



THE UNIVERSITY OF  
**SYDNEY**

## **The University of Sydney Accounting Foundation**

Research Executive Summary  
Volume 1 Issue 2

# **Blockchain Technology and the Accounting Profession: an Exploratory Study**



# Contents

<b>Blockchain Technology and the Accounting Profession: an Exploratory Study</b>	<b>1</b>
Abstract.....	2
Introduction .....	2
Objectives .....	3
Research Method .....	3
<b>Main Findings and Implications for Practice</b>	<b>4</b>
<b>Conclusions</b>	<b>5</b>
<b>References and further reading</b>	<b>7</b>
<b>Acknowledgments</b>	<b>8</b>

We acknowledge the tradition of custodianship and law of the Country on which the University of Sydney campuses stand. We pay our respects to those who have cared and continue to care for Country.

# Blockchain Technology and the Accounting Profession: an Exploratory Study

## Key Conclusions:

- Providing assurance services to clients using blockchain technology requires distinctive audit methodology.
- Key challenges in assuring systems and assets relating to blockchain include the lack of accounting and auditing standards; a regulatory framework; agreed governance principles for democratized blockchain network; ensuring integrity of data; the classification and reporting of cryptocurrencies, capitalization of technology development costs, and, developing skills base.
- Professional organizations and academic institutions in consultation with blockchain technology experts and accounting firms have started developing trusted blockchain credentials.



## Abstract

Blockchain technology may require a distinctive audit methodology because it poses risks not seen before in the audit of financial statements. Regulatory frameworks; accounting standards and guidelines on the governance of blockchain applications to ensure data integrity; consistent classification and reporting of digital assets, and, trusted credentials, are either yet to be or in the process of being developed. Accountants do not see themselves becoming obsolete due to blockchain technology.

## Introduction

At its core an accounting technology (ICAEW 2017), blockchain is expected to create new opportunities as well as risks to the accounting profession (Richins et al 2017). Conceptualised in 2009, blockchain is a decentralised public ledger that provides a secure infrastructure for transactions among unfamiliar parties without central authority (Dai and Vasarhelyi 2017; Tan and Low 2019). According to Tan and Low (2019, p.315), data or records are aggregated into blocks and these blocks are linked together through hashes. Arranging data in blocks chained by hashes enables detection of tampering of existing records. Able to deliver data integrity, immutability of transactions, absolute certainty over ownership and history of assets, and, efficient reconciliation, it is purported to improve collaboration, transparency and productivity (Deloitte 2016), create significant commercial and economic value (KPMG 2018), and, disrupt existing business models including that of accounting firms. Recognising the potential for new opportunities, first and mid-tier accounting firms are investing in resources and working in collaboration with technology partners.



## Objectives

---

The main objective of the study is to investigate the influence of blockchain technology on accounting practices and the accounting profession. In particular, the study aims to, in the context of Australia:

1. analyse the influence of blockchain technology on auditing and assurance services, and,
2. identify the implications for accounting professional development and education.

## Research Method

---

This study primarily used semi-structured interviews to collect data. There were twenty-eight participants including partners and managers of first and mid-tier accounting firms, thought leaders representing accounting and industry professional bodies and blockchain technology developers.





# Main Findings and Implications for Practice

The following are the key findings as they relate to the aims of this exploratory study:

