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Entitled
ESTABLISHING BLOCKCHAIN-RELATED SECURITY CONTROLS
by
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Abstract
Blockchain technology is a secure and relatively new technology of distributed digital ledgers which is based on interlinked blocks of transactions. There is a rapid growth in the adoption of the Blockchain technology in different solutions and applications and within different industries throughout the world, such as but not limited to, finance, supply chain, digital identity, energy, healthcare, real estate and government. Blockchain technology has great benefits such as decentralization, transparency, immutability and automation. Like any other emerging technology, the Blockchain technology has also several risks and threats associated with its expected benefits which in turns could have a negative impact on individuals, entities and/or countries. Due to the absence of a solid governance foundation for managing and mitigating such risks and the shortage of published standards to govern the Blockchain technology along with its associated applications. In line with the "Dubai Blockchain Strategy 2020" and "Emirates Blockchain Strategy 2021" initiatives, this thesis aims to achieve the following: first, preservation of the confidentiality, integrity and availability of information and information assets in relevance to Blockchain applications and solutions implementation across entities and the country, and second, mitigation and reduction of related information security risks and threats; through the establishment of new information security controls specifically related to the Blockchain technology which have not been covered in International and National Information Security Standards which are ISO 27001:2013 Standard and UAE Information Assurance Standards by Signals Intelligence Agency (formerly known as the National Electronic Security Authority). Finally, performing Risk Assessment and Risk Treatment on Blockchain use cases; to determine their involved risks with respective to security controls appropriately. Therefore, applying relevant security controls on the Blockchain solutions and applications, will mitigate relevant information security risks and consequently protect the information and information assets from unauthorized disclosure, modification, and destruction.

Keywords: Blockchain technology, standards, security controls, information security, security governance.