Lawrence Lundy-Bryan Follow
Exploring the emerging data value ecosystem: data production (IoT), data management (blockchains/DLT) and data automation (machine learning).
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Disrupting Tech Monopolies & AI Tycoons — Part 2

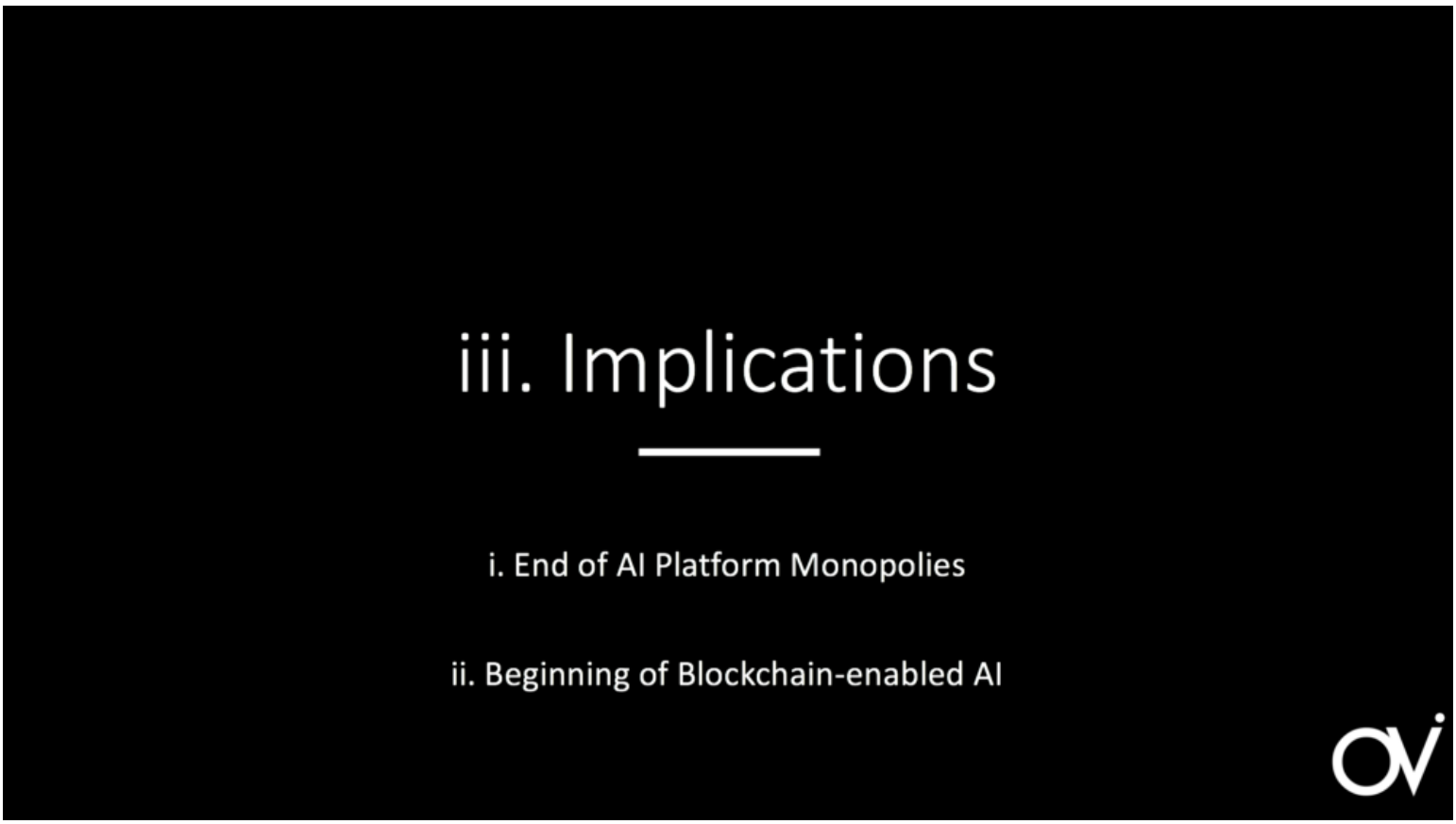
Blockchains combined with artificial intelligence is more than just a technical innovation: it's an economic paradigm shift 💰💰💰

This is Part 2 of Disrupting Tech Monopolies & AI Tycoons — Part 1 outlines how we will get here.

