

BLOCKCHAIN: some ethical considerations

The development and application of blockchain technologies gives rise to two major ethical issues to do with:

- Meeting expectations – in terms of security, privacy, efficiency and the integrity of the system, and
- The need to avoid the inadvertent facilitation of unconscionable conduct: crime and oppressive conduct that would otherwise be offset by a mediating institution

Neither issue is unique to blockchain. Neither is likely to be fatal to its application. However, both involve considerable risks if not anticipated and proactively addressed.

At the core of blockchain technology lies the operation of a distributed ledger in which multiple nodes independently record and verify changes on the block. Those changes can signify anything – a change in ownership, an advance in understanding or consensus, an exchange of information. That is, the coding of the blockchain is independent and 'symbolic' of a change in a separate and distinct real-world artefact (a physical object, a social fact – such as an agreement, a state of affairs, etc.).

The potential power of blockchain technology lies in a form of distribution associated with a technically valid equivalent of 'intersubjective agreement'. Just as in language the meaning of a word remains stable because the agreement of multiple users of that word, so blockchain 'democratises' agreement that a certain state of affairs exists. Prior to the evolution of blockchain, the process of verification was undertaken by one (or a few) sources of authority – exchanges and the like. They were the equivalent of the old mainframe computers that formerly dominated the computing landscape until challenged by PC enabled by the internet and world wide web.

Blockchain promises greater efficiency (perhaps), security, privacy and integrity by removing the risk (and friction) that arises out of dependence on just one or a few nodes of authority. Indeed, at least some of the appeal of blockchain is its essentially 'anti-authoritarian' character.

However, the first ethical risk to be managed by blockchain advocates is that they not over-hype the technology's potential and then over-promise in terms of what it can deliver. The risk of doing either can be seen at work in an analogous field – that of medical research. Scientists and technologists often feel compelled to announce 'breakthroughs' that, on closer inspection, barely merit that description. Money, ego, peer group pressure – these and other factors contribute to the tendency for the 'new' to claim more than can be delivered.

It's not just that this can lead to disappointment – very real harm can befall the gullible. One can foresee an indeterminate period of time during which the potential of blockchain is out of step with what is technically possible. It all depends on the scope of blockchain's ambitions – and the ability of the distributed architecture to maintain the communications and processing power needed to manage and process an explosion in blockchain related information.

Yet, this is the lesser of blockchain's two major ethical challenges. The greater problem arises in conditions of asymmetry of power (bargaining power, information, kinetic force, etc.) – where blockchain might enable 'transactions' that are the product of force, fear and fraud. All three 'evils' destroy the efficiency of free markets – and from an ethical point of view, that is the least of the problems.

One advantage of mediating institutions is that they can provide a measure of supervision intended to identify and constrain the misuse of markets. They can limit exploitation or the use of systems for criminal or anti-social activity. The 'dark web' shows what can happen when there is no mediation. Libertarians applaud the degree of freedom it accords. However, others are justifiably concerned by the facilitation of conduct that violates the fundamental norms on which any functional society must be based. It is instructive that crypto-currencies (based on blockchain) are the media of exchange in the rankest regions of the dark web.

So, how to the designers and developers of blockchain avoid becoming complicit in evil? Can they do better than existing mediating institutions? May they 'wash their hands' even when their tools are used in the worst of human deeds?