Digital Trade Infrastructure “TradeWaltz” - Encouraging SMEs to Access Global Trade

Submitted by: TradeWaltz
Digital Trade Infrastructure “TradeWaltz”
~encouraging SMEs to access global trade~

Sep 15th, 2021
Global Trade entails so much difficulty for SMEs

- In international trade, many business-to-business (B2B) exchanges are still paper or PDF based, and a great deal of time is spent on retyping data and other manual works. This is a huge hassle for SMEs because

1. **Take Time**: 72 hours/import & export in Japan
   
   *235 hours in ASEAN, 111 times longer than the EU (digitalized)
   
   Ref) World Bank Research

2. **Analog work Cost**: USD 342/trade in Japan
   
   Ref) World Bank Research

3. **Need big office and warehouse**
   
   To execute paper works and store paper documents
   
   Ref) ASEAN-BAC focal meeting

4. **Need special knowledge**
   
   To process complex applications in trade procedures
   
   Ref) Japan Machinery Center for Trade and Investment
We have started our own business to export our wonderful local products to overseas, but the work is too much for a few staff to do and we are currently only helping a large company.

Marie Wakino, CEO of Climbest
Local SME from Kagoshima-prefecture
TradeWaltz is a B2B communication DX platform to solve

- TradeWaltz is a cross-industrial business to business (B2B) trade platform utilizing blockchain technology and encouraging SMEs to access global trade, because

1. **Cut Time**: 44% in Japan
   *60% in ASEAN economies*
   Ref) PoC results in 2018-2019

2. **Cut analog work Cost**: 44% in Japan
   Ref) PoC results in 2018-2019

3. **Don’t need office and warehouse**
   Trade operations can be carried out remotely with a PC and the Internet.
   Ref) ASEAN-BAC focal meeting

4. **Don’t need special knowledge**
   Compliance check and applications will be followed by system
   Ref) TradeWaltz development roadmap
TradeWaltz’s feature: All in One

1. Cross Industrial Platform
   Players:
   - Exporter
   - Negotiation Bank
   - Issuing Bank
   - Importer
   - Insurance Company
   - Forwarder
   - Carrier
   - C/O provider

2. Wide coverage of documents
   Structured documents (NOT PDF) on the platform
   - Letter of Credit
   - Invoice
   - Sea Way Bill
   - Packing list
   - Shipping Instruction
   - Export Permit
   - Certificate of Origin
   - Bill of Exchange
   - Insurance Policy
   - And attachment files (PDF etc.)

3. Creation of ecosystem
   Collaborate with other PFs and utilize the accumulated data to create new business ecosystem.
Cross Industrial Consortium since 2017 for trade digitalization

<table>
<thead>
<tr>
<th>Big Participating Companies (as of March. 2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Banks</strong></td>
</tr>
<tr>
<td>MUFG Bank, Ltd.</td>
</tr>
<tr>
<td>Sumitomo Mitsui Banking Corporation</td>
</tr>
<tr>
<td>Mizuho Financial Group, Inc./Mizuho Bank, Ltd.</td>
</tr>
<tr>
<td><strong>Insurance Companies</strong></td>
</tr>
<tr>
<td>Tokio Marine &amp; Nichido Fire Insurance Co., Ltd.</td>
</tr>
<tr>
<td>Sompo Japan Nipponkoa Insurance Inc.</td>
</tr>
<tr>
<td>Mitsui Sumitomo Insurance Company, Ltd.</td>
</tr>
<tr>
<td><strong>Cargo Owners</strong></td>
</tr>
<tr>
<td>Sumitomo Corporation</td>
</tr>
<tr>
<td>Mitsubishi Corporation</td>
</tr>
<tr>
<td>Sojitz Corporation</td>
</tr>
<tr>
<td>Toyota Tsusho Corporation</td>
</tr>
<tr>
<td>Marubeni Corporation</td>
</tr>
<tr>
<td>Itochu Corporation</td>
</tr>
<tr>
<td>Kanematsu Corporation</td>
</tr>
<tr>
<td>Mitsui &amp; Co., Ltd.</td>
</tr>
<tr>
<td><strong>Carriers / Logistics Companies</strong></td>
</tr>
<tr>
<td>Kawasaki Kisen Kaisha, Ltd.</td>
</tr>
<tr>
<td>Nippon Express Co., Ltd.</td>
</tr>
<tr>
<td>Nippon Yusen Kabushiki Kaisha</td>
</tr>
<tr>
<td>Ocean Network Express Pte. Ltd.</td>
</tr>
<tr>
<td><strong>Secretariat</strong></td>
</tr>
<tr>
<td>NTT DATA (Blockchain Expert)</td>
</tr>
</tbody>
</table>

