BLOCKCHAIN TECHNOLOGY STRATEGY

Issue

Canada needs a wake-up call.

The Internet's second blockchain era will produce even more upheaval than the Internet's first information era. It is an unstoppable force that will make itself felt in almost every facet of our lives. Canada has a head start on becoming the second era's global hub or, at least, one of a handful of such hubs. The tech corridor in Surrey or between Toronto and Kitchener-Waterloo is emerging as Canada's first "technology supercluster." This region is already a world leader in quantum physics and artificial intelligence. Blockchain is ideally placed to be the third leg of the Tech North stool.

Canadian entrepreneurs and companies are on the leading edge of blockchain innovation. Ethereum, viewed by some as the most important blockchain company in the world, recently surpassed $1-billion (U.S.) in value. And Consensus Systems is building decentralized applications that could transform a number of industries, including financial services, professional services, manufacturing, telecommunications, music and film. Many of the bitcoin core developers are Canadian and many works in the start-up community. A growing constellation of entrepreneurs and technologists (Paycase, Protocol Fund, Tendermint, Nuco, Smartwallet, BlockStream and others) are trying to build the future with companies in Toronto, Surrey, Vancouver, Montreal and elsewhere.

Canada's banks – strong, stable and innovative – are ideally situated to foster blockchain growth. Because we have a small number of big banks, the likelihood of collaboration between them to build a new transactional infrastructure for banking is higher than other countries, such as the United States.

Still, Canada needs to overcome significant obstacles if it is to cement a leadership role in blockchain technology. A key handicap is the absence of a clearly defined strategy for governments and other stakeholders to exploit blockchain technology. For example, governments focus on investing in related technologies such as artificial intelligence and quantum computing while missing the critical underlying blockchain infrastructure.

Background

Blockchain is a distributed ledger in which anything of value can be stored, ranging from money, stocks, bonds and intellectual property, to votes, art, music, loyalty points, carbon credits, health-care records and student accomplishments. Even our identities can be stored, transacted, communicated and managed securely and privately. [1]

The First Industrial Revolution occurred in Europa and the US where a transition to new manufacturing process occurred between 1760-1840. The traditional hand-processing methods were coopted by the use of machines, chemical, steam, and water.

The Second Industrial Revolution, known as the Technological Revolution, was a phase of rapid industrialization between the late 19th century and early 20th century. Advancements in manufacturing and production technology were the staple of the Second Industrial Revolution, and the invention of things such as the telegraph, railroad network, gas and water supply, and sewage systems.

[1] https://www.theglobeandmail.com/report-on-business/rob-commentary/how-canada-can-be-a-global-leader-in-blockchain-technology/article34259697/

The Third Industrial Revolution involved the utilization of new energy with communication technologies, mainly renewable electricity. This third phase of the industrial revolution includes the sharing economy and details the interconnection of the world's economies.

We are now in and moving away from the fourth industrial revolution known as the Industrial Revolution 4.0. This is the name given to the current trend of automation and data exchanges. The increasingly complex and sophisticated cyber-physical systems, the Internet of things, cloud computing, and cognitive computing are all facets of the fourth industrial revolution. Within this revolution is the advent of blockchain technology.

The uses of blockchain technology, which is a primary facet of cloud computing and the internet of things, is a relatively new way of exchanging information and services but is already revolutionizing global trade (Norberg, 2019).

Blockchain is a concept for storing data. It is a decentralized and secure trust between parties. The blockchain can be seen as a type of digital ledger that holds information about transactions in a register that is transparent and accessible. Once information is entered into a "block", it can't be altered, only added to. Multiple data entries, or blocks, create a chain of blocks i.e. a blockchain. Once information is uploaded to a block, all parties involved are made aware of this.

A trade chain can be seen as a long and complicated series of transactions. Time is critical for much trade, including agricultural trade across the country and across international borders. As agricultural items are perishable, time is crucial for trade. Delays in terms of information sharing are detrimental to the goods, and therefore the economy on both the importer and exporter's side. If an exporter's goods perishes, they have insurance to cover the loss, but the importer will not have a product to sell in their market. Utilizing blockchain will speed up the transaction speed and thus limit the number of spoiled items. In a society that is trying to reduce waste, blockchain technology is one way to accomplish this goal.