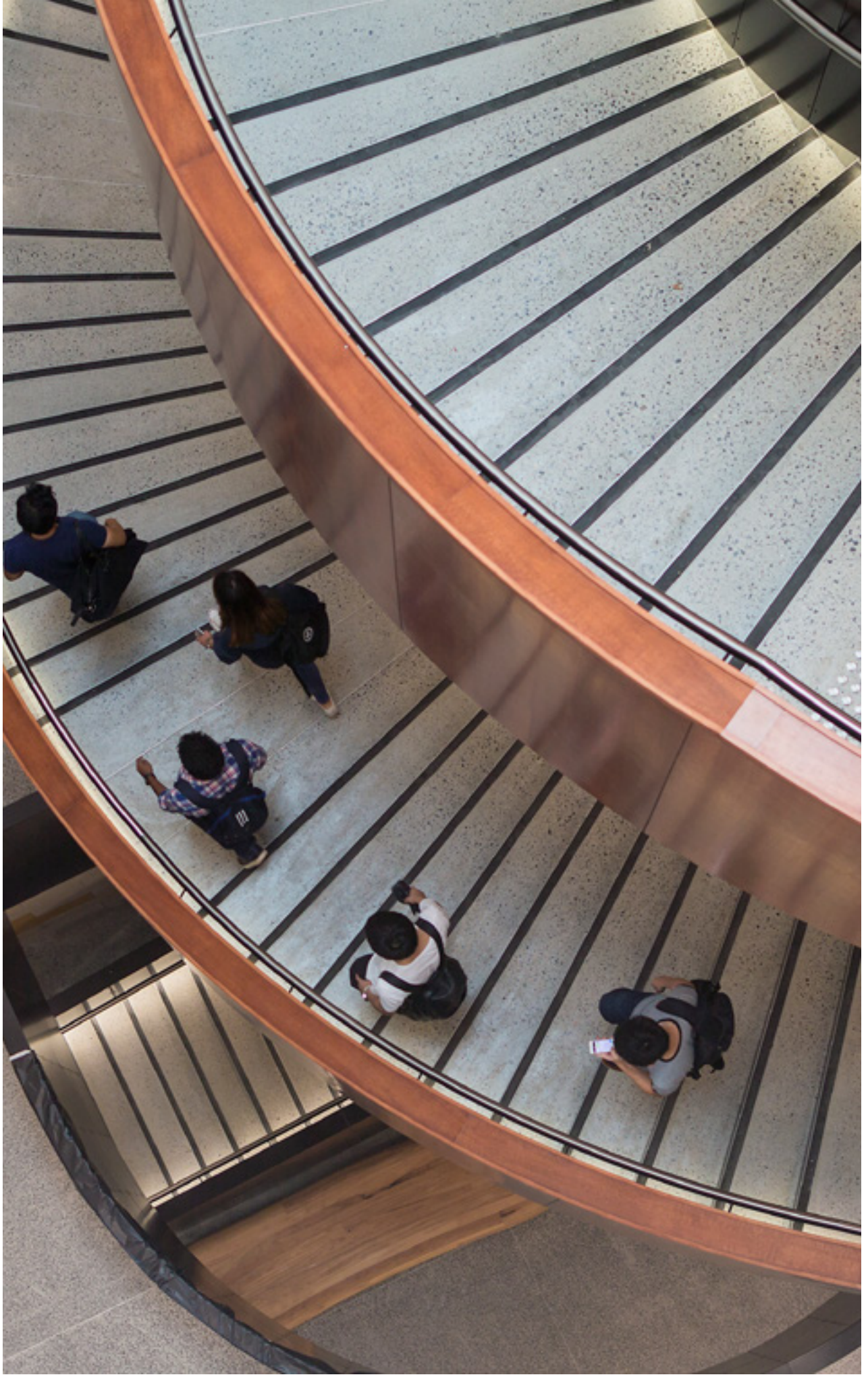
1. Influence of blockchain technology on auditing and assurance services -
  - a. Accounting firms in Australia recognise the potential impact of client use of blockchain technology on financial statement audits. Blockchain's unique features will influence client acceptance, engagement planning, risk assessment, audit evidence and reporting phases of audits.
  - b. First and second-tier accounting firms have either considered or obtained engagement with clients with a cryptocurrency business or that use a blockchain platform. Potential and actual clients involved in crypto business, however, are expected to be a minority relative to total number of clients.
  - c. There is a perception that blockchain technology has peculiar characteristics, which could require a distinctive audit methodology. Specifically, blockchain impacts on the whole information technology architecture, which entails an understanding of its effects on financial reporting systems.
  - d. Identified risks borne by the use of blockchain technology relate to the governance of blockchain applications, and democratization of the blockchain network; classification and reporting of cryptocurrencies, and, capitalization of blockchain technology development costs.
  - e. Obtaining sufficient, relevant and reliable evidence could be very resource-intensive to include both compliance and control-based verifications, and, substantive testing. The latter could require the auditor being part of the eco-system.
  - f. There is an identified challenge in the reporting of cryptocurrency in client's financial statements given the absence of accounting standards on cryptocurrency.
2. Implications for accounting professional development and education -
  - a. Accounting bodies in Australia recognize that accounting practitioners and students need to be familiar with blockchain technology, particularly, how it will impact on organization processes, governance and accounting practices.
  - b. Accounting and auditing standards relating to cryptocurrency and the use of blockchain technology, and, standards on interoperability of blockchain applications are yet to be developed or agreed upon.
  - c. As blockchain technology and its applications continue to evolve, government entities have been issuing guidelines and information. For example, Treasury has released an issues paper on the opportunities and risks arising from initial coin offerings (Treasury 2019), AUSTRAC (2018) has implemented new laws for digital currency exchange providers, and ASIC (2019) released information and guidelines on the evaluation of distributed ledger technology and on initial coin offerings and crypto-assets. ATO (2019) has provided guidance about the potential application of the Corporations Act 2001 to businesses that are considering raising funds through ICOs and guidelines on the tax treatment of crypto currencies.
  - d. With regard to recognising blockchain expertise, there are initiatives to grant micro-credentials through learning modules and online courses. RMIT for example, piloted a blockchain focused short course titled 'developing blockchain strategy' to mid-career professionals (DISER 2020).

## Conclusions

Blockchain technology is perceived to potentially cause fundamental changes to the operation and management of business and financial transactions, inter-firm collaborations, the audit of financial statements and business models of accounting firms. For these changes to happen, regulatory frameworks and standards; adequate skills and capabilities, and, audit methodologies are required. It is still early days in Australia in regard to the use and impact of blockchain technology on business, financial and audit transactions. Work on this front is expected to ramp up with the recent release of national blockchain roadmap (DISER 2020).

