Usage of Blockchain in Canadian Supply Chains

Report of research findings, March 2022

Dr. Kevin McDermott

Stephen Thomson

Summary of Findings

Readiness of Canadian Supply Chain Organizations to Adopt Blockchain Technologies

As COVID-19 took hold as a global pandemic, the integrity of supply chains were compromised. The robustness of **supply chain integrity can be improved through improved organizational collaboration and communication.**

As organizations look to shore up their supply chains, by improving efficiencies and effectiveness, **blockchain technologies may be a catalyst for change** over the coming years.

This document outlines findings from a survey of Canadian supply chain organizations related to their **readiness to adopt blockchain technologies in the fall of 2021.**

1. Familiarity with Blockchain

2. Current Use of Blockchain

3. Likelihood to Adopt Blockchain

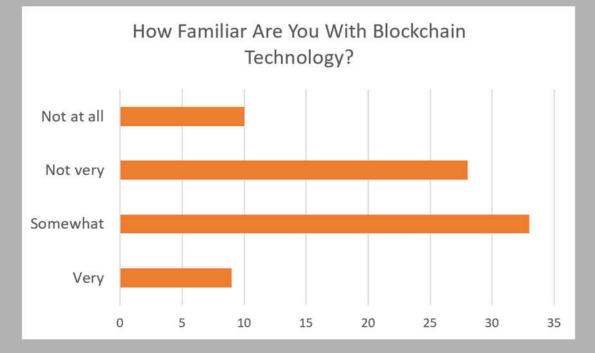## 4. Future Use of Blockchain

5. Motivations for Adopting Blockchain

1.

Familiarity with Blockchain

89%

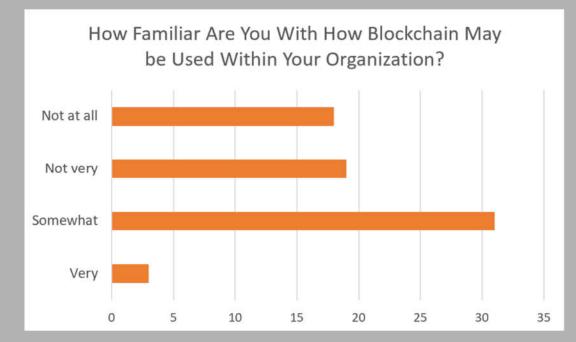**of survey respondents are not very familiar with blockchain technology**

n = 80 respondents answered

How Familiar Are You With Blockchain Technology?

Category	Value (approx.)
Not at all	10
Not very	28
Somewhat	33
Very	9

1.

Familiarity with Blockchain

48%

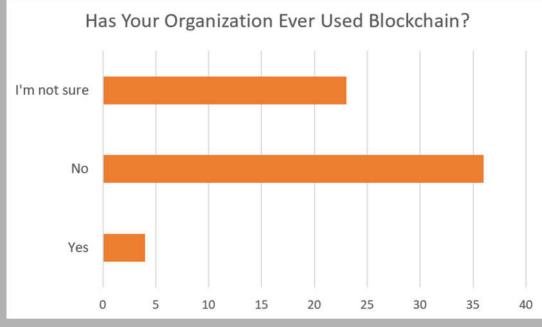**of survey respondents are at least somewhat familiar with <u>how blockchain technology may be used within their organizations.</u>**

n = 71 respondents answered

How Familiar Are You With How Blockchain May be Used Within Your Organization?

Category	Value
Not at all	~18
Not very	~19
Somewhat	~31
Very	~3

2.

Current Use of Blockchain

94%

of survey respondents report that their organizations have not used blockchain, or they do not know if they have.

Has Your Organization Ever Used Blockchain?

n = 63 respondents answered

3.

Likelihood to Adopt Blockchain

75%

of survey respondents report that their organizations are <u>at least somewhat likely to use blockchain</u> technologies in the future.

n = 57 respondents answered

Likelihood Your Organization Will Blockchain

4.