>>Blockchains combined with AI will create the conditions for disruption of platform monopolies>>

>> As data stops being a competitive advantage, powerful token-driven network effects will lead to AI agents using blockchains to accumulate tokens>>

>>This will lead to profound questions about the how we govern non-human entities in the economy and society. 🤔 🤔



End of AI Platform Monopolies

So, now we have a global data sharing and monetization network

Right, so where were we? Oh yeah, we now have a global network of interconnected blockchains and DLTs that share value seamlessly with easy-to-use data exchanges (See Part 1). Hopefully, as the industry begins to focus on usability and user design, we will be in a world in which anybody can publish data with a press of a button or voice command. Payments in Bitcoin or other tokens are seamless and automated based on rules coded into smart contracts. For the average user, all they have done is agreed to conditionally share data, as they do today with Facebook and other systems, and next thing they know they have tokens to spend however they want. They can convert to a national currency or merrily purchase their preferred goods and services.

All that matters today for AI platforms is data...

How does this lead to the end of AI platform monopolies? Well in 2017, the only thing that matters is data. Platforms like Google, Facebook, Baidu collect data to feed their AI algorithms (specifically their deep learning algorithms) improving their products. More data improves the products which in turn brings more customers and engagement which in turn generates more data.

When AI is the driver of product improvements proprietary data are the most valuable asset for platforms. In fact, access to proprietary data sets is one of the most important assets for an AI startup. The way to think about it is data is the supply and AI algorithms are the demand. And deep learning models are hungry.

But hold on a moment, blockchains aggregate and commoditize data. That means...

Here is the knockout: blockchains aggregate the supply side for free (almost) for all. Of course, there will be some transaction fees and other friction points, but compared to existing data infrastructure an open, shared data layer essentially commoditizes data. Or at the very least makes proprietary datasets much less valuable.

But that means control of data is no longer the leverage point in value chains...

Firms that control supply—data—no longer dominate markets. Data stops becoming a moat and a competitive advantage. Now the demand-side becomes the most valuable place in the ecosystem. This is where the customer relationship is won with trust. Well, trust, and a simple, easy to use interface, maybe a conversational or voice UX. The only thing that matters in 2020: The customer relationship. (Side note EU's General Data Protection Regulation, or GDPR, will reinforce this)

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Beginning of Blockchain-enabled AI

So we have this global shared data layer right...

A second, a longer-term implication of a global shared data layer is blockchain-enabled AI. Agents (not even particularly intelligent agents) can use blockchains as a 'substrate' as Fred Ehrsam has put it in the past.

Deploying and using agents on blockchains rather than using proprietary tools and platforms like Facebook Messenger will be more attractive to developers, users and regulators.

Well developers are going to love it...

For developers, first, they have access to a vast amount of free (on public chains anyway) and structured data, data that they would never be able to buy or generate themselves at first. Second, they have structured and high-quality data (right now, just transaction data, but increasingly all sorts of value store and exchange). Third, native automation tools in smart contracts and hopefully very soon production sidechains make it easier to build reasonable agents that can perform reasonably complex actions. Finally, developers and companies that deploy agents have a native payment channel to be paid almost immediately based on all sorts of conditions like usage or user utility. The business models with tokens and smart contracts are not limited to up-front payment or a paywall. All sorts of new business models will be available for experimental developers.

Users will love it, too. They can get paid just to use agents...

