



Ethics, Blockchain, Internal Controls

as considered in COSO Research Paper

“Blockchain and Internal Control”

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IESBA June 10, 2021 Presentation Agenda

- Introductory comments
- About 2020 COSO *Blockchain and Internal Controls* Research Paper¹
 - Background and Key Insights
 - Implications for Ethics and Organizational Culture
- Related Issues Beyond the COSO Research paper
- Concluding Remarks
- Q&A

¹ <https://www.coso.org/Documents/Blockchain-and-Internal-Control-The-COSO-Perspective-Guidance.pdf>

From Pre-reading: Key Insights from Exec. Summary

1

Information about blockchain in the news and on the Internet is often misleading or incorrect.

2

Blockchain encompasses far more than digital assets; the benefits it can bring to an organization can be substantial.

3

Blockchain is, however, not “magic”, comes at a cost, and doesn’t eliminate all risks; in fact, it introduces new risks.

4

Knowing how blockchain works is crucial for evaluating, preparing for and managing blockchain’s impact on internal control and the

5

Blockchain has both technology and governance implications.

We are not talking about a technology of tomorrow; Blockchain is already here.

6

Blockchain will not make management, accountants, or auditors less relevant, although it will impact what they do and how they do it.

7

Blockchain requires new skillsets (e.g., data science for greater insight and foresight) and new collaboration within and across organizations.

8

Now is the time to educate and engage stakeholders throughout the organization.

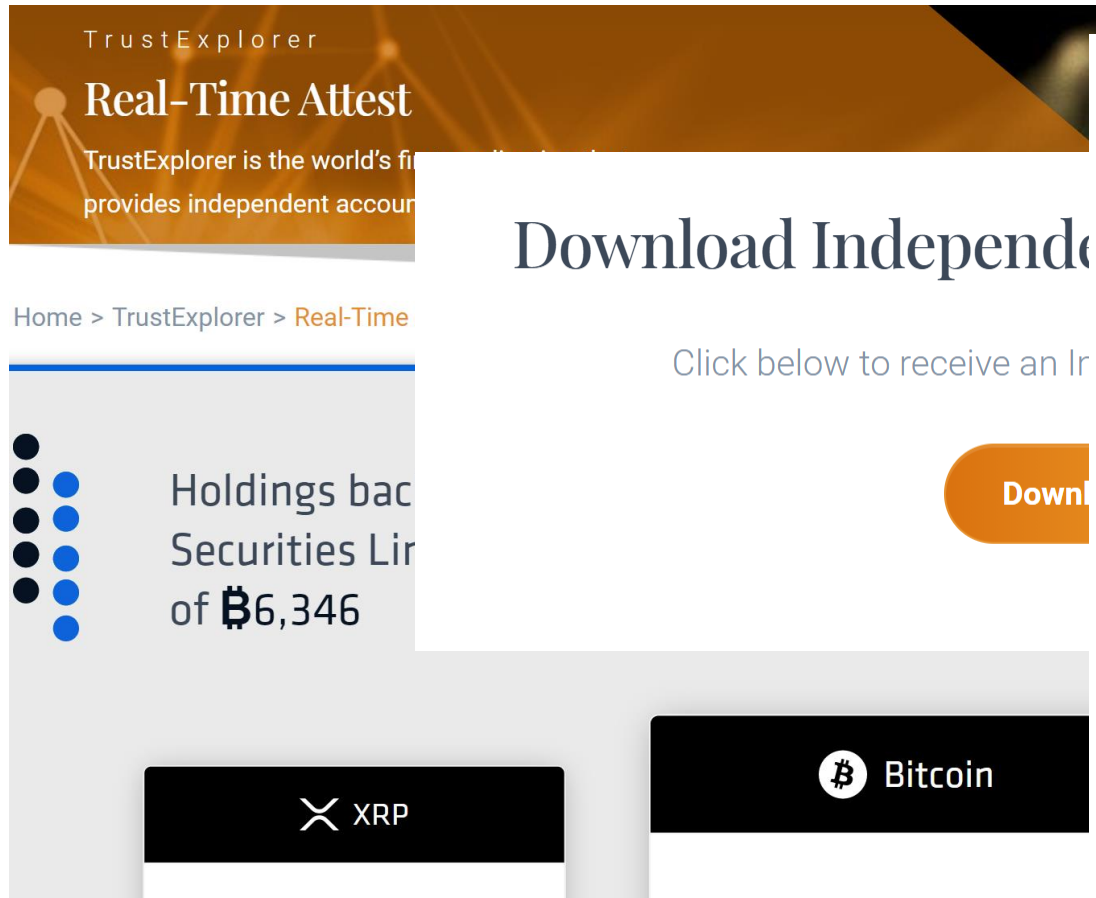
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Blockchain is still in flux and continues to evolve.