### Activities (2017)
- Identification and sharing of cross industrial business issues
- Created TradeWaltz prototype
- Proof of concept with NTP Singapore

### Activities (2018)
- PoC results: 44-60% efficiency improvement
- Research on AI and semantic technology for L/C document check
- Proof of concept in Japan and Thailand
- Research on relevant laws (MLETR) and submission of written request to government agencies

### Activities (2019)
- Thailand set digital trade as ASEAN agenda
- Release of pilot version
- Trial deployment in Thailand involving 24 companies

### Activities (2020)
- Announcement in World Economic Forum 2020 sideline event
- Started commercialization

Co-invested partners

Traction

PoC results: 44-60% efficiency improvement
We need interoperability between ASEAN and JAPAN Platforms

Bilateral PoC completed between NTTData PoC Platform and NTP

2017
Japan Consortium

2018
Thailand Consortium

2021
Viet Nam Consortium

TradeWaltz

Node Company Node Company Node Company Node Company

New Entity (NDTP)

New Entity

Infrastructure for sharing data with blockchain

Minister of Economy, Trade and Industry of Japan proposed trade digitalization initiative to Viet Nam in 2020 and started consortium development activities in Viet Nam.

Supporting ASEAN Economies’ Trade Consortium launch (Thailand and Viet Nam)
Concept co-released on May 11th in APEC workshop: Connecting 5 APEC economies’ platforms in 2022

- We co-released live-link concept with the trade platforms of 5 economies, Japan, New Zealand, Australia, Singapore and Thailand.
- We aim to materialize this future collaboration and announce the result by 2022 APEC.
We just completed SME’s PoC (Japan-Chinese Taipei) utilizing TradeWaltz in September.

Utilize TradeWaltz

Traction for SMEs

Check efficiency improvement (Time & Cost)

Create PoC’s movie for APEC events
The Challenges of Trade Entrepreneurs
Solved by TradeWaltz

-Case of a Tatami Manufacturer-
By creating easy way to use TradeWaltz for SMEs, we will encourage SMEs to access global trade.
Acknowledgements

Thank you for listening and please feel free to contact us if you have any query about

- Our service and other trade platform services
- Consortium activities in ASEAN
- Government Relationship
- Movement of law revision
- International standard setting activity
- SME’s PoC, etc.

Satoru Someya
Managing Director
- Head of CEO’s office
- Head of Global & Alliance business dept
TradeWaltz Inc

info@tradewaltz.com
Appendix
As you know... DX market is emerging

Global DX market size is reaching 127 trillion JPY in 2019.
Growing by 20% each year and may be accelerated by COVID-19.

Region-wise DX market size (2019 | trillion JPY*)

- **Total market size**: 127 trillion JPY
- **US**: 40.7 trillion JPY (32.0%)
- **Japan**: 11.8 trillion JPY (9.3%)
- **Asia**: 14.9 trillion JPY (11.7%)
- **Europe**: 25.3 trillion JPY (19.9%)
- **China**: 25.7 trillion JPY (20.2%)
- **Others**: 8.8 trillion JPY (6.9%)

Expected market growth (Global | trillion JPY*)

- **2019**: 127.3 trillion JPY
- **2020**: 153.3 trillion JPY
- **2021**: 184.6 trillion JPY
- **2022**: 222.2 trillion JPY
- **2023**: 267.6 trillion JPY
- **2024**: 322.1 trillion JPY
- **2025**: 387.8 trillion JPY

*Calculated as 107.9 JPY/USD
Ref.: IDC『Worldwide Semiannual Digital Transformation Spending Guide』
Our targeting issue 1) Operation efficiency, speed

- Japan and ASIA respectively take 34 and 111 times more man-hours than EU to process trade transactions.
- EU is going forward at the point of regulation and digitalization.

