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Blockchain Series #3: Blockchain and Distributed Ledger Technology (DLT) – The Rationale

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Blockchain has the potential to address business problems, create new services, deliver new capabilities and transform existing processes. As previously discussed, the hype associated with blockchain can be misleading. Combine the hype with fear-of-missing-out (FOMO) and you have a perfect recipe for early adoption failure. Trying to rationalize an approach to blockchain adoption seems difficult, but there are reasonable guidelines that, when followed, will help identify where this type of distributed ledger technology can bring value. Given the irrational exuberance related to blockchain technology, it is not uncommon to hear examples of how innovative businesses are using (or misusing) blockchain.

Start with Identifying Use Cases

McKinsey and Company, a global management consulting firm, states that valid blockchain use cases tend to fall into one of two categories: record keeping or transactions.[1] Record keeping use cases always involve a reliable, immutable and trusted storage of a document or record. When these records are cryptographically signed, it becomes possible to reliably associate one or more identities with the record and to protect them from being improperly exposed to someone who should not have access to them. Many record keeping use cases also leverage "smart contract" capabilities that allow various types of automation to be triggered whenever a new record is written to the blockchain.

Transaction use cases typically involve some type of registry for exchangeable information. These use cases typically include some form of payments infrastructure by which transaction costs can be settled. This usually involves some type of cryptocurrency. Sometimes the cryptocurrency is a token built into—and is part of—the blockchain. In other cases the transaction blockchain will leverage a general-purpose cryptocurrency like bitcoin or litecoin.

Evaluate Use Cases against Key Factors

When evaluating blockchain use cases, it is helpful to consider three important business factors: ecosystem, standards and regulations and performance requirements.

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Ecosystem – Blockchain can benefit an interdependent collection of parties by reducing transactional friction, lowering transaction costs, enabling trust and improving transparency. In some cases, it can create digital value through digital assets and currencies. However, this interdependency amongst parties, while essential, is not enough to justify a good use case—the inability to agree on standards or other requirements will result in frustration and lack of agreement on the path forward.

Standards and regulations – There is complexity and risk associated with coordinating third parties. Complexity and risk are compounded if these parties operate in other industries that are governed by different standards and regulations. An ideal use case should not require agreeing on standards and regulations with third parties; however, most blockchain use cases do involve an ecosystem of interdependent third parties. Hence, understanding all regulatory compliance issues and reaching agreement on standards should be viewed as an essential prerequisite.

Performance requirements – Blockchain technologies can introduce unacceptable amounts of latency into a process or transaction. If your use case requires the use of a public consensus mechanism like proof-of-work, then you will need to make certain that your design solution meets the performance requirements of your use case. In some cases, performance requirements may only be met by adopting a permissioned, or private, blockchain.

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1. McKinsey and Company, *Blockchain beyond the hype: What is the strategic business value?* June 2018.