Caldwell

BLOCKING & TACKLING

Who Will Implement Blockchain in Your Business?

A Caldwell Whitepaper

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Who will implement blockchain in your business?

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WHAT IS BLOCKCHAIN?

As business leaders continue to grapple with the Technology Evolution and Revolution that has accelerated through mobile technology and the internet, yet another capability has come front and center: Blockchain Technology.

Already there is significant misinformation and misunderstanding as to what blockchain is and is not. While it is an enabler of cryptocurrency and cryptocurrency transactions, it is not Bitcoin. Blockchain is a distributed network system for transaction verification from multiple "users." The distributed and tamper-proof storage of data provides secure records, tracking, transparency, certification, and cyber-risk management in a wide range of applications and industries.

Blockchain can be a game-changer in a global economy of far-flung and relatively unknown business partners. It easily tracks sourcing for product quality control, enabling companies to respond to both consumer and regulatory demands, while also lowering the likelihood of gray market products. It also streamlines process to lower costs.

In the 2018 World Trade Report, the World Trade Organization points to blockchain among the digital technologies that are reducing trade costs, projecting that these falling costs could boost global trade by 1.8% to 2.0% annually. The WTO report also highlights that blockchain can help smaller businesses to begin global trading by supporting them in building trust with partners around the world.

WHERE CAN BLOCKCHAIN BE MOST IMPACTFUL?

CAPABILITY	DIRECTLY IMPACTS	
Supply chain shipment and discrete materials certification, consumption, verification, and tracking	Manufacturers, suppliers, distributors and logistics providers	
Financial transaction validation	Commercial banking, investment banking, real estate, holding companies	
Electronic medical records and personal confidential information	Payers, providers, hospital networks, and non-profits	
Unique product feature or identification validation	Any manufacturing, distribution, or supplying organization handling SKUs	

EXPLORING BLOCKCHAIN CAPABILITIES

Moving to implement blockchain capabilities will not be a quick decision for any organization, but there should be no hesitancy to fully explore and evaluate how it can serve a company's business needs. Downstream users and customers - such as in financial institutions, the retail supply chain, and agribusiness - ultimately may define the industry technology standards to be adopted, much as occurred with EDI a generation ago. And this may occur within months, not years, as evidenced by announcements regarding blockchain initiatives by Aetna, Anthem, Carrefour, De Beers, FedEx, Humana, Maersk, Walmart, and other companies (see sidebar, "Here and Now: Blockchain Applications"). Both consumers and business partners are now demanding the product verification and traceability that are blockchain's hallmark, not to mention the administrative streamlining and cost benefits.

Caldwell's Blockchain Advisory Council, launched in partnership with consultants BTblock, is designed to help clients consider the real enterprise applications of blockchain technology, and the specific use case for their own companies. Bringing the Design Sprint Hybrid Model™ to blockchain assessment and implementation, this partnership allows companies to perform due diligence and validate the efficacy of a new implementation, prior to building or allocating internal resources to a blockchain-focused team, which saves money and sets clients up for success.

"When product leadership decides whether to invest in new technology, they have to consider their customer," says BTblock partner Tammy Kahn. "If their customer desires the technology, then every effort should be made to determine feasibility. This desirability, however, does not confer feasibility. Product leaders should be quick to abandon applications where there is no incremental value. Our approach is designed to get our clients to the right answer, and give them the first-mover advantage as they implement blockchain solutions in their verticals."

Critical questions to consider as companies assess blockchain technology:

- **What can blockchain technology do for our company?**

- **Who in our organization will be responsible for developing and integrating blockchain across the enterprise?**