10

Adoption of blockchain may not be a choice.

Change is Here Already: TrustExplorer



The screenshot shows the TrustExplorer Real-Time Attestation interface. At the top, it says 'TrustExplorer Real-Time Attestation' and 'TrustExplorer is the world's first... provides independent account...'. Below this is a navigation bar with 'Home > TrustExplorer > Real-Time'. The main content area features a section titled 'Holdings back Securities List of \$6,346' with a 'Download' button. Below this is a table with two columns: 'XRP' and 'Bitcoin'. The 'XRP' column has a black bar with the XRP logo and 'XRP' text. The 'Bitcoin' column has a black bar with the Bitcoin logo and 'Bitcoin' text.

We were engaged by CoinShares to perform this agreed-upon procedures engagement and conducted engagement in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination or review engagement, objective of which would be the expression of an opinion or conclusion, respectively, on the Security and digital assets balances represented by CoinShares. Accordingly, we do not express such an opinion or conclusion. If we performed additional procedures, other matters might have come to our attention that would have been reported to you.

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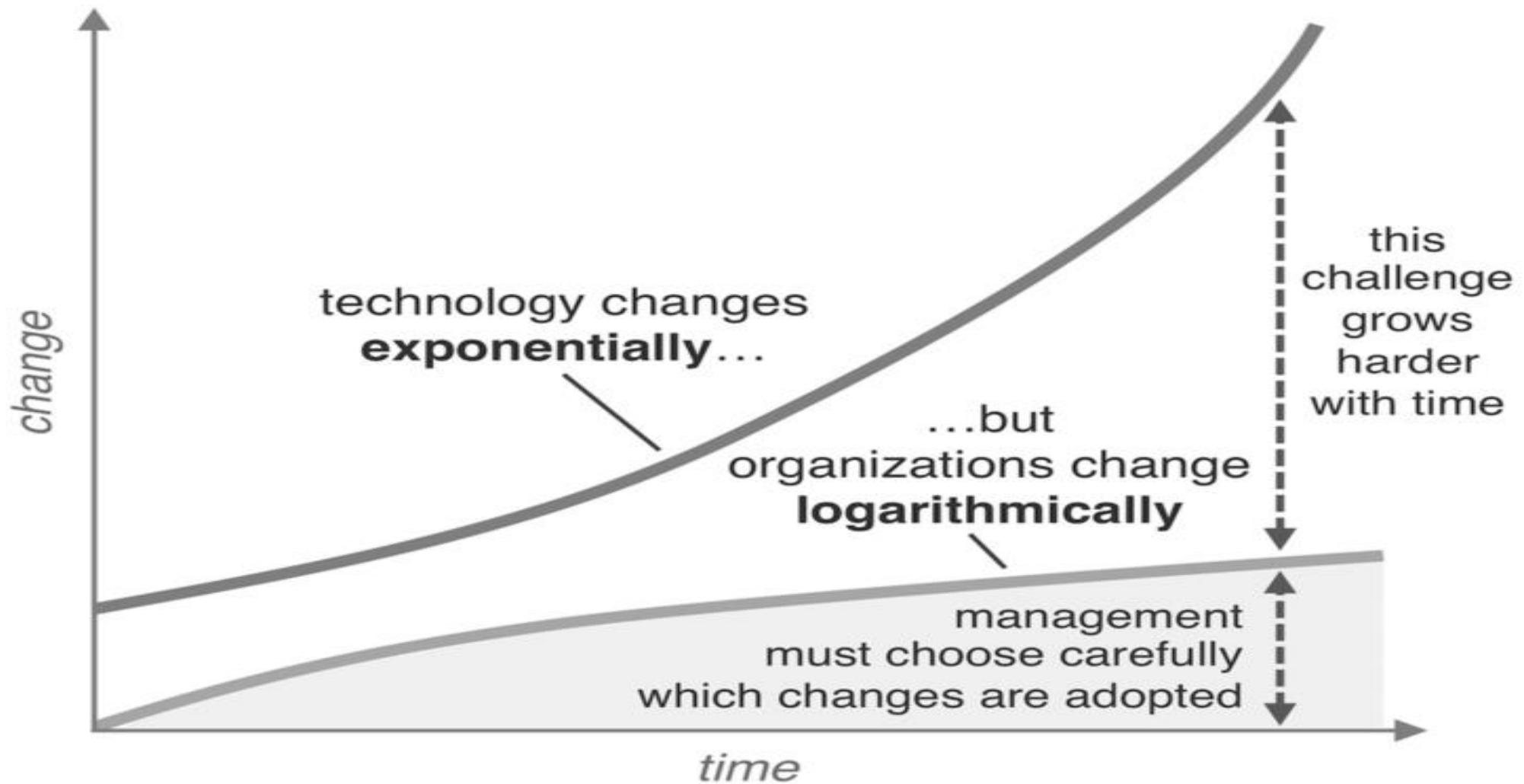
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<https://real-time-attest.trustexplorer.io/coinshares/physical>

