

Abstract

With the advent of the global financial crisis in 2008, an unknown entity, Satoshi Nakamoto, published a whitepaper detailing the concept of a distributed ledger technology platform: Bitcoin. Over the last ten years, Nakamoto's initial idea has evolved and sparked various follow-up technologies taking advantage of peer-to-peer networking, fast internet based data exchange and advanced cryptography. Transactions and data stored in a distributed ledger are considered to be immutable and tamperproof, while also allowing verification by other members of the network. In this, the technology appears to be the ideal solution to prevent data mismanagement. This research attempts to provide a solution to bank failure caused by information mismanagement. It explores banking failure via publicly available data in the United States of America and Europe, as well as individual cases of information mismanagement at Lehman Brothers and Anglo Irish Bank. Based on an extensive literature review of distributed ledger technology, information management and associated technologies, as well as an analysis of contract law, the thesis discusses improvements to financial services data management, the auditing process and regulatory access to data utilizing Blockchain based smart contracts. Additionally, based on a case study of Bitcoin, it discusses disadvantages of distributed ledger technology, such as environmental impact via demands on energy consumption. It appears Blockchain and similar technologies will play an important role in addressing banking failure in the future, once the technology advances sufficiently.