Users benefit because unlike any other environments, they will have direct access to token capital, investment and real interest in the system. When users use a Facebook messenger bot, they get some utility. When they use an agent on a blockchain they can be rewarded or paid with tokens. Depending on the token economics a user can 'own' a stake in the agent or company behind the agent. The more the user uses or evangelises the product, the stronger the product and underlying blockchain gets. Network effects with a direct monetary reward thrown in. In a sense, a user is no longer a passive consumer of a service; they are a stakeholder. This model begins to look more and more like a digital cooperative. (*Something we are actively exploring at Outlier Ventures with the tokenization of Botanic Technologies' bot platform, a project named SEED that allows the fair exchange of information between AI and people*)

Regulators will love it the most, they might even force data and AI agents to use blockchains...

The last stakeholder, and potentially the deciding factor will be regulators and Governments that demand some element of control or access to AI algorithms. The public and political tide are turning against technology companies. Certainly many Governments around the World are waking up to the power amassed by large US-based tech firms

through their exploitation of data. Without overselling it, it seems to me that an open-source, auditable data structure would be an ideal technical solution for regulators that want a window into AI decision making and data used to train models. This would at the very least allow scrutiny of training data to check for bias as well as potentially providing an audit trail for exploration if an agent makes a bad decision. It's not a leap to imagine regulators actually mandating the use of either a public blockchain or demanding a node in private networks for audibility of AI.

So now we have the perfect environment for autonomous agents...

If this scenario plays out you have more developers, more users and happy regulators. There are many different descriptions, I like Autonomous Economic Agents (AEAs), these new types of decentralised AI are the logical next step when autonomous agents start using blockchains (*something FETCH.ai, an Outlier portfolio company are working on*). The level of human involvement with the agents will vary; some AIs can be managed by traditional organisations, others will be managed by decentralised autonomous organisations (DAOs). Regardless of the human involvement, the fact is AIs will be accumulating tokens (seen another way, wealth). For example, an autonomous vehicle can be paid in tokens for rides and can pay for re-charging and servicing with tokens. Or an AI DAO could manage a neighbourhood distributed energy grid in which energy is exchanged using smart contracts based on real-time supply and demand.

Cool yeah, this sounds like a pretty big deal...

I don't think many people have truly thought through the implications of this. A non-human and non-human controlled entity will have the ability to acquire resources and wealth. When people talk about exponential growth, this is exactly what they are talking about. Society and politics are simply not ready to even begin a discussion about these sorts of issues. Can an autonomous agent generate wealth? What is the optimal level of taxation that doesn't act as a disincentive to activity? We already have enough trouble collecting taxes as it is, how and who will collect taxes from an AI DAO?

Blockchain-enabled AI might seem pie in the sky. But unlike say artificial general intelligence (AGI) we know exactly the problems that need to be solved to bring this vision to reality. There are already rudimentary versions of these agents available today. For more on AI DAOs you must read Trent McConaghy's AI DAOs, and Three Paths to Get There.

Yea it's a big deal alright, possibility an economic paradigm shift...

> *Blockchains combined with artificial intelligence is more than just a technical innovation: it's an economic paradigm shift. The political philosophy written in next 10 years will be as important as the socialist and labour movement of the late 20th century.*

Thanks for reading 👍. If you enjoyed it, please hit the 👏 button and share on Twitter and Linkedin. Honestly though, Ev Williams, surely tokenizing claps is the perfect business model for Medium?

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This is a working thesis and an high level description of the work we are doing at Outlier Ventures. I am looking for feedback so please tweet me Lawrence Lundy. The thesis can certainly be improved upon. I am particularly keen to explore the potential impact of improved unsupervised learning algorithms and reinforcement learning on the need for large data sets. If large data sets are no longer required the outcome would also be that data becomes less valuable which serves to reduce the value of data but wouldn't enable blockchain-enabled AI.

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