- **How should we assess and then implement this?**
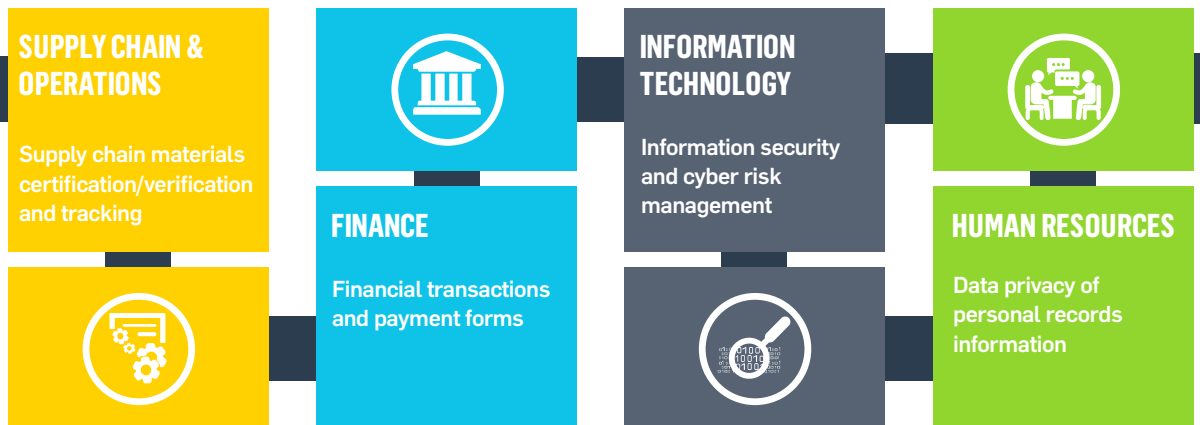
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THE TALENT CONNECTION

Of course, talent strategy must go hand-in-hand with technology strategy. As with the development and implementation of so many new technologies (namely, the internet, EDI, wireless IoT, and more), the marketplace has no experts with 20 years of blockchain experience. Moreover, technology talent is already a red-hot commodity. The Computing Technology Industry Association reports that in the US, there were 2.8 million technology job postings in 2017, with a 27% increase in emerging technologies roles. Considering cybersecurity alone, a Cisco report puts the global number of unfilled cybersecurity jobs in 2019 at 1.5 million, and Cybersecurity Ventures predicts that number will balloon to 3.5 million cybersecurity job openings globally by 2021.

Where will the new leaders of blockchain technology and implementation come from? How each enterprise applies blockchain, whether the impact is narrow or broad, and the extent of its value proposition to the organization will all influence those decisions.

In the current marketplace, blockchain leaders often pivot from other supply chain and IT roles, or come from government, professional services, business consultancies, and outsourcers of blockchain services. In a corporate setting, blockchain executives might be located in finance, supply chain, HR, or a cross-functional role. The role might be revenue-producing or intellectual property. In one indication of future trends, an SAP survey of organizations engaged in blockchain-related activities or exploration found that 76% of respondents anticipated blockchain smart contracts will replace operational supply chain contracts within 5 to 10 years. Clearly, blockchain is of interest to many industry sectors.

Where in the organization does blockchain belong?

Blockchain capability and organizational design
runs through and overlaps several functional areas

SUPPLY CHAIN & OPERATIONS

Supply chain materials certification/verification and tracking

FINANCE

Financial transactions and payment forms

INFORMATION TECHNOLOGY

Information security and cyber risk management

HUMAN RESOURCES

Data privacy of personal records information

BEGIN WITH THE POTENTIAL END IN MIND

Prior to taking this big leap into a new technology, an enterprise needs to conduct a thorough initial assessment of where blockchain applications can both drive revenue and minimize costs/risks. A key part of this effort—not to be overlooked—is an organizational assessment of how to structure the initial design and development team, the evolved, potential organizational structure of the implementation and ongoing execution, and how to source or fill the blockchain efforts in the business.

At Caldwell, we recommend selecting a cross-functional team of three to six members to lead this effort for the company, with a clear directive to represent the strategic interests of the board and CEO, the needs requirements of the impacted functional teams, and the technical and budget requirements of the IT team for project execution.

"Given the advances in safety, security, and privacy that blockchain can enable, we anticipate demand-side adoption of blockchain in a number of industries very soon."

-David Garrity, CFA, partner at BTblock

HERE AND NOW: BLOCKCHAIN APPLICATIONS

CASE 1: WALMART AND FOOD SAFETY

Walmart has been a leader in the early adoption of blockchain technology, with its emphasis on food safety. After running pilot projects in 2017 and proof of concept tests in 2018, Walmart invited company partners and ramped up the number of grocery products on the blockchain, developed by IBM. Walmart hopes to have some 100 suppliers on the blockchain ledger soon, and has asked all suppliers of leafy greens to submit data to the system by September 2019.

A compelling test came when traditional methods for tracking a package of mangoes took 7 days, while the blockchain technology traced the sourcing in 2.2 seconds. In response to that test, Frank Yiannas, the former VP of Food Safety at Walmart, said, "(Customers) expect the products they buy in our stores to be safe. When there is a food event or a food scare, you want to be fast, but you want to be right. That food

product is guilty until proven innocent." Stating that Walmart's policy is to pull all product until the implicated product is identified, Mr. Yiannas asked, "Imagine if we could pinpoint that with certainty within minutes, not days?" A true convert to the value of blockchain for food safety, Mr. Yiannas is now Deputy Commissioner, Food Policy and Response, for the federal Food and Drug Administration.

