TRADE FINANCE DISRUPTED: PRESENTING A REAL WORLD AND NEAR FUTURE BLOCKCHAIN USE CASE

Efficient global trade of physical goods relies on availability of three key factors: credit, solid logistics and transparent payment. Trade finance addresses the challenges with well-established instruments to issue credit, document the transfer of exported or imported goods and execute subsequent payments. Yet, in spite of its established nature, our clients state that the trade finance business is becoming harder to manage than ever. Why?

To answer this question, we took a deeper look at how trade finance works today. Traditionally, the business has targeted exporters and importers of a certain size. Only mid-range to larger players have been able to afford trade finance services such as issuance of letters of credit and payment services on the buyer’s side, as well as creation of bills of lading on the seller’s side. As practitioners well know, the combination of these two instruments, along with the respective shipping and payment processes, form the foundation of traditional trade finance. But change is, inevitably, heading to disrupt tradition.
Trade Finance Is Ripe For Disruption

There is real potential for significant growth in both the scope of services and the scale on which they are offered. But, as it stands today, the trade finance business is hampered by some key challenges:

1. **Poor customer experience:** The need for a high degree of coordination effort across the complex landscape of exporters, importers, issuing and advising banks leads to adverse effects. These include overly complicated processes, long waiting times with low transparency and high levels of uncertainty, given the increasingly international scope of transactions. Furthermore, importers still face the delivery risk of fraudulent shipments, even if the transaction is backed by the “insurance factor” of a letter of credit.

2. **Increasing cost pressure:** Creation of letters of credit is associated with high costs for both the bank and clients. Dispute resolution can be complex and is also costly. And the current restricted profile of viable trade finance customers means limited scalability. There is little potential within the status quo to reduce costs by building a volume business among an untapped customer base.

3. **Substantial regulatory burden:** Management of geopolitical risks, such as sanctions and trade barriers, together with fraud prevention, KYC and AML requirements are growing as mandatory elements of the trade finance business. This drives up operational overheads even further.

THE CURRENT TRADE FINANCE MODEL HAS BUILT-IN VULNERABILITY

There is vulnerability at the heart of trade finance’s traditional focus on transactions that can be highly complex, global in scope, and expensive to execute. The business seriously and urgently needs significant reductions in cost and fresh sources of revenue. These will provide a broader and more stable footing going forward.

Building an Open, Automated and “Trustless” Platform

One strong potential solution lies in breaking out of trade finance providers’ traditional confines and thinking across the wider landscape. But for this to happen, previously closed systems need to open up. In fact they must, if banks realistically expect to harness untapped market potential. If they don’t, disruptive niche players will exploit it instead, leveraging innovative technology based solutions. Meaningful change demands nothing short of a paradigm shift. The move will be away from only providing a bespoke service to a limited set of clients who can afford high fees. By contrast, Capco Digital envisions a marketplace where any exporter or importer can easily and quickly gain access to credit issuance or advisory services.

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1 Bank for International settlements, 2014: Trade finance: developments and issues
For this vision to become reality, a new platform for executing trade finance transactions is required. It needs to be open, automated and so transparent that parties don’t have to rely purely on trust. So what are the needs of the key groups of actors that will shape the new platform?

- **Trade finance operations teams** need to process transactions quickly and reduce overheads from daily operations, so that they can focus skill and experience on handling disputes.

- **Exporters and importers** need to be able to apply for credit and ensure payment without complicated agreements. They also need to track the status of a transaction at any point in time.

- **Logistics providers** need to understand when goods can be picked up, shipped and delivered without violating contractual terms set by their customers.

Finally, any financing intermediaries involved need full transparency to minimise risk. In the exhibit below, we show an overview of the role an openly accessible platform approach could play in meeting all these needs.

*Figure 1. The role of an openly accessible platform in streamlining and optimising trade finance processes.*
A platform that is open to all involved parties would produce at least two very significant operational advantages:

- **Self-service “à la carte” contracts:** The platform provides an API for standard contract creation. Exporters and importers can build their contracts through any website that uses the platform’s openly available API. They can apply predefined templates or building blocks to ease the creation of contracts.

- **Conditional payment & settlement gateway:** The platform allows for financiers, logistics intermediaries and bank operations to track and execute the transaction according to its contractual terms. Any trade finance operational software solution can be adapted to use the new gateway.

This type of platform should also aim to provide **transparency** of trade finance transactions among the parties involved and in real-time. Crucially, this will **reduce** the requirement for trust by minimising counterparty risk from the outset.

In practice, an incumbent or consortium of incumbents would build such a platform. It would scale easily, given the open availability of incumbent-developed APIs to help gradual adaptation of existing solutions. It could integrate with existing offerings by addressing specific market segments - such as mid-complexity deals. (Legacy systems and processes would continue to serve the traditional, highly customised letter of credit business.) The platform would very effectively tap fresh market potential by serving a new (and prolific) profile of trade finance customers. It would also drive competitiveness through a standardised protocol and ease of use. This would add to the pressure on incumbent banks to innovate beyond today’s commodity trade finance services.

**Blockchain’s Potential – Significant When Properly Applied**

So how does the blockchain approach address the challenges and start to realise the opportunities? Blockchains are effective in scenarios where a confirmed sequence of events is business critical. And they work very well where predetermined business logic needs to be respected by multiple nodes in a network, with no scope for tampering. So far, several startups have attempted to address trade finance issues with blockchain. However, we have found their approach to be defective in two key regards.