To cement Canada's position as a global leader in blockchain technology, the following steps need to be taken:

1. Canada needs a strategy
In the early 1990s, two government advisory committees were created to develop strategies for Canada and the first era in the Internet. This work contributed significantly to Canada's adoption of the Internet, among other things, catalyzing the opening of the telecommunications marketplace. With the Internet entering a second era, it makes sense for the federal government to set up a national commission, with representatives of government, financial institutions, the research community, technology entrepreneurs, civil society and, not least, consumers. It would develop concrete recommendations that would enable Canada to achieve a leadership role in imminent blockchain revolution.

2. Stimulating Research and Development (R&D) through blockchain-based flow-through shares
The report explains how the flow-through shares model that has been effective in Canada's mining, oil and gas industries could be applied to technology. The key is to use blockchain to track all investments, real-time in R&D to ensure all tax benefits go directly into innovation. This would offer Canada a double-barrelled opportunity: a massive new source of funds to spur research and development in the technology sector, and a highly visible, real-time demonstration of blockchain's capabilities and benefits.

3. Create a Blockchain Research Institute
It's time to conduct deep research into killer applications – identifying the most important opportunities for blockchain in business and government and drawing the road map for how to get there. Canada needs a Blockchain Research Institute, to unlock the potential of blockchain across industries and also within the functions of organizations. The institute could operate as a research centre for projects that potentially benefit a wide range of players, and where competitive issues are not a concern.

4. A Blockchain Centre of Excellence
Round-table participants and others expressed strong support for a Blockchain Centre of Excellence. The centre would not be dissimilar to those that have helped propel many other emerging technologies. However, new thinking is required. For example, it would be the focal point for a cluster of a set of blockchain-related businesses, encouraging them to feed off each other.

5. Government as a model user
One of the most important steps government can take is to adopt the technology to transform its own operations – federal, provincial and local. This stimulates innovation, creates a stronger domestic market for entrepreneurs and among other things could dramatically improve the performance of government.

6. Expand access to the United States
Building an innovation economy in Canada does not mean isolating ourselves from the rest of the world. Indeed, with calls for protectionism growing louder in countries such as the United States and Britain, we must build bridges and strengthen ties to key markets, expand our trading partners and work constructively with foreign governments.

Given Canada's relatively small domestic market, it is vital for the blockchain community to expand access to the United States. The U.S. is by far the largest source of financing for blockchain start-ups, the biggest market for their products and, outside Canada, the biggest supplier of talent for blockchain and other fintech ventures.

7. Education and cultural change
Revolutionary products and services often run into early skepticism, even mockery and hostility. Entrenched interests resist change and established leaders are often the last to embrace the new, if they ever do. Blockchain is no exception. It has already brought dislocation, conflict, confusion and uncertainty, and is sure to bring more. This is especially true in Canada, where regulators and policy makers have tended to favour stability over innovation. [2]

THE CHAMBER RECOMMENDS THAT

The Federal Government implement a blockchain economic strategy by:

1. Setting up a national commission, with representatives of government, financial institutions, the research community, technology entrepreneurs, civil society and, consumers that would develop concrete recommendations to enable Canada to achieve a leadership role in imminent blockchain revolution.
2. Stimulating R&D through blockchain-based flow-through shares that would track all investments in real-time in R&D to ensure all tax benefits go directly into innovation.
3. Creating a Blockchain Research Institute, to unlock the potential of blockchain across industries and also within the functions of organizations.
4. Creating a Blockchain Centre of Excellence where blockchain-related businesses can cluster and innovate.
5. Adopting the technology to transform its own governmental operations – federal, provincial and local.
6. Expanding access and information exchanges with the United States.
7. Ensuring educational and cultural norms conducive of innovation.

References:

Norberg, Hanna C., "Unblocking the Bottlenecks and Making the Global Supply Chain Transparent: How blockchain technology can update global trade." *Canadian Global Affairs Institute and the School*, 2019.

[2] https://www.theglobeandmail.com/report-on-business/rob-commentary/how-canada-can-be-a-global-leader-in-blockchain-technology/article34259697/

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