

NEW YORK UNIVERSITY
Stern School of Business
Accounting and the Blockchain
Fall 2020 DRAFT

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Class Time: Monday/Wednesdays, 4:55-6:10pm (6 weeks, beginning 9/21)

Course Description:

A few recent predictions in the news:

2016 Deloitte whitepaper: “The blockchain technology has the potential to shapeshift the nature of today’s accounting. It may constitute a way to vastly automate accounting processes in compliance with the regulatory requirements...A cascade of new applications will likely follow that are built on top of each other, leading way for new, unprecedented services.”

Gartner.com Forecast: Blockchain Business Value, Worldwide, 2017-2030 estimates:

“The business value-add of blockchain will grow to slightly more than \$176 billion by 2025, and then it will exceed \$3.1 trillion by 2030.”

This course will cover the many dimensions of the accounting industry that will be impacted by the blockchain technology. We will begin with the history of the existing financial reporting framework, exploring why and how it is open to disruption and improvement from the blockchain. We will then spend subsequent class periods examining specific areas, including financial reporting, auditing, tax services, the regulatory framework (or lack thereof to date) and more.

The course objectives for our class are:

1. Examine the history of the double-ledger accounting system, identifying weaknesses and opportunities for improvement that the blockchain could provide;
2. Research the status of the regulatory agencies across different dimensions, such as the FASB and SEC from the financial reporting perspective and the PCAOB from the auditing perspective;
3. Deliberate on the implications of the blockchain technology on the future opportunities and threats to accounting;
4. Analyse real-world use cases of the blockchain in business, with a particular focus on the accounting improvements and implications;
5. Develop a library of student content to explore, predict and analyse the blockchain impact on accounting in real-time as it evolves.

Required Material:

Many readings for the course will be posted as links on NYU Classes. Students will be expected to find at least 1 current event article to share with the class during the term. Please note that due to the evolving nature of the subject matter, material may be updated as we go through the course.

Course Organization:

The course will be a 1.5 or 2 credit elective, scheduled over 6 weeks. The draft curriculum schedule over 6 weeks is as follows:

Week 1: History and Demonstration:

The origin of the double-entry ledger system with global historical examples of how it was adopted. This lesson will explore why the current system is ripe for change, provide examples of how blockchain is currently being used and the implications for accounting disruption. Demonstrations of how firms migrate ledgers to a blockchain platform. This lesson will provide an intensive review of one of the prominent supply chain shared ledger programs as an integrative example, such as IBM-Maersk Trade Lens or IBM-Walmart Food Trust. Each subsequent lesson will explore 4-5 areas of accounting in detail and how the blockchain will impact it.

Tentative Readings:

- <https://www.icaew.com/technical/technology/blockchain/blockchain-articles/blockchain-and-the-accounting-perspective>
- <https://www.accountingin.com/accounting-historians-journal/volume-25-number-1/the-rise-and-fall-of-debit-credit-bookkeeping-in-china-history-and-analysis/>
- https://www2.deloitte.com/content/dam/Deloitte/de/Documents/Innovation/Blockchain_A%20game-changer%20in%20accounting.pdf

Introduction of an Individual or Team Assignment in Week 1:

Teams will select 1 of the following tentative options to research over the term:

1. Propose/predict a specific industry (of personal interest to the student) that would benefit from the blockchain from an accounting perspective; how and why? What are the objectives from an accounting perspective? Select a specific company that you can use to illustrate (ie, the impact of the blockchain on inventory costing). We will provide an example. Students will select a list of specific industries without overlap.
2. Research an existing use case with an effort to quantify the impact of the new technologies (blockchain, AI, machine learning) before and after; is the blockchain adding value? How do you know? Possibility for students to build a model that could be used to quantify their assessment. For example, is it possible to quantify the savings on accounting and auditing basic reconciliation work? Is it fewer employees, reduced costs, increased revenues, reduced fraud risk? This should include both quantitative and qualitative variables.
3. Interview a company that has recently implemented or is considering implementing the blockchain and document their process. How does a company assess the pros and cons? What is the existing process, how will it change, what is the expense in implementing? How are they quantifying the risks and benefits? Is it worth it, especially if you are a small company?

Ultimately, I would like to create a blog where students can post their research projects, solicit feedback from businesses and potentially present to the businesses. This blog could evolve each semester and become a resource for the business community and facilitate contact between students and business leaders.

Week 2: Auditing implications:

A brief overview and history of the audit function, the existing regulatory environment and the fee structure. How will this change the audit and how are the auditors preparing? How are the Big 4 influencing the regulation? Will it change how quickly they provide the audit? Will it improve the quality of the audit? Will the requirement for all companies to undergo an audit change? Why is Grant Thornton (a smaller firm) providing assurance for companies that rely on the blockchain but PwC is not?

We will examine the ABC ([Accounting Blockchain Coalition](#)) to understand their role in shaping regulation and their explicit and implicit motives. I will invite guest lecturers from the Big 4 and ABC to participate in this discussion.

Tentative Readings:

<https://www.coindesk.com/accounting-firms-blockchain-tool-claims-to-perform-a-30-second-audit>

<https://www.accountingtoday.com/news/blockchain-makes-advances-but-audit-firms-remain-wary>

Week 3: The Regulatory Environment and Financial Reporting Considerations:

What is the status of the audit regulators (PCAOB) and the FASB/SEC? U.S. versus international regulation differences? What is taking the regulators so long as it seems the train has left the station? Guest lecturers will be invited.

How will use of the blockchain change how companies report? How are the SEC and FASB standards guiding this process? When will there be accounting/GAAP rules to guide the reporting? Privacy concerns? Valuation concerns? Internal Controls to ensure accuracy? Are large public companies embracing it? Guest lecturers will be invited to provide pros and cons (fears and dreams) of adopting the blockchain.

Week 4: Tax Implications and Fraud Implications:

How are tax professionals reacting to the blockchain? Will there be as much room for "creative" tax structuring of transactions? Examples and demos of how it is being used.

Week 5: Other Technological Tools to Change Accounting: AI, Machine Learning, Bots

Demo of an existing use-case (Anheuser-Busch example, IRS could use BC as warehouse of transactions and then AI could quantify the tax implications) and then predictions. Small groups select cases in advance and then provide analyses with the class.

Week 6: Team presentations and debrief