BLOCKCHAIN AND THE LOTTERY INDUSTRY

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Background

In the past few years, there are many news articles, white papers, and seminars on distributed ledger technology, commonly known as Blockchain. While many may consider it a hype, a number of global enterprises have already put the technology in pilot and production use.

As a matter of fact, some of our clients have already placed real trades worth billions of dollars over our block-chain platform. While many people misunderstood the implications of blockchain, thinking it would only disrupt the banking industry, the impacts and disruptions have already rippled beyond financial world.

Innovation Vs Traditional Business

"Banking is more like a traditional business. Management is generally quite conservative in adopting new technology like block-chain. Thus, the industry is unlikely to get disrupted…" is what I heard from a banker in 2015.

Does it sound familiar in lottery industry? Likewise, some people thought that the lottery industry is unlikely to get disrupted, perhaps because it is a monopoly, or that it has endured for decades and longer, or because we just don't like to think we are vulnerable to disruptions.

Let's shed some lights from what happened in the last 2 years of FINTECH? (Financial technology now has its own acronym! FINTECH refers to the industry composed of companies that apply new technology and innovation in order to disrupt traditional financial institutions and intermediaries in the delivery of financial services.)

Most of top management from banking is not concerned about Blockchain or that its growth plans may be disrupted. Some even believe that all the blockchain buzz is only an innovative toy game that will go the way of online pet supply stores valued with multi-billion dollar market caps.

Interestingly in 2015, though, financial institutions put blockchain innovators under an active watch-list. In 2016, many of them even initiated an abrupt turn-around to acquire blockchain startups or form internal strategic workgroups. Today, you find worldwide technology innovation taking center stage in the agendas of those global financial institutions.

What happened? Who moved the cheese?

What is Blockchain

Technically speaking, blockchain can be viewed as a **distributed data storage (decentralized ledger technology).** It facilitates the **"Data Exchange"** while maintaining Sender Identity Authentication, Immutable record history, Security, and Confidentiality. It **resolves the "Untrusted Parties Data Exchange" Problem** by ensuring no one can cheat. By then, it enables the **End-to-end Digitization** dream.

Concept: Facilitation of New Eco-system – Blue Ocean Strategy in Trading?

One of the production examples in financial technology is TFX [1], a Hong Kong-based trade finance block-chain platform. In recent years, the business of international trade financing has been difficult for both banks and traders due to the rising compliance cost and fierce competitions among banks.

Instead of putting existing financial players out of business, TFX block-chain platform creates many new business opportunities for them by digitally inter-connecting untrusted parties across different industries.

By providing a new business value proposition to all stakeholders (banks, exporters, importers) under the new digital financial eco-system, a new set of job opportunities in the value chains is created.

They are now inviting more banks and traders around the world to join, connect and share the fruits of this new eco-system.

In 2015, traditional banking was susceptible to disruption by the blockchain concepts. In 2016, banks are actively adopting this approach themselves as it helps to save operational costs by digitization, as well as expanding their clientele across different regions of the world. They can now increase their profit margins after full digitization with big data analytic features.

Their trading clients are now happy, as they are getting faster Letter of Credit and financing services. Regulators are also happy as the blockchain platform provides stronger transparency in trade settlement and cash flow auditability.

How might we replicate these digital alliance concepts in lottery industries? And make everybody happy? How might we create a blue ocean in digital lottery industries?

Another Blockchain Application: Bitcoin & Crypto-currency

Another disruption of blockchain technology is crypto-currency. Bitcoin can transmit property globally from peer to peer at extremely low or even no cost.

According to the World Bank's research, the worldwide average cost of remittance is about 8.85 percent of the $514 billion sent each year. In both the US and China, current fees to exchange from bitcoin to the local currency are about 1%.

And the cost of transferring bitcoin is effectively zero.

This new remittance trend has disrupted the global remittance market. It pushes down the costs of global money transfer significantly by dis-intermediating the banks and government.