Recognizing opportunities to develop and offer high value advisory services, accounting firms in Australia are already building blockchain capabilities and skills. Firms continue to pursue a technology-focused and multi-disciplinary approach to providing client services. There are education providers that are developing micro-credentials and introducing courses and modules on blockchain thereby contributing to skills development in Australia.

Blockchain technology is still evolving and yet to take a foothold in Australian businesses. Predictions that accountants and auditors will become obsolete because of blockchain are greatly exaggerated. There appears to be a strong view amongst practitioners that blockchain technology cannot replace, for example, judgments relating to financial transactions by accountants and auditors. In addition, the integrity of transactions on blockchain platforms would need to be verified. Blockchain applications once verified to be trust-worthy, are, however, expected to replace procedural and labor-intensive tasks like reconciliation of transactions.





# References and further reading

Australian Government the Treasury (2019) "Initial coin offerings," Issues paper, Commonwealth of Australia.

Australian Securities and Investments Commission (ASIC) (2019) "Initial coin offerings and crypto-assets (INFO 225), retrieved from <https://asic.gov.au/regulatory-resources/digital-transformation/initial-coin-offerings-and-crypto-assets/> (accessed on 12 Feb 2020).

Australian Taxation Office (ATO) (2019) "Tax treatment of Crypto-currencies," retrieved from <https://www.ato.gov.au/general/gen/tax-treatment-of-crypto-currencies-in-australia---specifically-bitcoin/> (accessed on 12 Feb 2020)

Australian Transaction Report and Analysis Centre (AUSTRAC) (2018) "New Australian laws to regulate cryptocurrency providers," retrieved from <https://www.austrac.gov.au/new-australian-laws-regulate-cryptocurrency-providers> (accessed 30 November 2019).

Dai, J. and Vasarhelyi, M.A. (2017), "Toward Blockchain-Based Accounting and Assurance", *Journal of Information Systems*, Vol. 31, No. 3, pp. 5-21.

Deloitte (2016), "Blockchain: enigma, Paradox, Opportunity", available at: <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/financial-services/deloitte-nl-fsi-blockchain-engima-paradox-opportunity-report.pdf> (accessed 3 May 2018).

Department of Industry, Science, Energy & Resources, Australian government (DISER) (2020), *National Blockchain Roadmap: Progressing towards a blockchain empowered future*, Canberra: Commonwealth of Australia.

KPMG (2018), "KPMG and Microsoft Blockchain Services", available at: <https://home.kpmg.com/xx/en/home/insights/2016/09/kpmg-and-microsoft-blockchain-services.print.html>, (accessed 3 February 2018).

Institute of Chartered Accountants of England and Wales (ICAEW) (2017), "*Blockchain and the Future of Accountancy*", available at: <https://www.icaew.com/-/media/corporate/files/technical/information-technology/technology/blockchain-and-the-future-of-accountancy.ashx> (accessed 3 May 2018).

Richins, G. Stapleton, A., Stratopoulos, T.C. and Wong, C. (2017), "Big Data Analytics: Opportunity or Threat to the Accounting Profession?", *Journal of Information Systems*, Vol. 31 No.3, pp. 63-79.

Tan, B.S. and Low, Y.L. (2019), "Blockchain as the Database Engine in the Accounting System", *Australian Accounting Review*, Vol 29, No. 2, pp.312-318.

## Further reading

Carlin, T. (2019) "Blockchain and the journey beyond double entry," *Australian Accounting Review*, 29(2), pp. 305-311.

CPA (2019) *2019 blockchain symposium: expert insights indicate growing use cases and value for the technology*, available at: <https://www.cpa.com/reports/2019-blockchain-symposium-experts-insights-indicate-growing-use-cases-and-value> (accessed 12 Feb 2020)

# Acknowledgments

The authors would like to thank The University of Sydney Accounting Foundation for funding this project. We would also like to thank all the interviewees who generously shared their time and views with us.

## Author(s), Author Affiliation, Author email address

---

Associate Professor Maria Cadiz Dyball,  
Discipline of Accounting,  
The University of Sydney Business School,  
The University of Sydney  
Email: maria.dyball@sydney.edu.au

Associate Professor Ravi Seethamraju,  
Discipline of Accounting,  
The University of Sydney Business School,  
The University of Sydney  
Email: ravi.seethamraju@sydney.edu.au





If you want to collaborate with The University  
of Sydney Accounting Foundation on an engaged  
research project, please contact:  
[business.accountingfoundation@sydney.edu.au](mailto:business.accountingfoundation@sydney.edu.au)

For more information on what we do, please visit:  
[sydney.edu.au/business/our-research/research-  
areas/accounting/accounting-foundation.html](https://sydney.edu.au/business/our-research/research-areas/accounting/accounting-foundation.html)