Firstly, they usually aim to map existing processes into a blockchain, rather than fundamentally rethinking the underlying business model and information flows. This approach has led to multiple solutions providing a “digital letter of credit”. What these solutions fail to do is question whether such a letter is needed, when credit can be issued and confirmed and payment initiated instantly.

Secondly, they tend to map only a single, isolated piece of the value chain, focused usually on letters of credit or bills of lading. They are much less concerned with the issuance and advisory aspects that are part of the wider process. Importers and exporters today pay for services in these areas and they are expensive. Yet in practice they are often neglected and the customer experience is poor. By contrast, along the total trade finance transaction, we foresee blockchain addressing two fundamental challenges:
• **Automating issuance, shipment tracking support and payment:** Assume the various network players have adopted the proposed platform. Now they will record events such as issuance of credit, shipment of goods or the payment for a transaction in real-time to the blockchain, which in turn broadcasts this out to the network. Given this public record of events, a paper-trail-chasing operations team is no longer required. And subsequent steps in the workflow can be reliably initiated on an automated basis.

• **Full audit transparency:** Shipments are prone to fraud or illegal activity. A shipping container labelled as carrying bananas may in reality be freighting weapons. Effective control is clearly needed. Blockchain can very effectively meet this need through a network-controlled mechanism, where a “shared truth” is established by participation of the majority. In addition, all salient events, such as term agreements, shipments or payments can be traced back and the likelihood of erroneous events is minimised. Access to this information can be limited if desired to approved network participants, resulting in a hybrid that shares traits of both private and public blockchains.

As well as addressing the areas referenced above, blockchain can enable cost-effective development of client endpoints across the globe. This gives key actors the physical ability to feed information directly into the system in real time. If we assume the platform champions decide to adopt open development, and to make the blockchain’s logic accessible, we see much more than a workflow solution emerging. We witness the creation of an entire ecosystem of trade finance applications. These will all be backed by the same internal logic, but are closely tailored to the needs of different actors, such as a shipping coordinator, a bank employee or a buyer of goods. The chart below indicates how a blockchain-enabled approach provides a logical, tamper proof and trustworthy end-to-end trade finance process.

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**Figure 2.** The trade finance transactional environment workflow interpreted as a blockchain sequence
From Ideal State to Delivered Reality - Capco’s View

It is true that a blockchain will not automatically and immediately replace your current trade finance workflow. But a platform backed by blockchain logic, along with other emerging principles of open architecture, collaborative and API-based computing and real-time processing is a foundation for potentially (and positively) disruptive solutions.

Putting such solutions into practice is not a simple matter however. Our vision assumes that a sufficient number of network players gets on board with the kind of platform we have been describing. It also assumes that adoption is made easy and cost-effective across the entire value chain. The full platform grows to completion by starting with one piece, such as a letter of credit, and building out to support incumbent legacy systems as well as newly crafted applications.

Realistically, a transitional model would include smaller chains built by groups and consortia of trade finance parties. These in turn can be chained together later on through an emerging technology, called “Sidechains”. Sidechains allow moving transactions between blockchains, as long as these agree to and then adopt some common understanding of proof of work. As far as stimulating customer appeal and market uptake is concerned, lower transaction costs will be persuasive at incentivising trade finance customers to use the new model.

Positively Disruptive Transformation of Trade Finance – Innovation and Collaboration (But Not Isolation) Are the Keys

Through out network of specialised financial technology (fintech) startups we observe several new initiatives that address key pieces of the puzzle. These initiatives will play a crucial role in establishing an industry-wide paradigm change. It is also a fact that no single institution can claim an isolated business case for this blockchain-enabled approach. The true benefit can only be realised either through scale or collaboration; such as when a vertical group of players along the value chain agree to offer an integrated service route and can do so at a significantly lower relative cost.

Incumbents looking to truly disrupt the future delivery mechanisms of trade finance will want to reap sustainable growth and tap into new market segments. Their first step should be to act as seed investors to explore collaborative models of working. The technical reality is unchallengeable now: trade finance disruption and transformation will be achieved, piece-by-piece. The only questions remaining are who will do it and when?

To continue asking the right questions, and to start developing exciting and productive answers, talk to Capco. We can help you discover:

• How your trade finance business could look and perform in the future.
• How you can develop a valid business case for adopting blockchain.
• How you can start leading the blockchain revolution from the front.
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ABOUT CAPCO DIGITAL

Innovation begins with a vision. But bringing any vision to reality requires a lot more than imagination. It requires a complete understanding of what’s possible and the know-how to make it happen. Regardless of the scope of our clients’ visions for their future, at Capco Digital, we have the financial services experience and expertise necessary to bring those visions to life.

Where our clients bring a deep understanding of their own institutions, our global team of financial services and technology specialists brings a deep understanding of technological advancements, user-experience possibilities, and cultural savvy. Not to mention, they’re 100% dedicated to technology for financial services.

We champion our clients’ ideas with leading-edge design and technologies. We work with you rather than around you, collaborating to build solutions that will drive your institution, today and five years from now — solutions which businesses, consumers and investors can use every day.

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