

Summary on Blockchain Technology for the National Forum

May Chang, July 1, 2018

Note: The points here were contributed by some IFLA members and do not reflect any official IFLA views on the topic. IFLA's informal briefing on "Books in Blockchains" is at <https://goo.gl/nximQX>. We have also tried to avoid repeating the ideas mentioned/proposed at the Blockchain web conference held on June 7.

Blockchain and distributed ledger technologies have been used mainly in the cryptocurrency area. The technology makes sense where there is a security issue, i.e. people are cheating and intermediaries struggle to stop this, where the intermediaries themselves are not trusted, or where intermediaries are balkanised, and so do not work together effectively. Even then, it probably makes sense to look at easier options first. Blockchain security is a little different in this context as it is self-managing by having a large enough community to prevent "hacking". People can steal a blockchain account just as they can steal a bank account but otherwise blockchain is self-regulating. A hack of blockchain requires someone to control more than 50% of the blockchain accounts which in a large enough community should be improbable.

Copyright security is probably true, but then is it really much better than DRM? Some suggest it could be used to determine the version of record of articles, but again, is the problem this bad? It makes sense with bitcoin, as there's no global bank, and there are concerns about fraud involving money at least.

There has been talk of it as a means of ensuring that artists actually get remunerated for uses of their works (i.e. something more efficient than rights management by publishers or record companies). This would be huge also, but would pose a big threat to collecting societies. The concern with such schemes is that you would need smart contracts to be able to 'code' fair use somehow, and there would be potential privacy issues (i.e. what people are reading or listening too is preserved for all time potentially).

The technology requires a considerable amount of power and storage as every server stores the whole chain of information for every transaction. If there are many participants in a chain they all will need computing devices with higher specifications and would probably be too big for a private user.

One of our members from Berlin mentioned that there are probably about 100 start-ups developing blockchain technology and applications in that city. However, at the recent Association of German Librarians conference there she reported that many subjects and themes of interest for the library community were discussed but there was no mention of blockchain.

In the IFLA context, a member suggested that perhaps blockchain could be used in the IFLA payment system for international interlibrary transactions. This is a voucher system that makes it easy to pay for international interlibrary requests by using a voucher instead of money. Vouchers are available in EUR4 and EUR8 value, and there is a EUR18 handling fee per voucher order and redemption. Using blockchain would ensure security and tracking the transaction. Nano transactions can also be made to save transfer costs, particularly for small amounts. However, further investigation and discussion is needed to determine value and viability of using blockchain technology in the current system.

Overall, we see the potential use of blockchain technology in libraries primarily in ensuring security of financial transactions and copyright and DRM. Some members have expressed that it is a critical issue and that there is not enough information presented to libraries. However, we feel it is too early to implement anything on a large/international scale and more exploration is needed. There are also concerns regarding buy-in on the need for this technology in library operations and that it may be out of proportion to needs. Again, more investigation is needed.