# Why Shared Services' Role is a Proof of Concept for Blockchain

## RPA is table stakes compared to the impact of transactional 'greenlighting'

By Barbara Hodge, Editor, SSON

# Introduction:
# Digital Revolution

Over the past couple of years, the emergence of Intelligent Automation tools (most well-known of which is RPA) ranging from desktop 'fixes' to server based, end-to-end driven process automation, have been a major contributor to the trend towards digitalization by supporting real-time, automated operations.

At the same time, however, and flying somewhat under the radar, a novel business-to-business transaction network has been quietly but consistently promising to fuel the next step-change in the digital revolution. It's called blockchain, and is a peer-to-peer distributed ledger, forged by consensus, which can be used to build a new generation of transactional applications that establish trust, accountability and transparency at their core, while streamlining business processes and legal constraints. It simultaneously records transactions across multiple computers and systems so that records cannot be altered retroactively without altering all subsequent blocks, so security is rigidly assured.

While blockchain's most obvious proof of concept and case study to date is bitcoin, everything about its enterprise application is different. The ability to leverage inter-organizational platforms supports transaction processing with third parties, while intra-organizational platforms enable seamless processing across business units or countries.

Blockchain enables decentralized transactions in a way that positively disrupts current business models. Consider the many and various interactions a business has with the external market. A key hurdle to transactions is the invariable slow-down that results from separate parties awaiting clearance for prescribed activities. In a world of blockchain, these kinds of interactions are pre-approved, and take place instantly across networks based on distributed ledger technology, which stores all the information needed to greenlight transactions real-time.

To date, the financial services sector has been the most active – clearing houses, exchanges and the like, with large volume, multiple transactions. Many such organizations are running Proof of Concepts and pilots in quite advanced stages, and some are already working with production systems and data to enable businesses to seamlessly and fluidly interact with their counterparts outside the enterprise, pushing both volume and scope beyond what is currently feasible. But blockchain equally applies to intracompany transactions. In fact, intracompany is where blockchain makes a lot of sense, at least during the testing and piloting phase, according to Dr. Mary Lacity, Curators' Distinguished Professor at University of Missouri-St. Louis, and Visiting Scholar at MIT CISR. Over the past 18 months, Mary has, in partnership with MIT, been examining blockchain's application in more than two dozen global conglomerates.

"What fascinates me about this," she explains, "is that use cases are limitless, and impact will be enormous." Blockchain will reshape the foundation of business as we know it, Mary believes – "I believe it's going to be the largest learning opportunity organizations have ever faced. It makes all the work we've done with RPA and cognitive appear simple by comparison," she says.

> *"The real opportunities present themselves not necessarily where you already have a functioning solution, but where a business challenge is based on business networks that are open to disruptive change."*
>
> **– Kevin Gill, Insurance and Blockchain CTO, at IBM UK**

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# How is blockchain evolving?

The ability to 'join up' activities so that you have a reliable history of what has happened makes blockchain very attractive. The wins apply to financial settlements as they do to the reinsurance market and any other given area of transaction. Blockchain enables us to know who did what and when, and supports straight-through processing, which massively improves spend and volume.

Blockchain is being driven by technology companies of all sizes who are building solutions and business networks for their customers, typically using one of the relatively few leading blockchain frameworks such as Hyperledger or Ethereum. Once allowed access to a networked platform running over a common framework, each 'block' tracks the transactions an enterprise makes and the chain reflects their order. Although the underlying platform is not expensive to buy into, in order to engage, enterprises will need special applications, and that is where we can expect to see significant numbers of [more expensive] solutions evolving.

Blockchain also allows smaller, agile operators to step into and disrupt markets that has traditionally been dominated by a handful of major players. For example, Trade Credit Risk Insurance was effectively dominated by two businesses, but today many others recognize an opportunity to step in and offer their services, given ease of access to the open-source platform. The advancement is being guided and defined by Hyperledger, which provides a much-needed level of standards, as the number of networks now already expands into the thousands.

The key characteristics of blockchain, which make it so attractive are:

- A business network that is to everyone's benefit – a brand-new environment that enables real-time transactions.
- Consensus – each new transaction is written on top of the stack only after each party has confirmed the transaction meets their criteria, creating a more trustworthy history of transactions.
- Immutability – once written it cannot be changed (someone must add a new transaction if there is a change in state).
- Finality – the data is accurate and common across all parties' provenance – from the first moment, everything is stored on the ledger so you know with certainty where something originated, and can easily retrieve this historical view.

# What can blockchain do for Shared Services?

At its simplest, blockchain enables fast settlement of transactions, based on both parties' pre-agreed acceptance, at low-cost. It's this characteristic that is causing a lot of excitement for processing practitioners. Any place where there is pause for validation or authentication is where blockchain can automate that need. And that is also where a Shared Services can leverage its capability and scope to take a lead in, first, understanding, and then rolling out, the technology.