Environmental Scan: Tracking Change

- Setting the stage
 - Blockchain is here and impacting the world more quickly than we can adapt
 - Martec's Law, technology advances exponentially, organizations change only logarithmically and standard setters are forever playing catch up
 - Automation/other biases
 - Increased Efficiency does not imply increased Effectiveness
 - IESBA Exploring the Code Installment 11 *Focus on Bias*
 - Internal Controls are the very DNA of the organization
 - The Control Environment will affect how blockchain is integrated into the organization
 - Blockchain will have an impact on the Control Environment for organizations
 - IC components: Risk Assessment, Control Activities, Info & Comm, Monitoring also apply



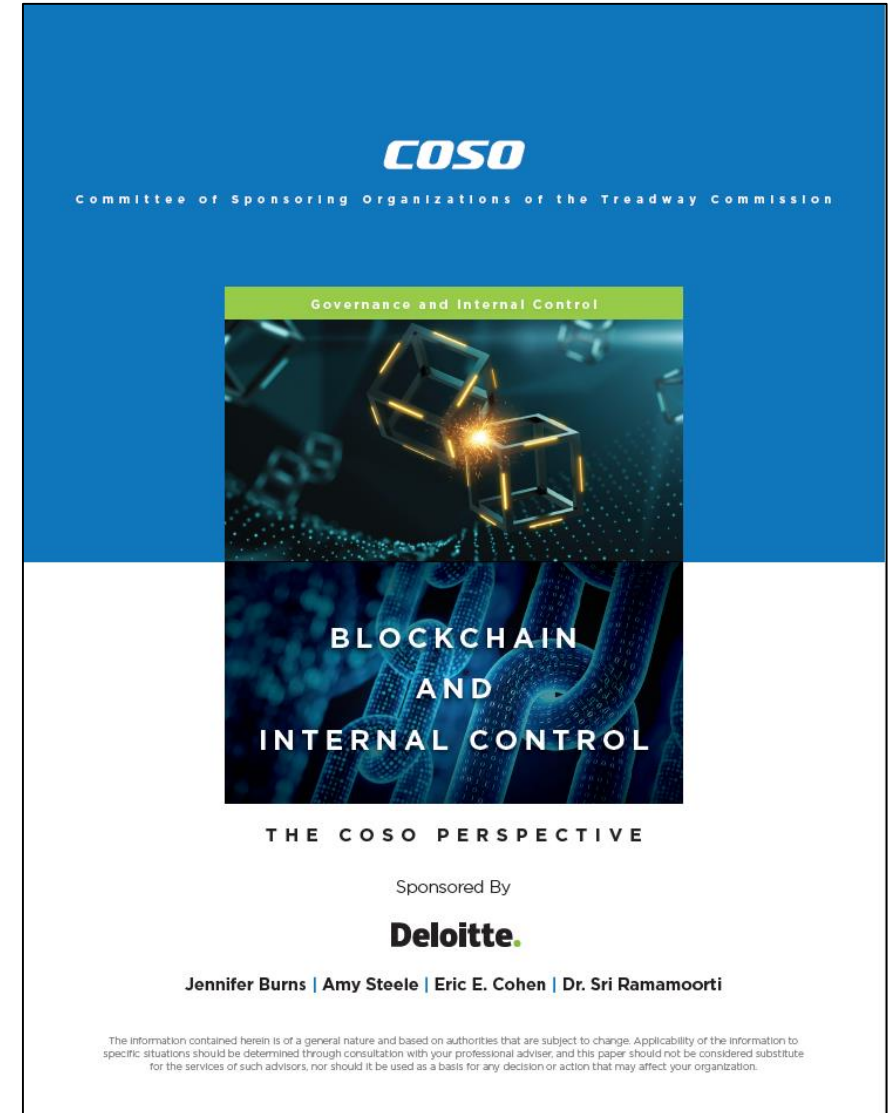
Source: Chief Martec aka Scott Brinker, [Martec's Law - Only Dead Fish](#)