Ref: Trading across Borders (THE WORLD BANK)
Our targeting issue 2) Paper-work cost

- The market size of the issue in Japan is about 244.3-295 billion JPY per year for the cost of maritime cargo trade procedures.

The market size of this project is approximately 244.3–295 billion yen, which is the cost of ocean freight trade procedures and paper handling.

Market size of this business

<table>
<thead>
<tr>
<th>Market Size</th>
<th>Costs associated with sea freight trade procedures¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>244.3–295 billion yen</td>
<td>295 billion yen Export 116 billion yen Import 179 billion yen</td>
</tr>
</tbody>
</table>

Costs associated with paper handling of ocean freight trade²)

<table>
<thead>
<tr>
<th>Costs associated with paper handling of ocean freight trade²)</th>
<th>Trade quotations per year</th>
<th>Time for paper handling per trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>man-hours for paper handling 20,361 persons</td>
<td>8 million</td>
<td>5.3 hours</td>
</tr>
<tr>
<td>Cost per person 12 million yen</td>
<td>12 million yen</td>
<td>2,080 hours</td>
</tr>
</tbody>
</table>

The number of sea freight trade transactions has been steadily increasing at a CAGR of 1.8%.

Quotations for seaborne trade in goods ³)

2) Calculated based on empirical data.
3) Based on the number of import/export licenses provided by NACCS. 97% or more of all trade transactions since 2009 have been conducted through NACCS.
Our targeting issue 3) Needs of remote work in COVID-19

- Due to many tasks that still require paperwork, trade employees in Japan need to come to the office 1-2 times a week even during the spread of COVID-19.
- EU is going forward at the point of rules and digitalization.

Changes in personal behavior
- Social Distance
- Work From Home

Stagnation of economic activities
- Supply Chain Disruption
- Shortage of essential goods

By moving from a paper-based trade document to one that is digitalized, ASEAN enjoy major benefits such as reduced face-to-face operation, avoid supply chain disruption.

Issue
- Make trade procedures easy, anytime, anywhere – non face to face operation
- Make it easy to find alternatives to trading partners
- Strengthening Supply Chain

Solution by Digital
- Analogue & Paper based operation with personnel
- Digitized operation with handled remotely
- The supply chain breaks at the export source
- Continuation the Supply Chain by finding alternative suppliers

Ref: ASEAN-BAC focal point meeting 2020(Trade Digitalization)
Our targeting issue 4) Other trade issues

**Import/Export Regulations**
- Complexity of, and delay during the procedures
- Differences in requirements for issuance of certificates by persons in charge (Preferential Certificate of Origin, etc.)
- Lack of clarity around import–related risk management laws, etc.

**Retroactive and Inefficient Administrative Procedures**
- Notices and letters unable to be posted all at once, due to time lags and the limited timeframes they are given to be on the board
- New regulatory standards and applications being vague
- Demand for a bribe, etc.

**Remittances**
- Complexity of procedures (i.e. being required to attach documents that are not necessary for the transaction)
- Overseas remittance by companies with accumulated deficits not being allowed
- Restrictions on foreign currency borrowing and use
- High overseas remittance fee, etc.

**Import/Export Regulations & Customs Duties**
- High import/export duties
- Safeguard
- Lack of transparency in tariff system and suspension of exports
- Various import regulations (e.g. used machinery, etc.), etc.

**Others**
- Restrictions on entry by foreign companies, shortage of relevant industries
- Intellectual property management
- Employment system
- Land ownership restrictions, etc.

Can be eliminated by electronic transactions

Require governmental support

Ref: Japan Machinery Center for Trade and Investment
Proved benefits in Japan

Benefits of TradeWaltz were examined in the proof of concept (PoC) conducted in 2017.

- L/C: Letter of Credit
- I/V: Invoice
- P/L: Packing list
- S/I: Shipping Instructions
- I/P: Insurance Policy
- C/O: Certificate of Origin
- E/D: Export Declaration
- E/P: Export Permission
- CLP: Container Load Plan
- D/R: Dock Receipt
- B/L: Bill of Landing
- SWB: Sea Waybill
- B/E: Bill of Exchange