For companies exploring blockchain, Mr. Yiannas advises first defining the business case or problem to be solved. He says, "My recommendation is that it always be business-led, but technology-enabled."

CASE 2: DE BEERS AND CONFLICT-FREE DIAMOND CERTIFICATION

In May 2018, De Beers announced that it used a blockchain platform to successfully track 100 high-value diamonds as they moved from the mine to the cutter and polisher, and through to a jeweler. This marked the first time a diamond's journey has been digitally tracked from mine to retail.

The Tracr blockchain platform, which will be open to the entire diamond industry, was developed by De Beers together with five leading diamond manufacturers: Diacore, Diarough, KGK Group, Rosy Blue NV, and Venus Jewel, to both increase efficiency and help build public confidence that diamonds are mined in non-conflict regions.

CEO of De Beers Group, Bruce Cleaver said: "The Tracr project team has demonstrated that it can successfully track a diamond through the value chain, providing asset-traceability assurance in a way that was not possible before." Tracr assigns a unique "Global Diamond ID" and stores individual diamond characteristics such as carat, clarity, and color, on an immutable digital ledger.

In April 2018, leaders in the diamond and precious metals industry partnered with IBM to develop the Trust Chain initiative, a blockchain platform intended to provide enhanced transparency by tracking precious metals and gems from their place of origin to the retailer.

CASE 3: MAERSK AND GLOBAL SHIPPING

Maersk and IBM have jointly developed TradeLens, a blockchain-enabled solution to promote more efficient and secure global trade. As of August 2018, some 94 organizations had agreed to participate in the open platform.

More than $4 trillion of goods are shipped each year, and paper records are still common, as well as point-to-point communications. In some cases, the cost of documentation and administration of these shipments rises to 20% of the actual transportation costs, with a single shipment sometimes generating 200 communications. Blockchain-enabled shared, secure data exchange in a tamper-proof repository can reduce administrative process, delays, and fraud, while slicing costs.

"This new company marks a milestone in our strategic efforts to drive the digitization of global trade. The potential from offering a neutral, open digital platform for safe and easy ways of exchanging information is huge, and all players across the supply chain stand to benefit," said Vincent Clerc, chief commercial officer at Maersk and future chairman of the board of the new joint venture.

CHANGE IS COMING

When it comes to blockchain adoption, it seems clear that there will be leaders, fast-followers, and those lagging behind. For companies that choose to be in one any of those categories, becoming informed about the capabilities and options provided by blockchain is critical to making a sound business decision.

"With blockchain performance challenges such as throughput and security being addressed by technology advancements, adoption should accelerate in 2019 as dominant companies such as Walmart and Carrefour follow through on the commitment to move their extended enterprise onto blockchain platforms," says David Garrity, CFA, partner at BTblock. He adds, "Given the advances in safety, security, and privacy that blockchain can enable, we anticipate demand-side adoption of blockchain in a number of industries very soon."

Offering security, verification, transparency, and management agility, blockchain is the next technology imperative for companies around the world. And yet, addressing the technology demands without also addressing the talent and organizational structure requirements can squander time and money. That's why Caldwell and BTBlock have collaborated to develop rapid prototyping of blockchain technology, along with both technology and talent implementation. This offers an affordable entry point into the blockchain battle.

CASE 4: INSURERS AETNA, ANTHEM AND HEALTHCARE EFFICIENCIES

In January 2019, Aetna, Anthem, Health Care Service Corporation, PNC Bank, and IBM announced a collaboration to use blockchain technology to improve transparency and efficiency in the healthcare industry. Additional members are expected to join the blockchain collaboration in the coming months.

Claus Jensen, chief technology officer at Aetna, a CVS Health business, said, "Through the application of blockchain technology, we'll work to improve data accuracy for providers, regulators, and other stakeholders, and give our members more control over their own data."

"This collaboration will enable healthcare-related data and business transactions to occur in a way that addresses market demands for transparency and security, while making it easier for the patient, payer and provider to handle payments" said Chris Ward, head of product, PNC Treasury Management. "Using this technology, we can remove friction, duplication, and administrative costs that continue to plague the industry."

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