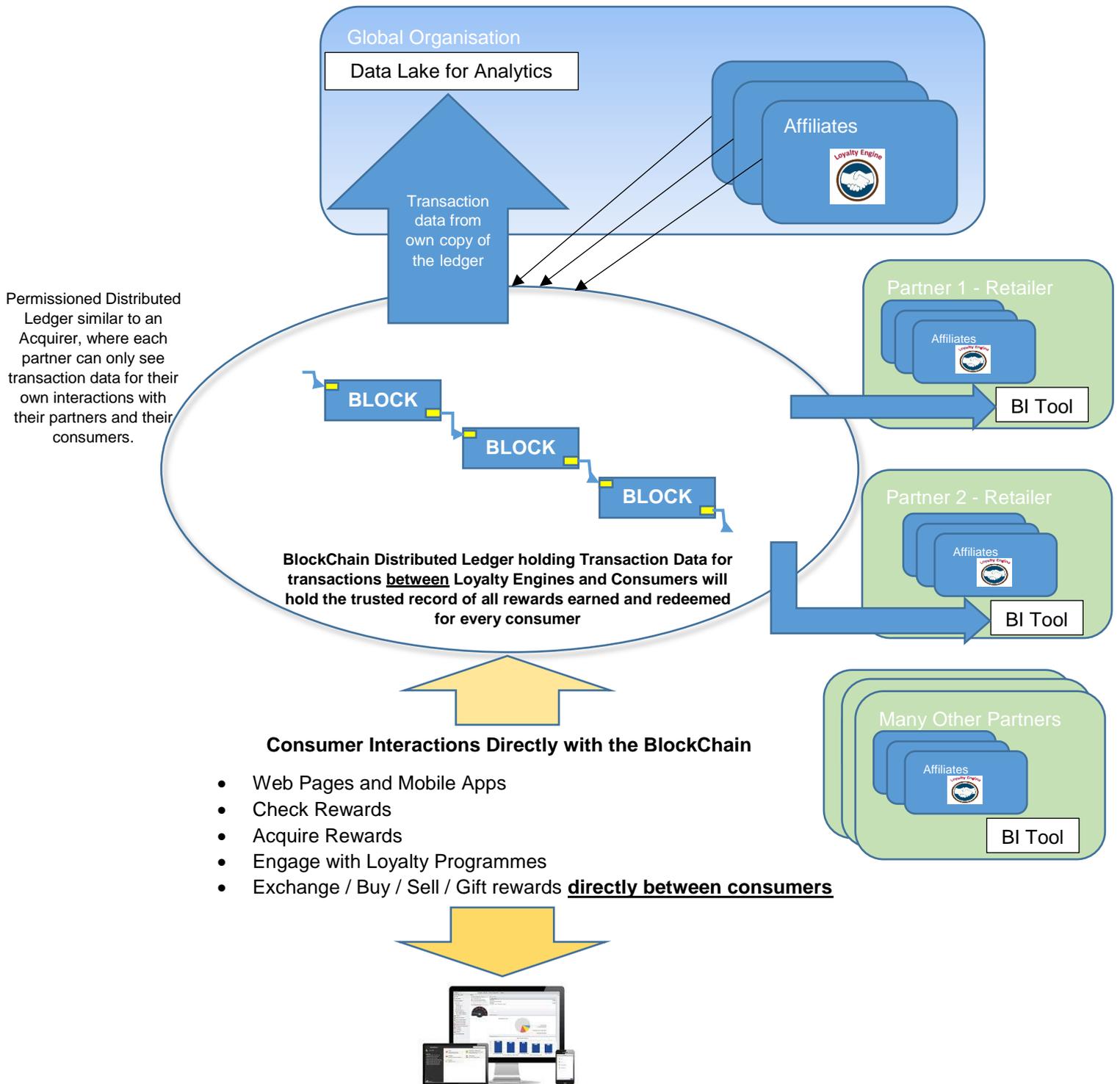
- Greater benefits and control for consumers, leading to greater engagement
- Quicker and more flexible setup for new promotions and new loyalty partners
- Avoidance of “one size fits all”
- Trusted data on all loyalty transactions between loyalty partners and between loyalty engines and consumers
- Decentralised, so no single party can dominate the solution to their own benefit



