

The Impact of Blockchain Technology on the CFO Function

Abstract

It should interest and amuse finance professionals that the latest buzz in the financial services industry – blockchain – has at its core, a ‘ledger’. Next-generation technologies such as data warehouses, marts, and lakes, have entered into the space traditionally governed by accounting general- and sub-ledgers. As the basis of business Intelligence, statutory, prudential, regulatory, and management reporting, these systems are finding immense use at financial services firms. Strategizing, planning, budgeting, and decision-making are often based on underlying data, which is drawn, filtered, aggregated, and reconciled from an array of source systems.

Emerging technologies like distributed ledgers and blockchain offer the possibility to supplant conventional ledger systems and business intelligence (BI) techniques. With these technologies, information flow can be streamlined and the whole hierarchy of information can be flattened and standardized. This in turn improves transparency for all stakeholders (contracting parties, managers, shareholders, and industry regulators). In this article, we discuss the impact of blockchain on the banking CFO function, and highlight the future potential of this path-breaking technology.

How a Distributed Ledger Works

The distributed ledger is a portfolio of ledgers and technologies. It is almost the antithesis of the centralized information ledgers that exist today, which are more suited to hierarchical organizations. The variations include distributed, un-permissioned, permissioned, and shared (public or private) ledgers. There is the consensual distributed ledger, which is managed by a confederation of participants (contributors to a ledger transaction) who consent and agree to transactions, and then there are those where encrypted transactions are blocked together by corroborating participants.

The participants need to access the ledgers through access 'nodes', which are controlled by encryption standards for identity and authorization management, namely, 'keys'. Given the capabilities of current technologies to handle information or data reserves, networking, processing and encryption algorithms, the node is significantly empowered. The distributed ledger conceptually runs on all participating nodes and the latter can exercise business logic through algorithms called 'smart contracts'. Encryption technologies enable new definitions or consensus of value for exchange and trade.

The rapidity of information flow can influence financial statements – their representation in terms of periodicity, notions of accrual accounting, conventional currency, and digitally encrypted valuations, and the ability to use authenticated information for dynamic planning and decision-making.

Let us look at how the blockchain technology can potentially impact the CFO function at banks.

Financial Compliance through Participant Consensus on Standards

Standard-setters (including accounting bodies and regulatory agencies) often face challenges in implementing a common conceptual framework across

geographies. A universally accepted framework will result in financial statements that are verifiable, consistent, transparent, relevant, comparable, timely, and faithfully represented – the basic characteristics to ensuring and maintaining trust between stakeholders.

Most conventional accounting systems, including ERP ledgers, provide the capability to manage and consolidate financial accounting across multiple entities, currencies, and standards. However, the complexity of transactional source systems and changing accounting standards and regulations reflect the rigidity of these applications and the sub-systems on which they depend.

The fundamental principle of consensus across ledger participants, provenance of data and sources, and the transaction's immutability once recorded in the distributed ledger can ensure that the information is in accordance with the essential attributes of accounting frameworks that have been listed above.

The blockchain technology offers the possibility to embed smart contracts with consensus-based accounting standards that are applicable across the banking industry. For example, transactions for financial instruments can be recorded by the standards set by the IFRS or the US GAAP for recognition, classification, measurement, impairment, hedge accounting, and so on. This is done through suitable algorithms built into the smart contracts designed for the instruments.

All this implies that consensus among stakeholders—auditors, regulators, industry bodies, decision-makers, creditors, debtors, and investors – on acceptable norms for recognition, measurement of value, and accounting policies, is achieved. National or global standard-setters may at some point use shared ledgers to automate compliance, at the enterprise level, to standardized accounting practices or regulation through smart-contract algorithms.

Integration of Enterprise Systems to Maintain a Single Version of the Truth

The CFO function primarily maintains the financial accounting ledgers, manages assets and liabilities, controls cost, conducts forecasting and budgeting, and handles treasury functions, while complying with diverse regulatory and management reporting requirements. Organizations which maintain multiple ledger systems have to conduct reconciliation, interfacing, and consolidation of financials for entities across geographies, which is often a costly exercise. Banks have invested substantial amounts on these applications and people for seamless execution of 'run the bank' activities.

The blockchain technology holds great promise for system integration by overlaying the existing legacy estate with the distributed ledger, which can hold a consensual view of information coming in from multiple siloed systems. This would imply building algorithms into smart contracts, in the application interfaces that port data for financial reporting, forecasting, or decision-making purposes. A diverse set of requirements for internal as well as external financial reporting can be met if the authenticity of data required by various stakeholders is ensured.

Dynamic Enterprise Strategy Formulation and Planning

The distributed ledger technology can introduce a certain dynamism into the preparation, execution, and control of enterprise plans with the available historical information and macro-economic data. Additionally, it enables access to nodal information from other shared or permissioned ledgers such as those of suppliers, customers, industry players, regulators, and providers of macro-economic data. It offers opportunities to shorten the budgeting and forecasting cycle, and make it more accurate. Smart contracts would make these linkages dynamic in nature, resulting in recalibrations across the enterprise ecosystem.

The Future of Financial Audits

With the advent of the blockchain technology, authentication and authorization – the two key factors enabling trust – may eliminate the need for auditing a transaction for veracity. Agreed business processes codified into a smart contract within accepted norms and constraints may obviate the need for audits. The ability of this technology to maintain the provenance of assets ensures the audit trail for the transaction. Smart contracts can ensure data consistency in accordance with the standards set by accounting boards, banking regulators, industry bodies, and so on.

There Will Be Some Challenges

Distributed ledgers will improve mutual trust between nodal participants across an enterprise. To derive the maximum benefit from this technology, financial firms may need to overhaul their business processes and redefine the organization hierarchy. Conventional checks and balances including internal controls, as well as authorizations and approvals for transactions will have to be addressed in a 'blockchained' transaction through consensus of all the participants. Even these may not be necessary if smart contracts are developed in a way that the need for conventional processes or incumbent actors are dispensed. Algorithms in conventional financial systems will need to be redeveloped as smart contracts on the distributed ledger. These will include consolidation, restatements, allocations, financial scenario planning and modeling, and of course, the gamut of reporting. However, many conventional automation solutions for inter- and intra-company, as well as finance-risk-operations reconciliations may be rendered irrelevant or unnecessary. Historical financial data will have to be migrated from conventional enterprise systems to the ledger, with requisite authentication. It is definitely not an easy task, but worth the effort.

Conclusion

The blockchain and distributed ledger technologies can revolutionize the way we access financial information. The technology promises significant improvement in speed, transparency, and efficiency of processes, which is required to drive down costs and level hierarchies. It provides a means for direct exchange of value among eligible, authorized contract participants agreeing to the authenticity and immutability of records contained in the distributed ledger, and willing to engage in transactions.

The technology throws open the possibility for organizations, industry bodies, standards-setters, and regulators to transparently view and act on agreed-upon financial information stored in shared ledgers. We believe the CFO function stands to gain immensely, especially on the execution front, owing to the availability of real-time, risk-free financial information. Blockchain-based systems will help break down information silos and dramatically influence the way stakeholders view profits, capital, shareholder value, and financial sustainability.

About The Author

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