Scenario of PoC
- Exceptional
- Share information

TradeWaltz

Blockchain

L/C
I/V
P/L
B/L
I/P
S/I
E/P
B/E
C/O

Open L/C
①

Negotiation bank
L/C issuing bank
①

Insurance company

Exporter

Import

Forwarder

Shipper

Customs

Container yard

Certificate
Issuing system

Scenario of PoC

L/C: Letter of Credit
I/V: Invoice
P/L: Packing list
S/I: Shipping Instructions
I/P: Insurance Policy
C/O: Certificate of Origin
E/D: Export Declaration
E/P: Export Permission
CLP: Container Load Plan
D/R: Dock Receipt
B/L: Bill of Landing
SWB: Sea Waybill
B/E: Bill of Exchange
Built TradeWaltz platform prototype

- We created the TradeWaltz platform prototype using blockchain
  (https://www.youtube.com/watch?v=y_d9DBM0CQ)
Built TradeWaltz platform prototype: Business variation

- TradeWaltz will expand its business by providing new value-added services and involving 3rd parties to create an ecosystem which will continuously deliver profitable, attractive and innovative services.
TradeWaltz will provide a series of services to improve operational efficiency, aggregate the related data, and expand business opportunities in trade.

<table>
<thead>
<tr>
<th>Value achieved by TradeWaltz</th>
<th>Means to realize value</th>
<th>Service examples</th>
<th>User</th>
</tr>
</thead>
</table>
| Operation Efficiency        | • Labor saving in trade operations  
• Lead time reduction  
• Reducing errors through rulemaking and automation | • 100%-digitized trade documents  
• Standardization and structuring of information  
• Rapid information sharing | Export Documentation Service | All Trade Players |
| Data Aggregation and centralization | • Visualizing the status of transactions  
• Facilitating and digitizing decision-making  
• Various information and seller/buyer matching | • Dashboarding  
• Digital workflow  
• Automation of reconciliation, etc. | Document Storage Service  
NSW Linkage Service  
Reconciliation statement information provision service | Shippers  
Shipping Companies  
FWD |
| Expansion of business opportunities | • Improving trade sales  
• Application of preferential tariffs in accordance with the treaty  
• Launching new services and businesses in the ecosystem | • Support for compliance with laws and treaties  
• External service connection  
• Providing a development environment on the ecosystem / supporting service development | Advanced trade document checking service  
Logistics information linkage service  
Trade finance service  
Self-certification of origin support service  
eB/L Service  
Booking service | Shipper  
All Trade Players  
Shipping Companies  
FWD  
Shipper  
Shipper  
Shipper  
Shipper |
Proved benefits in Japan

Based on the result of the cross-industrial PoC, TradeWaltz was confirmed that it contributes to the improvement of operational efficiency and the cost reduction effect.

<table>
<thead>
<tr>
<th>Industries</th>
<th>Procedures</th>
<th>Operational Efficiency/ Cost Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo owners</td>
<td>C/O application</td>
<td><strong>60+%</strong> Time saving for creating document by pulling data of I/V</td>
</tr>
<tr>
<td></td>
<td>Apply for negotiation of documentary bill</td>
<td><strong>60+%</strong> Time saving for confirming the integrity of documents by check function</td>
</tr>
<tr>
<td>Banks</td>
<td>Negotiate documentary bill</td>
<td><strong>60+%</strong> Time saving for confirming the integrity of documents by check function</td>
</tr>
<tr>
<td></td>
<td>Deliver documentary bill</td>
<td><strong>30 to 60%</strong> Time saving for delivering documents to customers</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>Issue insurance policy</td>
<td><strong>30 to 60%</strong> Cost saving for managing original documents</td>
</tr>
<tr>
<td>Carriers/ Logistic Companies</td>
<td>Issue SWB (B/L)</td>
<td><strong>60+%</strong> Time saving for creating I/P by pulling data of L/C</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>60+%</strong> Cost saving for delivering managing documents by paperless and collection cost when revising I/P</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>60+%</strong> Reduction of B/L operation by paperless of SWB(B/L)</td>
</tr>
</tbody>
</table>
Proved benefits in Japan and ASEAN

Other Proof of Concepts have also been conducted with Singapore and Thailand. With Singapore, it was confirmed that NTTData has interoperability with Singapore platform. With Thailand, the introduction of TradeWaltz proved over 50% of operational efficiency improvement and accelerate remote work.

