# The Marketplace of Data

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When conducting research in the modern world, institutions and researchers conduct experiments, gather results, and submit their work to be reviewed by their peers. This system allows the knowledge base of all scientific fields to grow following discoveries that have been thoroughly vetted and fact-checked for errors. However, because the current economic and societal models, specifically regarding universities and public research institutions, are dependent on government funds to survive there exists a culture of competition, where institutions from Facebook and Google to SpaceX and Amazon are incentivized to hoard the information that they have and don't share it freely, because anyone who utilizes their data could in essence use this data to create a potentially better service than the original, upending their status as a major industrial force.

However, imagine a world where the sharing of data between these entities increases their revenue based on the quality of what they share. Using a distributed application network infrastructure like IOTA's Tangle[1] or Swirlds' Hashgraph[2] a network could exist connecting all types of research institutions both public and private, where the community essentially "peer-reviews" via distributed consensus[4] the quality of data being shared, and based on the quality of the data the submitting party would be rewarded.

How could these institutions be rewarded? Most people associate decentralization with cryptocurrency, however the volatility and lack of widespread adoption of cryptocurrency makes it a very poor choice of funding for large institutions. However, what is important to these institutions is 1) access to high quality data and 2) access to high levels of computational power. The network itself could act as a distributed computational network not unlike the Golem Project[3] where all parties on the network are allowed to participate in such a network given that they continue to share data and computational power.

In order to join such a network one would need to contribute some form of organized and labelled data to the network, which could take the form of everything from internet browsing data to massive labelled and organized research-quality data sets. The whole network would reach a consensus on what quality this data set is that is being submitted in some form, possibly based on how many entities make use of such contributions, and the reputation of the newcomer would scale accordingly. As their reputation grows, the network would automatically adapt and allow these entities to create more edges with more bandwidth to other nodes, which would incentivize them to contribute more data and power to the network. However, by creating more undirected edges it would also allow other entities to access the growing power of the network through these larger players. Therefore, the balance of power would essentially evenly distribute throughout the network over time, preventing centralization and ensuring equality. Individuals, hobbyists, startups, governments – all of the above could participate in the network given that they contribute meaningful data and computational power to the network.

The best part of such a concept is that this incentivizes people to learn more about the world and share their learnings with others, which would be a direct antidote to the current "anti-intellectualist" mindset currently besetting the western world, the USA in particular. People would be incentivized to learn instead of being forced to, which could foster a new

paradigm shift in modern society that encourages everybody to learn as much as they possibly can about the world, as it is in their direct interest to learn and share information instead of to hoard it. This is what the future could look like, if we act upon it and make it so.

**Sources:**

1) https://iota.org/IOTA_Whitepaper.pdf
2) http://www.swirlds.com/downloads/SWIRLDS-TR-2016-01.pdf
3) http://golemproject.net/doc/DraftGolemProjectWhitepaper.pdf
4) Coulouris et al. (2001), *Distributed Systems: Concepts and Design (3rd Edition)*, Addison-Wesley, ISBN 0201-61918-0