

CRYPTO-CREDENTIALS: BLOCKCHAIN BREAKING THROUGH BIAS

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As learning professionals, we put our hearts and minds into designing programs that uplift, educate and transform. Often these programs provide crucial skills to learners, which organisations will look to when making decisions around suitability for employment. Many education systems, like the university sector, issue credentials intended to validate the completion of learning pathways.

We can all appreciate, then, the deep frustration of the growing market for fake qualifications. Bought for a price from enterprises called ‘diploma mills’, these organisations devalue education and enable fraud. It is estimated that more than 50,000 PhDs are purchased from diploma mills every year.

When the credential fraud is discovered in the workplace, it can cost businesses upwards of \$10,000 in rehiring costs each time. When the fraud goes undiscovered, the loss of productivity, work quality and brand reputation can be even greater over the long term. Take, for example, the CEO of Yahoo in 2012, whose term only lasted four months after it was discovered he had listed a false degree on his resume.

Solutions to this problem are varied: public qualification clearing houses, internal policies and procedures for validation, and references checks. However, one new potential fix is starting to make its name in the industry: blockchain.

WHAT IS BLOCKCHAIN?

Undoubtedly, you’ve heard of this mysterious internet phenomenon which, for those wise to its secrets, allows the ‘mining’ of free money.

However, while blockchain technology has been synonymous with cryptocurrencies in recent times, this is simply one of its many potential applications. In essence, blockchain is a digital recordkeeping technology with certain key characteristics:

- 1) It is decentralised** – the data on the digital ledger is stored simultaneously across a large number of independent servers.
- 2) It is governed by coded rules and built-in incentives** – the technology uses methods of encryption, coded rules and incentives that allow blockchain systems to be governed by the network, rather than by any specific actor.

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Blockchain's distributed nature and unique data structure (the specific way information is recorded and stored) promotes greater security and verifiability of information, enabling alignment and transparency, and fostering trust across the network.

To take one analogy, we might think of it as a large network of libraries which only release information that each library has verified to be correct. To corrupt the information in the network, we would need to override more than half the network of libraries simultaneously, which becomes practically impossible if a blockchain system is correctly implemented.

WHAT DOES THIS MEAN FOR CREDENTIALS?

So, imagine that instead of recording currencies on the ledger, we are recording data or metadata about an individual's qualifications. Only verified organisations will be permitted to issue authentic digital credentials to learners, so that these can't be fabricated.

Provided permission is given by the individual, organisations will be able to 'query' a prospective employee's cryptographic wallet for a specific piece of information i.e., what qualifications they have. They can then move forward with confidence that the prospective employee does indeed have the credentials and qualifications they claim to, and that these are up to date.

The advantages of blockchain as a record keeping system are:

- **Better trust and accountability** – the system is not entirely based on the integrity of one organisation or business but instead by the verification from the wider group.
- **Better privacy** – the system can be very narrow in terms of the information that it releases, for example, a simple 'yes' or 'no' response to the question, 'Do you have a bachelor of science?'



And the best part is that this concept is not as science fictional as it sounds. IBM is currently in the process of building a learning credential network, using blockchain to perform this very role.

WHAT DOES THIS MEAN FOR THE FUTURE?

Imagine a de-identified marketplace for talent...

One of the truly revolutionary aspects of this system is that blockchain is able to be highly specific about the information it releases. The upshot: all the peripheral information that can, at times, be inferred from a resume, is excluded. This has the immense advantage of potentially eliminating the bias, unconscious or otherwise, that we know can derail recruitment processes when employers start making assumptions.

For instance, multiple studies in the United States have demonstrated that, historically, candidates with

applications listing a woman's name or names associated with certain minority communities are less likely to progress in recruitment processes. By using technology as a buffer against these prejudices, we can improve decision making and take one more step towards equitable hiring practices.

We can then imagine a world where organisations query the marketplace more broadly for talent with specific qualifications. The blockchain system will return matches for suitably qualified users who have opted in, without disclosing other information about them – a match made in blockchain heaven.

The democratisation of record keeping and privacy settings has the potential to be an enormous boon for learning and development and recruitment processes. It's an exciting time for the industry as we leverage the benefits (and disruptions!) of the age of information.



DR CHRIS ROWELL

Chris specialises in digital leadership and transformation. He works with leaders and teams to leverage data and disruptive innovations in technology and business to enhance all areas of strategy, culture and operations. Underpinning his work is a fascination with what makes people and organisations tick; the ways we create meaning, structure and social norms, and how we can think and work more intentionally to create better futures.



MARCUS DE COURTENAY

Marcus is a content creator with a passion for making sense of a complex world. With many years' experience producing high quality text across a diverse range of industries, including government, legal, financial services and copywriting, Marcus believes how we deliver our ideas is intrinsically connected to their meaning for our listeners. He works tirelessly to make that meaning richer and deeper, with every word.

FURTHER READING AND RESOURCES

Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labour Market Discrimination (Marianne Bertrand & Sendhil Mullainathan, 2003, National Bureau of Economic Research)
<https://www.nber.org/papers/w9873>

Exploring blockchain technology and its potential applications for education (Guang Chen et al., 2018, Smart Learning Environments)
<https://slejournal.springeropen.com/articles/10.1186/s40561-017-0050-x>

Learning Credential Network (IBM)
<https://www.ibm.com/blockchain/solutions/learning-credentials>

Orchestrating Impartiality: The Impact of 'Blind' Auditions on Female Musicians (Claudia Goldin and Cecilia Rouse, 1997, National Bureau of Economic Research)
<https://www.nber.org/papers/w5903>