BY
Lory Kehoe and Niamh O'Connell

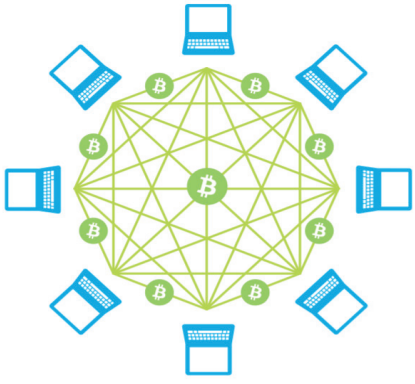
Insights on Blockchain & Accounting

Lory Kehoe and Niamh O'Connell from Deloitte explain what Blockchain technology is and what it means for accounting practices

What is Blockchain?

Blockchain technology is a peer to peer shared online ledger where transactions are recorded, validated, stored and accessible to anyone who is part of the computer network (Source 1). All transactions are timestamped and stored in chronological order, providing users with a complete audit trail of the transactions on the blockchain. The combination of cryptography along with its decentralised structure makes it very difficult for any party to tamper with the data in comparison to a traditional database[1]. There are two types of blockchains today; private and public platforms. Private

Blockchains are permission based platforms established by individuals or firms. Whilst public blockchains are permission-less i.e. data is publically available to anyone who is part of that network.



Source 1: Deloitte. Disrupting the Financial Services Industry, 2016

The technology has gained a lot of traction as a disruptive technology given its huge potential to revolutionize the way in which we exchange and record value today. In 2016 more than $1 billion was invested by financial service and IT firms and according to Will Bible, partner at Deloitte U.S., it is only a matter of time before we begin to see businesses moving aspects of their business onto a blockchain. The adoption of blockchains globally will transform the way in which businesses are audited and this will likely have a significant impact on the role of accountants and auditors. Therefore, it is important that these professions educate themselves on the technology and its capabilities in order to understand the possible impacts it can have across industries.

Blockchain has the potential to revolutionize financial accounting as did the double entry booking system post the renaissance period. Rather than accountants managing and maintaining separate financial records using blockchain, they could instead write their transactions directly into a shared repository, creating an interlocking system of accounting records[2]. All entries would be distributed and encrypted on the immutable platform making it highly improbable for an unauthorized party to access the secured data. Accountants could use this either as a back-up / shadow system or effectively monitor the decentralised database system themselves, replacing the existing bookkeeping system, saving time and shifting focus areas to more complex accounting related activities.

▶ Continued on Page 42

1 https://techcrunch.com/2016/12/05/how-blockchain-can-help-fight-cyberattacks/

2 https://www2.deloitte.com/content/dam/Deloitte/de/Documents/Innovation/Blockchain_A%20game-changer%20in%20accounting.pdf

Lory is a Director within Deloitte Ireland's Financial Services Strategy & Operations consulting practice and has over 10 years management consulting experience primarily in financial services but also in public and private organisations. More recently, Lory has been heavily involved in blockchain technology and innovation in the FinTech and RegTech areas and is Deloitte's Europe Middle East and Africa (EMEA) Grid Financial Services blockchain lab lead.

E: lkehoe@deloitte.ie

Niamh is a consultant within Deloitte Ireland's Service Operations Consulting practice.

She has been working on Deloitte EMEA's blockchain lab team since it was set up in May 2016 identifying and developing blockchain enabled solutions for clients across all industries.