**Blockchain** gets its name from blocks – a series of transactions (e.g. in a bank statement) – and a chain containing a sequential set of transaction records (i.e. blocks) in the order in which they occurred. The beauty of blockchain technology is that it works across a network and allows instant, seamless business-to-business transactions based on already pre-agreed and confirmed data nodes – effectively, "an operating system for marketplaces, data-sharing networks, micro-currencies, and decentralized digital communities with the potential to vastly reduce the cost and complexity of getting things done in the real world.[1]"

Shared Services is a great place to experiment with blockchain. To test it requires real technical skills so Innovation Centers are increasingly partnering with Shared Services for use cases. "The subject matter experts within Shared Services control all the data that a blockchain needs to operate," explains Mary. "However: the question is not how to use blockchain to improve services, but what services need improvement or what new services can be offered – and which technologies exist to do so. Blockchain is certainly one of the potential solutions."

Blockchain offers plenty of opportunities in the Procure-to-Pay (P2P) and Supply Chain process. P2P provides a clear opportunity to leverage blockchain – from ordering through to invoicing and payment, the entire process can be underpinned, supported, and instantly enabled by this technology. Supply chain is also a good fit as there are lots of steps – electronic ordering, invoicing, acknowledgement – that can hold up, slow down or even halt processing. A shared ledger between a customer and its suppliers would significantly support and enable transactions. E-invoicing, for example, could overcome some of its many challenges, particularly with larger suppliers, by removing the need for reconciliation.

"The challenge for the external part of the process, however, is that it requires standards," explains Mary. The protection that blockchain offers is in the form of every organization having their own 'node' which decentralizes the peer-to-peer exchange, but the question of who is allowed to participate, what nodes can do in terms of observing or validating transactions "is fairly complex," says Mary. "Much of the current research is centered on cracking that nut."

One of the larger companies investing in the blockchain space is IBM, which is providing Hyperledger's 'Fabric' framework on its cloud computing infrastructure and building applications and blockchain solution components to help businesses get the best out of this technology, as well as build 'game changing' business networks, marketplaces, and exchanges. The technology is already allowing separate entities – like banks, insurance companies, exchanges and clearing houses – to talk to each other, replacing manual or automated control with a secure, pre-cleared network. In addition, because blockchain is written in open source, it is easily accessible. Once a transaction is stored on a Hyperledger blockchain, it is there forever – a fact that is proving useful for tracing sales and movements of valuable assets like diamonds or art.

All Shared Services, believes Mary, should, right now, be actively partnering with their enterprise Innovation Labs to develop use cases for blockchain. Shared Services' advantage is that they can leverage their subject matter expertise and processing capability to promote learning and to build up a knowledge base around blockchain. The next step is to help define the environment through standards, regulations, and consortia, of which there are more than 400 currently in the works, she estimates. [Large global enterprises are frequently participating in multiple consortia to benefit from all of them.]

"There are tons of opportunities for Shared Services to get involved in learning about blockchain, as a kind of incubation center," says Mary. "And while the benefits to areas like Supply Chain and Procure-to-Pay are significant, it is easier to begin with internally focused use cases, like employee rewards and recognition systems."

# What are we waiting for?

The real challenge right now is corporate inertia in the face of this new technology, explains Kevin Gill, Insurance and Blockchain CTO, at IBM. "Traditionalists face the threat of becoming irrelevant if they don't move first," he warns, "while first mover advantage enables 'founders' of business networks to both disrupt and disintermediate existing marketplaces."

Companies that hesitate to adopt an open-sourced business network, in other words, risk being left behind. "There is tremendous potential for change and disruption. The winners are going to be those who are

blockchain-enabled quickly. The earlier you are in, the greater your competitive business advantage," Kevin warns.

While there are plenty of consortia currently working on blockchain, whether open-source or closed network, the market is probably still five to 10 years away from a true interorganizational platform, according to Mary. In addition, the products are not yet mature, she warns. Many are still in beta test mode – but progress is irrefutable: "Companies are going to need to start learning about this because it will be everywhere soon."

"Think of what it took to get to EDI," Mary reminds us. "Blockchain presents the same challenges – but with exponentially higher returns."

What is definitely already happening right now, however, is that plenty of organizations are testing blockchain in their internal operations, often by commissioning Centers of Expertise. In fact, intra-company transactions offer plenty of pain points that present a perfect opportunity for blockchain: "Any transaction where 'trust' might be an issue is an opportunity for blockchain," Mary says.

One example Mary cites is cross-border payments within an enterprise, which suffer all the same hurdles and loops "as if you are paying a third-party". And whether these transactions are large or small, they are plentiful enough that performance improvement, via blockchain's greenlighting, reaps rewards. But while you can demonstrate the value of blockchain through internal application via Shared Services – the true wins will accrue in leveraging blockchain across external transactions, with third parties.