About the 2020 Research Paper

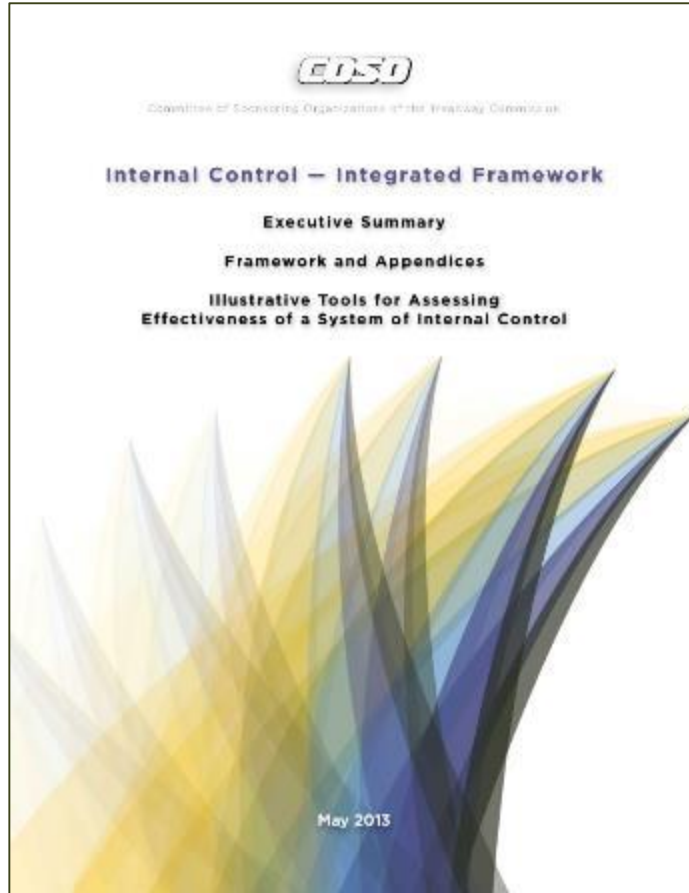
Blockchain and Internal Control

The COSO Perspective

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COSO's Internal Control: Integrated Framework



Control Environment

1. Demonstrates commitment to integrity and ethical values
2. Exercises oversight responsibility
3. Establishes structure, authority and responsibility
4. Demonstrates commitment to competence
5. Enforces accountability
6. Specifies suitable objectives
7. Identifies and analyzes risk
8. Assesses fraud risk
9. Identifies and analyzes significant change
10. Selects and develops control activities
11. Selects and develops general controls over technology
12. Deploys through policies and procedures
13. Uses relevant information
14. Communicates internally
15. Communicates externally
16. Conducts ongoing and/or separate evaluations
17. Evaluates and communicates deficiencies

Control Environment – Example Impacts

Ethics/Organisational Culture goes here

Control Environment - Principles

- | | | | | |
|--|--------------------------------------|---|--|----------------------------|
| 1. Demonstrates commitment to integrity and ethical values | 2. Exercise oversight responsibility | 3. Established structure, authority, and responsibility | 4. Demonstrates commitment to competence | 5. Enforces accountability |
|--|--------------------------------------|---|--|----------------------------|

Enhancements

- Avoid human error and combat transactional and reporting fraud.
- Cryptographically-verifiable immutability and irreversibility.
- Real-time financial reports due to increased visibility.
- Timelier identification of deviations from organization's standards of conduct
- **May facilitate removal of management's manual intervention from processes**

New Threats/Risks

- **Threat that a permissionless blockchain may be used for unethical exploits.**
- Decentralization and lack of a central intermediary, system or oversight body
- Depending on nature of the blockchain and the fellow blockchain participants, an organization may face reputational risk
- Competent personnel are hard to find, and a commitment to competence is difficult to guarantee or assess

Mitigation

- Develop a code of conduct which governs the conduct of parties within a blockchain and establishes guidelines for addressing noncompliance
- Consider expectations regarding outsourced service

Paper covers potential *enhancements* blockchain can offer, new **risks and threats**, and approaches to mitigate the risks

Note: there is a reciprocal relationship between blockchain and the internal control environment.