One concern is that Virtual Currency is not backed by government guarantees. The regulation per each jurisdiction on cross-border cash settlement is still an open question.

There are many crypto-currencies circulating in the market including bitcoin, ethereum, litecoin, ripple and more. The total market capitalization is estimated to be larger than US$61 billion (Source: https://coinmarketcap.com/ as of 2017 May).

Another, less predictable disruption will be in the form of micropayments.

With the fees leverage by Paypal and the major credit card providers, you cannot charge much less than $3 for anything, unless you collect a larger sum like $10, and charge it down slowly. On the contrary you can send as little as $1x10^-8$ BTC, a unit also know as Satoshi.

It allows you to charge as little as a penny to read a page or giving out tips. This is an emerging example of how micropayments are doing things not previously possible.

Another blockchain disruptor: Blockchain-based lottery service provider
Recently, a UK service provider (XOTTO) provided a blockchain-based lottery service that replicates the Hong Kong Mark Six Lottery system on Ethereum blockchain. The service provider claims to bring fairness, accountability, transparency and ease of use to the online lottery and gambling system by making use of the distributed ledger technology.

The lottery intends to solve the problem of money withdrawals, commonly faced by the online gambling community. As a blockchain application, all elements are trackable and can be fully automatized. The blockchain lottery allows players to purchase the ticket anonymously, without having to complete the registration process.

The use of blockchain and smart contracts system ensure the winnings are delivered automatically to the applicable digital wallets, thus eliminating the need for players to claim their rewards manually.

The blockchain lottery is powered by one of the crypto-currencies. People will be buying the blockchain lottery with the crypto-currency tokens. Based on the total number of tickets purchased, the resulting lottery jackpot will be paid to the winning ticket holder in the same crypto-currency. Winners will receive the prize directly in their crypto-currency e-wallet from which they had purchase the tickets.

Anyone can search for information on the blockchain about the drawn lottery numbers and transactions, making it completely transparent.

(Note: These disruptors may trigger concerns from the legal and regulation perspective.)

Another Application in Lottery: Cross-party Loyalty points
Blockchain technology can be utilized to issue loyalty points in lottery industry.

One can sell ticket or chip bundles to get more cash in advance to strengthen cash flow, and to operate a customer loyalty programme without high cost.

Since all loyalty points are in digital format, big data predictive analytics can be applied to the blockchain loyalty points to improve understanding of of customer behavior. This is one of the tactics for enriching customer retention and acquisition strategy in the Customer-Relationship-Management

(CRM) databases. Fraud can be detected easily by analyzing the blockchain data. Without blockchain, cross-party loyalty point scheme is impossible.

Another Application in Lottery: Single View of Operations
Blockchain technology can also applied internally to record a holistic 360 view of operations within the lottery company. True transformation means an organization-wide shift in perspective to a single vision that encompasses all lines of business: retailer-based lotteries, resorts, slots, casinos, VLTs, bingo operations … whatever game categories and distribution channels the lottery is engaged in. That vision must be instilled in everything from people and processes, information systems and marketing, to bring all of your internal players to the same table. It's an opportunity to eliminate redundancies, address significant gaps or risks and approach the organization as a single business with deeper insight into customers and markets.

Blockchain Application: P2P Pool in Lottery
Another disruption is the Peer-to-Peer Concept as it applies to the Insurance Industry. It allows a small group of people to form their own insurance pool.

These small groups of users will be rewarded with a cash-back bonus a the end of each year they remain claimless. In other words, each individual policy holder is a part-owner of the insurance pool. This peer-to-peer pool concept is disrupting the lottery industry as it implies no centralized lottery legal entity is needed to hold the events. Think about it.

As an old saying goes, the only thing that is constant is change. Our world keeps changing and our business gets disrupted with every new form of digital transformation. Another part of the business world, the financial industry, has already evolved and adapted to the challenge. How about us? ■

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