There are literally thousands of Proof of Concepts currently underway across enterprises and government. This is made easy because blockchain is open source and corporate 'innovation labs' are all actively trying to get their mind around its use right now. "Anyone can download a blockchain and play with it in a sandbox," explains Mary. "From there, the tool needs quite a bit of work before it becomes ready for enterprise deployment."

*"Blockchain will do for business services what the Internet did for information."*

*"The winners are going to be those who are blockchain-enabled quickly. The earlier you are in, the greater your competitive business advantage."*

## Blockchain is for real

For those who question the reality of blockchain's application and validity, Jeremy Epstein, CEO of Never Stop Marketing, in an interview with chiefmartec.com, reminds us that first, it's already happening; second, the pace of life today requires it; and finally, the future needs it. By way of example, Homeland Security is looking at blockchain to track goods and people across borders; the FDA is looking at blockchain to help with population health management; and there are already plenty of efforts to leverage blockchain within the Financial Services industry.

The argument that our pace of life today demands a faster means of exchange is obvious to anyone considering that, although we can instantly share files across the world, actual economic transactions still require us to accept lengthy delays during which various statements and data points are checked and confirmed. A state of affairs that is not sustainable as we become more and more used to instant execution in our private lives.

Blockchain also provides a valuable tool for those that recognize that, in future, value will be created not by owning relevant stakeholder data, but based on how you can help stakeholders to use, analyze, and make decisions on the basis of this data – something that resonates well within the shared Services Sector. Solution providers like IBM are already considering how to make blockchain part of invoicing and accounts payable across back-office processing and the supply chain. Many others are investigating the same opportunities.

# What's slowing progress?

Despite the obvious benefits, real implementations are still few. One problem is actually forming the business network and getting the relevant counterparts together. The challenge is that everyone has to sign up to a common contract and share data in the hyper ledger in order for it to work, so it requires industries to meet and agree application between themselves. The market will probably evolve via first-movers adopting blockchain and setting up the exchange network for others to join.

A network can be formed by a founder who establishes control and runs it; it can be founder-led, meaning the idea and setup is initiated by one organization but it then depends on additional participants taking a leading role; or it can be consortium-led, with the expected complexities this entails. However it is set up, to succeed, the network will need a visionary who has the influence and the persuasive powers to get the counterparties on board. Presenting the network as a viable service that others buy into is key.

None of this happens quickly. "Several months can go by in the blink of an eye and you may find that you are still at the launch phase," explains Kevin Gill, Insurance and Blockchain CTO, at IBM. "As with any change management initiative, it will require effort to bring all the counterparties together. We are helping clients fast-track this with a structured approach to 'forming a business network', and our experience in what we call 'First Projects' is enabling clients to quickly build a Minimum Viable Product."

# Summary

Despite the challenges, blockchain will prove itself a game changer for how businesses transact activities, with benefits extending from internal efficiencies, seamlessly through to external transactions. The ability to automate parts of the business process across multiple external players is already resonating well with an enterprise culture that is fast educating itself around the opportunities presented by RPA and Intelligent Automation. And yet, warns IBM's Kevin Gill, "We have to be careful to filter content from the Internet of Things, so not to 'bloat' the blockchain with irrelevant messages which could cause unnecessary growth of the ledger."

"And while the large consortia have lots of players, which naturally slows things down, they may ultimately define the accepted standard. Smaller consortia are more nimble, with industry experts working together to move forward, but may not attract enough additional participants to reach critical mass."
says Mary Lacity.

If you need a theory to prove the point, Mary cites the Theory of Institutional Isomorphism, which effectively explains why you will join this movement, eventually: "Companies are forced into behaving the same way, according to three different drivers, she explains. First, there is coercion, which is effectively regulation; then there is the impact of mimetic behavior, i.e. mimicking winners; and finally, there are norms that we adopt because we see that they work, in other words implementing best practices. Blockchain will become part of your lexicography one way or another, she assures us. But you might want to get a running start.

"What organizations should be asking themselves is whether they want to be a victim of the future, or architects of the future?" says Mary. "Those are the only two alternatives. And Shared Services have a fantastic opportunity to take a leading role to develop use cases and roll these out."

## Find out more

Find out how blockchain can leverage enterprise transactions up the value chain. Join us at SSON's Shared Services & Outsourcing Week North America, March 2018, in Orlando.

## Additional reading and resources

www.hyperledger.org

Blockchain marketing: how the technology behind Bitcoin could change marketing
How will blockchain technology transform financial services?

*Social media:*
*The enormity of blockchain's impact, as reflected by all of the experts we spoke with for this article, is such that those of us who thought humans were restricted to earth, cars limited to petroleum-based fuel, and phones defined by audio, find ourselves, once again, having to reconsider the realm of what is possible.*