- Define degrees or levels of responsibility and authority surrounding the blockchain technology
- **Establish clear reporting lines for consortium or private blockchains which identify individuals or a group responsible for handling disputes, if not built into the underlying protocol**

Blockchain and Internal Control: The COSO Perspective

Key Takeaways Regarding Ethics from COSO Research Project Activities

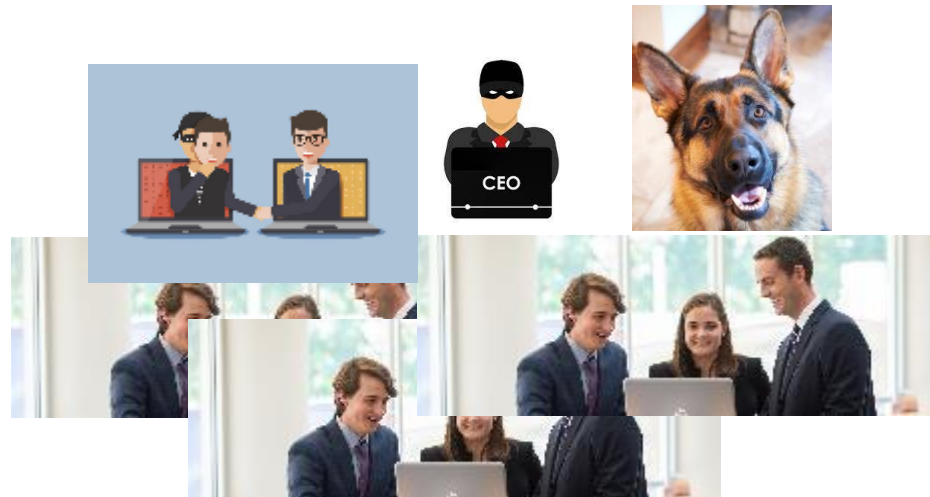
- Relevant References in the Control Environment Component of Internal Control
 - Ethical values
 - Human behaviour
 - Management decisions, integrity, and ethics
 - Perceived and actual ethical practices
 - Keeping Ethical issues top of mind
- Risks of unethical exploits exacerbated in permissionless blockchain

Beyond 2013 Framework to 2017 (ERM)

- Issues of ethics and culture expanded on in 2017 *Framework*, possible *add-on to COSO Research paper*
 - Principle 1. Demonstrates commitment to integrity and ethical values
 - <https://www.coso.org/documents/coso-crowe-coso-internal-control-integrated-framework.pdf>
 - *[O]rganizational culture and business ethics play integral roles in compliance risk management*
 - <https://www.coso.org/Documents/Compliance-Risk-Management-Appling-the-COSO-ERM-Framework.pdf>

Multi-dimensional Consideration

- Analysis at different levels
 - What is **inherent to** the technology
 - Blockchain alone; Blockchain PLUS (p 2)
 - **Application** of the technology
 - **Institutional** and **Societal** adoption, impact, change
- Key change – **blurring of lines** across enterprises, across regions, laws, cultures