Future Use of Blockchain

In what way is your organization considering using blockchain technologies?

Supply Chain Collaboration

- *"use blockchain technology on _document flow_ with other stakeholders including government bodies"*
- *"_Linking key shipping documents_ and customs submissions/clearances"*
- *"for our transportation billing and is _shared with all our carrier partners_"*
- *"_b2b contact_ with customers and external stakeholders"*
- *"_Collect data_ from Carriers ie: in/out times, ETA's"*
- *"Merging all technologies into one so they _communicate to each other_"*
- *"through the _transfer of material information_ between business partners"*

Authenticity and Fraud Prevention
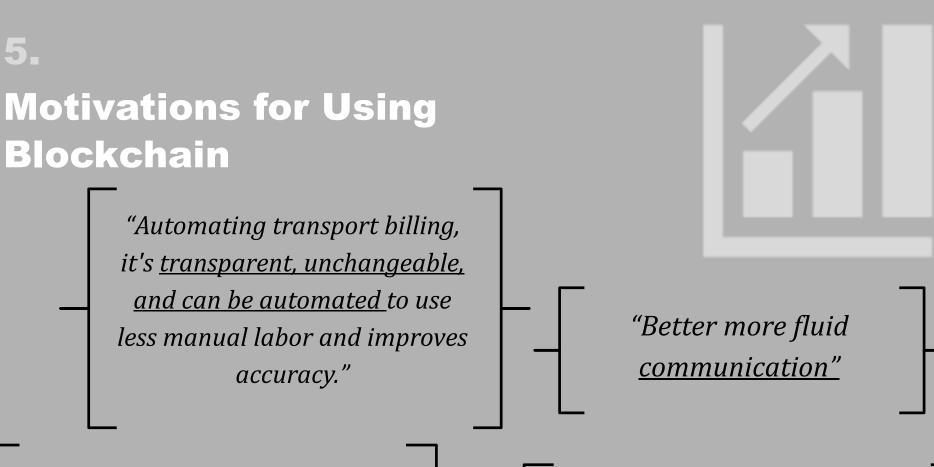
- *"help _curbing the use of spurious and duplicate spares_ from the aftermarket"*
- *"improving the consumption of _genuine spares_ for out of warranty machines"*
- *"Secured payment, _anti fraud_, quick response of verified payments"*

Tracking and Monitoring

- *"Supply Chains being _monitored from all the plants_ in the different countries"*
- *"_audit real time movement_ within in the supply chain"*
- *"record accurate _real time cost data on deliveries_ during the supply chain process"*
- *"improve _shipment tracing_ - ship manifests verifying cargo"*
- *"In the supply chain side of things, _smart contracts_ can be created"*
- *"_Asset tracking_"*

Reverse Logistics and Warranty

- *"_returnable rummage_, _product warranty_"*
- *"Streamline & expedite accurate receipt, _putaway, delivery & returns data_"*

5.

Motivations for Using Blockchain

"Automating transport billing, it's _transparent, unchangeable, and can be automated_ to use less manual labor and improves accuracy."

"Better more fluid _communication_"

"To _streamline_ our investment process and offerings"

"_Staying current_ with industry"

"more trust with agents outside of the company and _reliable in case of data manipulation_"

5.

Motivations for *Not* Using Blockchain

"We have not had the request from key customers advising that it is an essential element for business continuity"

"to ensure that the desired results are achieved the adaptation has to be done by complete value chain"

"its implementation and adoption costs are a deterrent."

"barriers in understanding / knowledge"

Researcher Contacts:

- **Dr. Kevin McDermott,**
  Professor of Business Analytics, School of Business, Conestoga College
  Email: kmcdermott@conestogac.on.ca

- **Stephen Thomson,**
  Director, Magna Centre for Supply Chain Excellence, Conestoga College
  Email: sthomson@conestogac.on.ca

Special thanks to our industry association partners:

- **Canadian Institute of Traffic and Transportation (CITT)**
- **Canadian Blockchain Supply Chain Association (CBSCA)**