E: niconnell@deloitte.ie

BY
Lory Kehoe and Niamh O'Connell

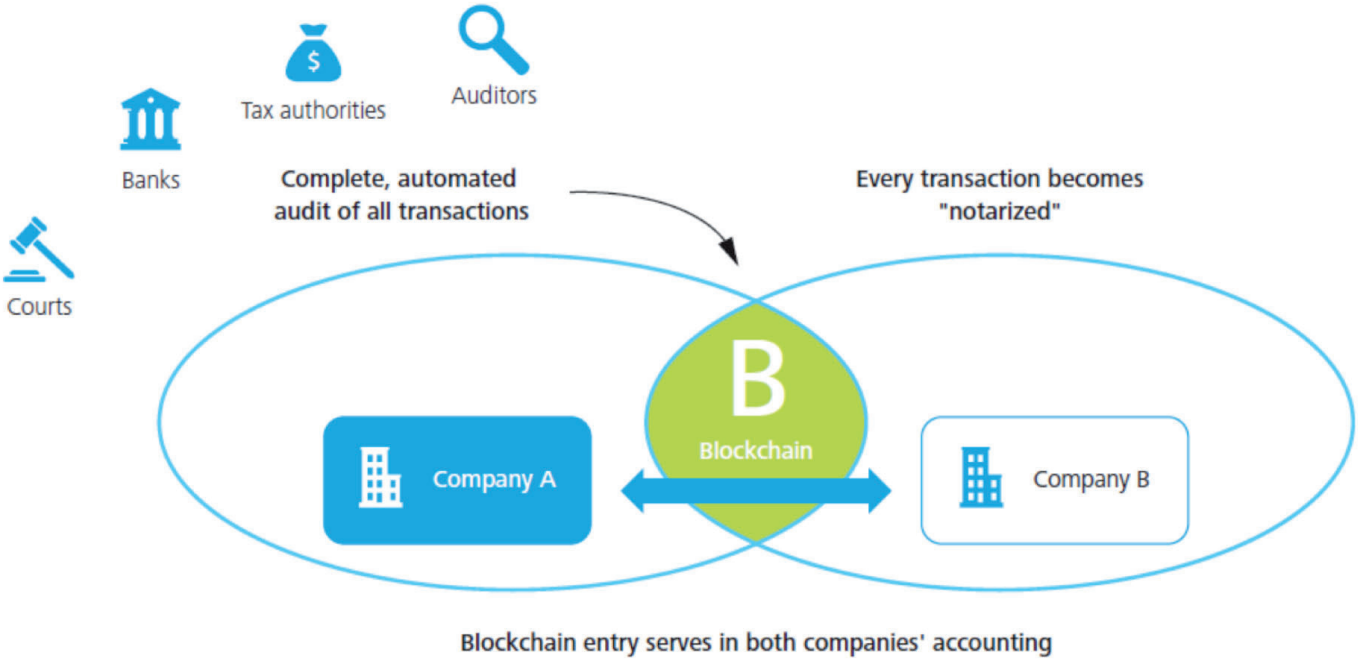
▶ Continued from Page 41

What does it mean for the accounting practice?

From an auditor's perspective, blockchains real time access capabilities could create efficiencies and enhance the audit approach with respect to testing and sampling processes therefore reducing time and costs associated with an audit. Once granted permission to the platform by the client, auditors could directly examine the transactions, extract and download the financial statements from the platform itself. The data encryption, hash comparison (examining each records uniquely generated hash value which is a numeric number of fixed size) capabilities associated with blockchains could offer evidence of the integrity of the financial records, providing auditors with a level of assurance.

What this means is that at any point in time, auditors can assess and validate any record by generating a hash value and comparing this with the hash value that is timestamped and stored on the blockchain. The auditor could search the unique hash value of any transaction recorded on the blockchain and if the hash value is a match the auditor can trust the record has not been modified since it was inputted onto the Blockchain. Although the sampling and assessment of financial statements would become more automated the requirements of the auditor would still remain but the way data is extracted, tested and analysed will change. The combination of using blockchain technology along with analytics would result in more targeted sampling and analysis of data i.e. heat maps could be created quarterly to pinpoint where the sample testing should focus.

Before auditors and accountants can deploy such a platform, there are a few barriers to overcome. The regulator, legal and accounting bodies will need to be on-board and update the technical and accounting standards required for the use of blockchains within the accounting practice. The skillset of professional accountants will also likely change becoming more digitized and analytics focused which will impact the training, examination and employment of such professionals. Educating clients will need to be a priority for professional accounting firms to ensure clients are satisfied with the new auditing process. Digitization is the way of the future, and in order to stay relevant all industries including professional accountants will need to understand and prepare for this change, whether it is blockchain or another disruptive technology that is adopted and impacts the marketplace.



Source 2: Deloitte, Blockchain Technology, A game-changer in accounting? 2016