Management
override in a
global context

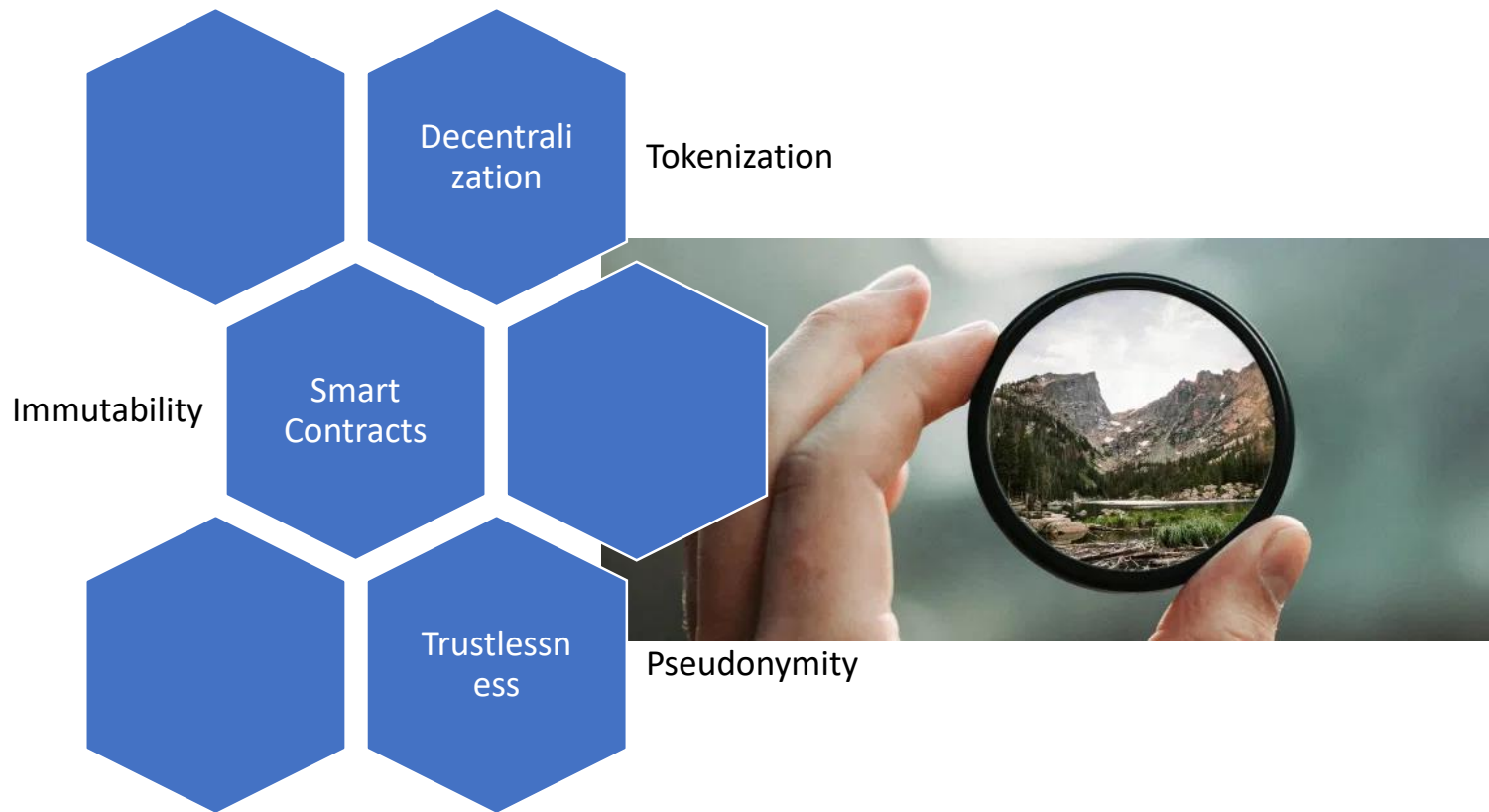
Broad Consideration Beyond ICFR

- Technology
- Application
- Institutions and Society



- Privacy, accuracy, security, and digital rights
 - Misconceptions and “ownership”
 - Misconceptions and immutability, validation – <https://cryptograffiti.info/>
- Pre-reading: Blockchain’s distinctive characteristics (unique vs amplified)
 - Glossary included references to tokens, smart contracts, pseudonymity, consensus mechanisms, and using the **IESBA framework** as a lens

