

Transforming Startup Business Models Through Blockchain: Revenue Innovation, Tokenization, and Alternative Financing

Aarav Gupta

Kelley School of Business, Indiana University Bloomington, USA

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Abstract

Beyond the use of blockchain technology for facilitating cryptocurrency transactions, there is now recognition that blockchain technology can provide a suite of tools for innovation in business model design. This paper provides a review of how the inherent features of decentralization, immutability, disintermediation, and programmability through smart contracts can be used by startups to innovate on their current business models and revenue streams. This paper discusses how value proposition, value creation, value delivery, and value capture patterns can be enhanced through blockchain technology, as well as token-based fundraising models such as Initial Coin Offering (ICO), Initial Exchange Offerings (IEO), and Security Token Offering (STO) as an alternative to venture financing. Comparative analysis of traditional business model and revenue streams is compared with those based on blockchain technology. There is also a comparative analysis of the different types of token-based fundraising models as opposed to traditional venture capital and crowdfunding funding sources.

Keywords: *blockchain; business model innovation; startup financing; tokenization; initial coin offering; decentralized finance; revenue strategy*

1. Introduction

Traditionally, start-ups have been limited to a small number of business model archetypes, whether subscription, transaction fees, advertisement or one-time sales, which were funded by venture capital, angel investments or crowdfunding. However, the advent of blockchain technology has enabled an entirely different array of building blocks – namely, decentralized consensus mechanism, tamper-proof data storage and self-executing smart contracts that can facilitate automated transactions without involving any centralized mediator. Initially, blockchain was viewed as a disruption that could change the nature of business models used in banking, logistics and digital economy industries (Zhao, Fan, & Yan, 2016). More recent systematic reviews confirm fast-growing trend towards the implementation of blockchain-powered business models innovations; however, there is still insufficient understanding of such models, especially in terms of the differences in value capture between various blockchain networks, public, private and consortium (Taherdoost & Madanchian, 2023). In addition, for start-ups, blockchain not only enables new operational models, but also introduces novel means of funding, including token sale, which can complement or even replace venture capital funding in many cases. This paper aims at analyzing the upgrade of existing business models through blockchain and its translation into concrete start-up revenue models.

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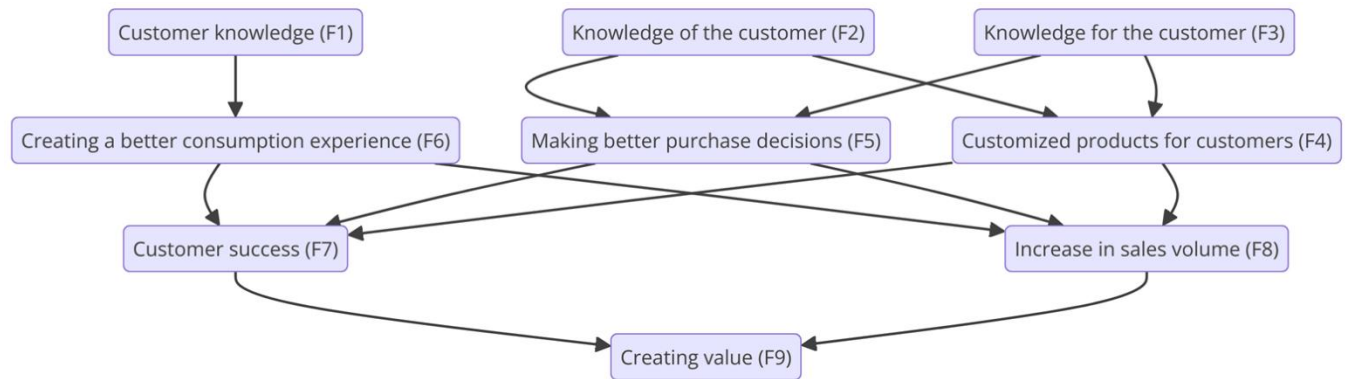


Figure 1. The proposed conceptual model.

2. Blockchain Fundamentals Relevant to Business Model Innovation

The reason why blockchain is important in the design of business models is due to four characteristics that are related to one another. These include decentralization, which helps eliminate single points of control; immutability, which ensures that there is a tamper-resistant ledger of transactions; disintermediation, which enables the transfer of value between parties; and programmability, which enables the enforcement of the rule through smart contracts after certain conditions have been met. In the systematic reviews of blockchain applications in management literature, it has been mentioned that these features help lower transaction costs and build trust among otherwise unrelated parties, forming the basis of completely new types of business models (Tandon et al., 2021).

Table 1. Blockchain Properties and Their Business Model Implications

Blockchain Property	Mechanism	Business Model Implication
Decentralization	No single controlling intermediary	New governance and revenue-sharing structures (e.g., DAOs)
Immutability	Tamper-resistant, append-only ledger	Trust-based value propositions (provenance, auditability)
Disintermediation	Direct peer-to-peer value transfer	Reduced transaction costs, new fee-capture points
Programmability	Self-executing smart contracts	Automated royalties, subscriptions, and escrow-based revenue

3. Blockchain-Enabled Business Model Innovation Patterns

Innovations in business models using blockchain can be discussed in light of the classic value proposition, value creation, value delivery, and value capture framework. Concerning value proposition, blockchain provides startups with opportunities to create value by offering verifiable provenance, transparent auditability, or censorship-resistant access as primary value proposition rather than an add-on to the existing offering. Concerning value creation, decentralized platforms provide an opportunity to co-create value by multiple independent entities, as seen in the case of decentralized autonomous organizations (DAOs) in which token owners govern the platform (Chen & Bellavitis, 2020). Concerning value delivery, smart contracts provide automated delivery of digital goods, royalties, and service-

level agreements without any human intervention. Concerning value capture, blockchain brings completely novel value-capture primitives to the table: transaction fees from decentralized exchanges, token appreciation associated with network usage, and programmable royalty streams that are built into the smart contract itself. Review articles that discuss blockchain-based new business models conclude that the majority of described examples use at least two of those four levers at the same time, and most commonly those combinations include a disintermediated value delivery with tokenization of value capture (Taherdoost & Madanchian, 2023).