DELIVERED ON A DIGITAL MOBILE PLATFORM

High-Level Solution

The Vision - Multiple Partners Connected To a Permissioned BlockChain



Every consumer will have an anonymous ID on the PRIVATE loyalty BlockChain against which to record all rewards earned and redeemed from the various loyalty engines for the programmes that the customer has joined, as well as to record direct consumer-to-consumer transactions.

The envisioned solution will enable a given company to connect their (potentially multiple) loyalty engines to consumers by issuing rewards from one loyalty engine and consuming those rewards, potentially with a loyalty engine which belongs to another company who participates in the programme.

The BlockChain will also be used to make it much easier for loyalty partners to calculate the settlement amounts due to each party, although the financial settlement transactions themselves would not need to be recorded in the BlockChain.

Personally-identifiable information for consumers will still remain within the individual loyalty engine systems, thereby reducing the risk of leaking personal information. All consumer interactions with the BlockChain will be mediated via a service which will allocate and manage the individual consumer's participant IDs and private keys.

[IBM's HyperLedger-based BlockChain](#) platform is a leading contender for building enterprise BlockChain solutions, so this white paper assumes the use of [HyperLedger](#) facilities such as [Channels](#) which allow the BlockChain to be segmented on the basis of permissions so each Channel could be a separate loyalty programme or even a separate promotion.

Use Case Scenarios

A consumer pays for goods at a store or online: Loyalty rewards accrued are calculated by the retailer's Point-of-Sale system or web site, are validated by the retailer's anti-fraud measures and the rewards are then recorded on the BlockChain against the consumer's anonymous ID, in real time. Additional checks and anti-fraud measures can be built in at the point just before the transaction is committed to the BlockChain, involving other organisations if required.

A consumer wishes to check the status of their rewards: Using a secure mobile app or a secure website, the consumer will verify all of the rewards balances and history against their own participant ID.

A loyalty partner wishes to check the rewards balance or history for one of their customers: The loyalty engine will translate the customer's details held on the retailer's systems into the anonymous ID that represents that user in the BlockChain and will then read the balances and history from the retailer's own copy of the BlockChain. The consumer and the loyalty partner will be reading the same information so there will be no discrepancies.

A consumer wishes to redeem rewards against a gift from a different loyalty partner: The consumer can initiate a transaction via the mobile app or website to prove to the other loyalty partner that this consumer is the owner of the rewards owned by a specific anonymous BlockChain ID. The other loyalty partner's loyalty engine can check the rewards balance for that BlockChain ID and will issue the gift to the consumer and debit the rewards via a rewards redemption transaction. The consumer does not necessarily have to give their personal details to the other loyalty partner or set up an account with them. The original partner who issued the rewards will see immediately that they have been redeemed.

A loyalty partner company wishes to analyse their loyalty information: All transactions for the Channel(s) in which the company participates are visible in the company's own copy of the BlockChain. All the details of all the transactions can be extracted and analysed in the Data Lake or Business Intelligence tool of the company's choice. They are not dependent on any other party to extract, filter and send the data.

Two loyalty partners wish to settle the financial obligation accrued by consumers' reward redemptions: All of the transaction history in the relevant Channel (which is sequentially time-stamped) is visible to both parties, so it will be quicker and easier to calculate the settlement amount than with current systems.

Business Benefits

Better Timeliness and Consumer Experience

The first benefit consumers will experience is that the rewards that they earn from a company would be available in near-real time to redeem with a different loyalty partner, whereas in current programmes there is often a significant delay before rewards can be redeemed.

Consumers will be able to use the app to access and analyse their rewards history and to prove to loyalty partners that they have earned the requisite rewards to be redeemed, but they can also use their app to exchange/buy/sell/gift their rewards.