Technology, Application, Society and Institutions

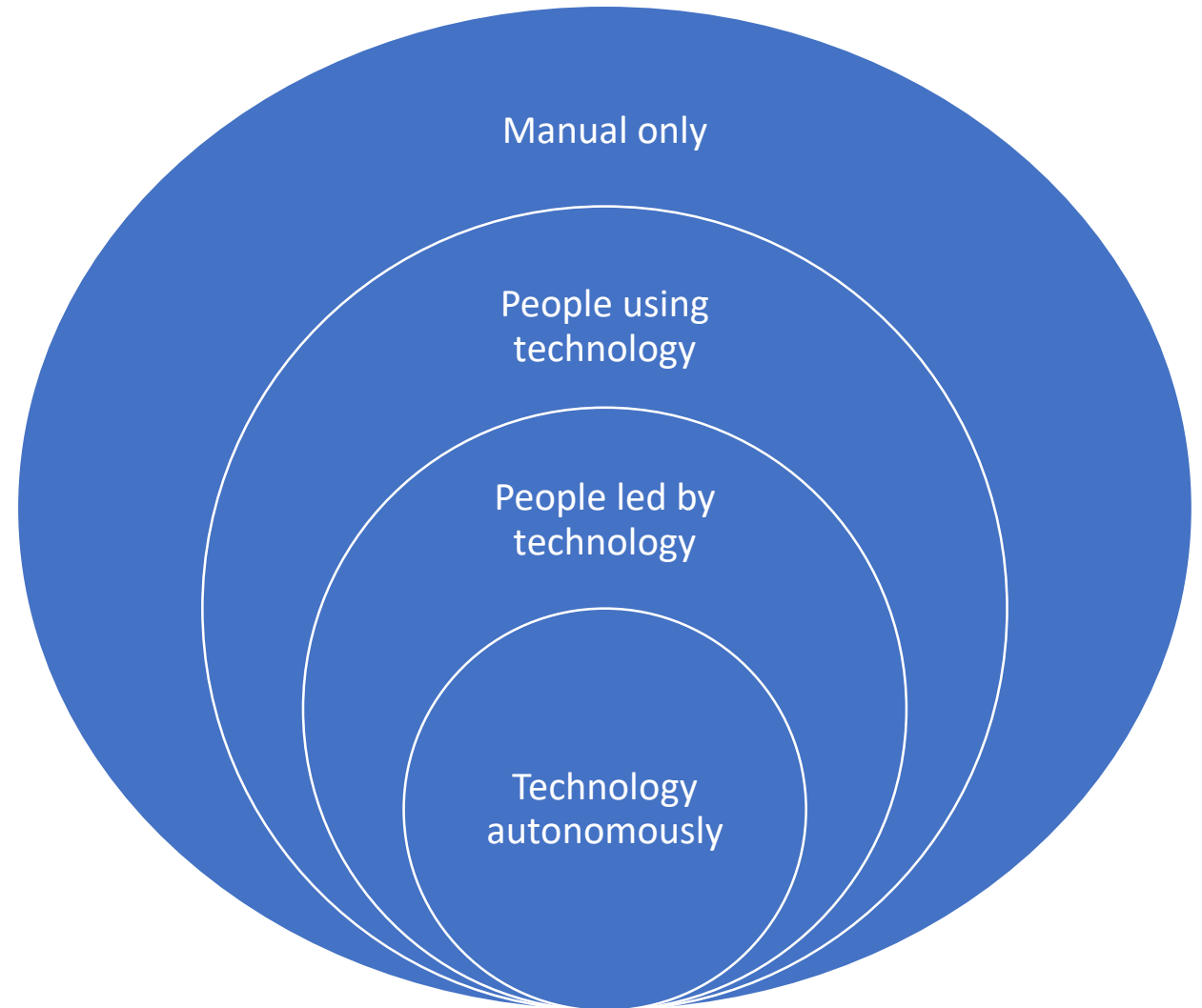


Topic
Peer-to-peer (no central intermediary)
Description
*Rather than being stored on a central computer, processing and data is shared on a number of computers (called "nodes") recording the public history of transactions and sharing computational responsibilities, with little coordination.
Definition Source
Derived from https://bitcoin.org/bitcoin.pdf
Integrity
Objectivity
Professional Competence and Due Care
Confidentiality
Professional Behaviour

Beyond Blockchain Alone: Human Intelligence/Machine Intelligence

Human aspects; HCI

- Supplemented
- Blockchain +/-plus
- Supplanted



Additional Observations

- You cannot effectively manage, account for, or audit what you don't understand (what blockchain plus accelerates)
- Blockchain and other emerging technologies pose a competency threat for the profession
- Sources of risk for PAIB and PAIPP
 - within the organization (business or public practice)
 - within the client's environment
 - individual PAIBs
 - Individual PAIPPs

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Conclusion

- As noted in IESBA TWG Phase 1 Report, and already reflected in upcoming updates, technology is impacting ethics and culture
- Blockchain alone and in conjunction with emerging technologies may change business in evolutionary and revolutionary ways
- Blockchain is not tomorrow's problem; the impact is already being seen
- **Design thinking mindset** to cope with and benefit from the change
 - Dennis Gabor: "The future cannot be predicted, but futures can be invented."

Questions?



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