4. Blockchain-Based Start-up Revenue Strategies

For early-stage startups blockchain changes both how money is made and how the company gets funded. When it comes to getting money tools like based fundraising, ICOs, IEOs and STOs let new companies get cash directly from people all over the world. They sell tokens instead of going through old middlemen like venture capital companies or big banks (Romero-Castro, Pérez-Pico, & Ulrich 2022). Studies on startups that used ICOs show these tools can bring in money to early venture capital or private equity rounds. Results depend a lot on how clear the information is and whether smart crypto money managers also invest (Hornuf Kück, & Schwienbacher 2021). When it comes to making money from operations startups have added blockchain features to ways of doing business. They take fees from transactions on marketplaces. They use contracts to pay creators automatically every time a digital item is resold. They use staking or yield methods to get money from holding tokens. They let people use subscriptions only if they own a token instead of using regular logins. A list of types of token-based startup systems shows that utility tokens, security tokens and mixed models are the main kinds. Each one has a way of making money and a different set of rules to follow (Tönnissen, Beinke, & Teuteberg 2020). Examples from industries show the same idea is working outside of just financial tech. Blockchain helps create business models in energy groups. It allows people to trade and get paid automatically. This way of making money works for companies that run platforms even if they are not, in finance (Lennard, Di Vaio, Paredes, & Soares 2025).

Table 2. Traditional versus Blockchain-Enabled Startup Revenue Mechanisms

Revenue Dimension	Traditional Mechanism	Blockchain-Enabled Mechanism
Customer payment	Card or bank-mediated transactions	Direct peer-to-peer token or crypto payments
Recurring revenue	Subscription billing via payment processor	Token staking, yield, or access-gating
Creator royalties	Manual contract enforcement and payout	Smart-contract royalties paid automatically
Marketplace fees	Centralized platform commission	Protocol-level transaction fees on-chain
Early-stage financing	Venture capital, angel investment	Token sales (ICO, IEO, STO) direct from investors

5. Comparative Analysis: Token-Based Financing versus Traditional Startup Financing

A direct comparison of financing tools makes it easier to see the choices that startups have when picking between blockchain-based options and regular funding methods. Token-based tools usually help startups get money from investors more quickly and cut down on middlemen costs but they also bring more uncertainty when it comes to rules

and laws. In the case of ICOs there is also a known risk of scams and poor information sharing according to a study by Hornuf, Kück and Schwienbacher from 2021. Venture capital and regular stock financing on the hand take longer to get money but offer more control and support from investors. These options usually come with involvement from investors and more chances, for future funding. Table 3 shows a comparison of four ways to get money based on how fast they are who the investors are, how much regulation is involved and when they are usually used.

Table 3. Comparative Analysis of Startup Financing Instruments

Financing Instrument	Capital Access Speed	Regulatory Burden	Typical Use Case
Venture capital / equity	Slow (months of due diligence)	Moderate, well-established	Growth-stage ventures needing active governance
Crowdfunding	Moderate	Low to moderate	Consumer products with public appeal
Initial coin offering (ICO)	Fast, global reach	High, often ambiguous	Early-stage protocol or utility-token projects
Security token offering (STO)	Moderate	High, securities-law compliant	Asset-backed or equity-like token issuance

6. Challenges and Risks

When you use blockchain to improve a business you face kinds of problems than you would with other digital projects. The biggest problem is that the rules are not clear: there are not laws about blockchain and the laws that do exist are changing. This has led to the creation of ways to protect investors, such as IEOs and STOs. However following these rules can be expensive. Offset some of the benefits of using blockchain.

Some studies have looked at how blockchain's used in supply chains and found other problems. For example it can be hard to get the new blockchain systems to work with the systems that are already in place. It can also be hard to know if the investment in blockchain will pay off in the term.. Sometimes everyone in the industry needs to work together before blockchain can really start to help.

Using blockchain can also create financial risks. For example, if a company uses blockchain to make money the value of that money can go up and down even if the company is doing well. This is because the money is tied to an asset that can change value on its own.

Finally using blockchain often requires a change in how a company is run. Blockchain is about decentralizing power, which means giving more people a say in what happens.. The people who start a company often want to be, in charge and make all the decisions, especially when the company is just starting out and things are changing fast. This can make it hard to use blockchain in a way that really works.

7. Conclusion

Blockchain technology is really good for startups because it gives them ways to make money. They can deliver value to people without needing a man. They can also make rules for how they get paid. It happens automatically. They can get money directly from investors without having to go through the usual people who control the money.

When we compare these ways of making money using blockchain technology to the old ways we see that they are not just faster or cheaper. They are actually different in ways. Startups need to think about how fast they want to move how much they want to follow the rules and how much risk they want to take.

The startups that do the best are the ones that use blockchain technology to make their existing business ideas better, than just using blockchain technology for its own sake. These startups are able to make money in a way that's strong and effective and will last for a long time. Blockchain technology is a tool that helps them do this. Blockchain technology is what makes it all possible.

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