For example, if a given consumer has an insufficient level of rewards in a given loyalty programme (e.g. an airline programme) to redeem for a meaningful gift or experience, but they have a large number of rewards in another programme (e.g. a DIY retailer) it would become possible for that consumer to exchange their DIY rewards with another consumer's airline points. In that way, the consumer would be able to accumulate enough rewards in the airline programme to redeem them for a return flight to a holiday destination.

Although the main focus of the benefits is on improving the experience for consumers with access to the Internet and to mobile phones, in some countries/regions the loyalty programmes may still be driven by loyalty cards. This solution will allow those consumers to continue using loyalty cards in exactly the same manner as they do currently and will also allow them to realise the full benefits later via direct interactions with the BlockChain.

In addition to the benefits available, there is a good prospect of reduced problems with operation of the loyalty programme when using the BlockChain, thereby again improving the consumer experience.

Lower Cost of Rewards

- Fewer intermediaries involved between loyalty partners, therefore probably lower ramp-on and per-transaction costs
- Might not need to gift rewards as compensation as often for problems that consumers may have experienced due to:
 - Reduced support effort and therefore delay in resolving issues
 - Potentially fewer problems in the first place due to real-time checking and multi-party agreement before writing transaction to the BlockChain.

Lower Costs of Integration

Currently, there are often several intermediary organisations required to pass data from one loyalty engine to another. When using the BlockChain, there are no intermediaries. All participants have their own (permission-trimmed) copy of the BlockChain. Fewer intermediaries means lower costs to operate the loyalty programme.

In addition, defining a link to a new partner into an existing Channel might just be a matter of configuring the Channel and Policy settings on your own servers, leading to much lower ramp-on and integration costs for yourself and other existing partners.

The BlockChain also holds out the prospect of lower costs and quicker setup for the new loyalty partners themselves, which would make the BlockChain more attractive to smaller companies and would further increase the range of choices available to consumers.

Better Quality Data

There will be One Version of the Truth, which will have been validated by all participants and would be trusted by all participants.

The transaction data will much more timely, due to the near-real time recording of rewards and redemptions, and the possibility of fraud will have been reduced by the introduction of multi-party verification to provide additional safeguards before a transaction is confirmed.

Consumers will be more engaged due to the vastly increased level of control they would have, as well as the wider range of loyalty partners and a more varied set of promotions. This is likely to result in better and more frequent engagement from consumers.

It would even be possible to set up specialised Channels to provide targeted promotions to individual consumers for an even greater level of engagement.

Each country/affiliate could run their own promotions in the way that works best for that region/segment, but all that data would be unified in the BlockChain and available for analysis by the appropriate partners using the Data Lake or BI Tool of their choice.

In addition, consumers' ability to buy/sell/exchange/gift rewards directly with the BlockChain will highlight to all participants which rewards programme is most highly valued by consumers (and might perhaps explain why) and will enable all participants to improve their own offerings to consumers.

Easier to Resolve Reward Acquisition/Consumption Queries and Issues

- All partners can see all transaction data in the Channel in which they participate.
- HyperLedger-based BlockChains contain mechanisms for total verification that the transaction is validated by all parties before it is committed to the ledger.
- Any reason for the transaction to not be committed is also recorded for audit.
- No other intermediary parties involved.
- Much better tools to investigate any rewards issuance/consumption incidents.
- **Much less support effort and cost** required to investigate and resolve such incidents.

Summary

BlockChain technologies are likely to [become the mainstay](#) of many transaction-based systems where information needs to be shared and [trusted](#) between several organisations.

This white paper has shown how companies could use BlockChain technologies that are available today to address many of the pain points of consumer loyalty systems to improve the experience both for consumers and for the companies that serve them and to give consumers a level of control and engagement that has not been available before.

This next step for loyalty systems will happen and early adopters will reap the greatest rewards in terms of consumer loyalty.

Next Steps

Rex stands ready to help you on your next step in Customer Loyalty and would be delighted to discuss your challenges and your aims:

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