**Proof of concept with Singapore NTP (2017-2019)**

- Proved **Interoperability** Between Platforms

**Proof of concept with Thailand (2019-2019)**

- Proved **over 50%** Operational Efficiency improvement in Stakeholders and accelerate remote work
The number of digital trade PFs is increasing

Same as in Europe & US, Trade PF initiatives are gaining momentum in Asia.

ASEAN is aiming for a “leapfrogging” to DX.

Led by public sector in Asia

Led by private sector in US & Europe

So many Trade Platforms

Note
- Private initiative
- Government initiative
- ① Main market
- ② Promoter
- ③ Main function (ASIS)

Bay Area Platform
- ① China
- ② Government
- ③ Trade Finance

NDTP
- ① Thailand
- ② JSCCIB
- ③ Digitalization
- ④ Finance

Marco Polo
- ① EU
- ② Middle East
- ③ Banks
- ④ Trade Finance

Contour
- ① EU
- ② Banks
- ③ Trade Finance

TradeLens
- ① Asia
- ② USA
- ③ EU
- ④ Middle East
- ⑤ Africa
- ⑥ Marine
- ⑦ Logistics

Bay Area Trade Hub
- ① Republic of Korea
- ② Government
- ③ Finance
- ④ Logistics
- ⑤ Customs

TradeWaltz
- ① Asia (planned)
- ② Cross-industrial
- ③ Digitalization
- ④ Finance

RDC (Regional Digital Trade Connectivity) Initiative in ASEAN
Thailand, 2019 Chair of ASEAN, started considering with TradeWaltz support

- JSCCIB Thailand takes the lead to drive forward the NDTP.
- (JSCCIB: Joint Standing Committee of Commerce, Industry and Banking.)

**JSCCIB’s hierarchy in NDTP consideration**

The project started around 2018. Domestic agenda by the Thai government in 2019.

NTT DATA (TradeWaltz) cooperates with JSCCIB to test the effectiveness of having a B2B trade platform in 2019.
Considered Hybrid data model for security

Registration of trade documents
Share with B

Reference to trade documents

Store the control info (hash)
Store the content part

x Economy Node Operating Entities
y Economy Node Operating Entities

Economy Coverage
Only Copy
Save content separately

Distributed database

API

Economy X
Company A

Economy Y
Company B

Economy Z
Company C

The data on the blockchain is only for the control section (hash). It is not possible to refer to detail contents of the documents.
Ex) suggesting blockchain-sharing model of TradeWaltz

TradeWaltz Structure

1. Optional VAS
2. U/I

Application Services layer

1. Requirement and specification
   • Status check
   • Documents check etc.
2. APIs provision
3. Authority

Core functions

1. Access control
2. Docs accumulation and sharing

The accumulation and sharing of hash(control info) of documents

Store the original documents & share only with involved parties

Node and other development environment

Expansion model

Japan

Independent business

Japan’s unique services

Common services (e.g. e-C/O)

ASEAN

Independent business

ASEAN’s unique services

Infrastructure for sharing data with blockchain
(Delivered from Japan to ASEAN)
Thailand set digital trade as ASEAN agenda

Hironari Tomioka, President and CEO of NTT DATA Thailand, said the benefits of using electronic documents for international trade were examined by 47 trial participants including Thai banks, forwarders, origin providers and Japanese banks.

Trade documents such as purchase orders, sea waybills, certificates of origin and trade finance documents were included in the trial.

*Production costs will be reduced through document processing and online information sharing via trade platform and prevent the illegal practice of multiple financing from multiple financial institutions.

NTT DATA plans to introduce the platform in cooperation with local governments.

In 2017, NTT DATA developed the platform in Japan in collaboration with a cross-industry consortium including representatives from banks, insurance companies, cargo owners and carrier/logistics companies which shared a mutual interest in paperless international trade.

NTT DATA, which develops digital trade solutions in Japan, collaborated with the JSCCIB in studying the feasibility and benefits of a cross-industry trade platform.
PF’s interoperability (hybrid model) was mentioned at the World Economic Forum 2020 sideline event.

International partners ink pact with IMDA to collaborate on digital trade

THE International Chamber of Commerce (ICC) and 17 major multinational firms have signed a cooperation agreement with Singapore’s Infocomm Media Development Authority (IMDA) to boost digital trade, which could result in wider adoption of Singapore’s TradeTrust framework for connecting digital trade platforms.

Signed at Davos on Wednesday alongside the annual World Economic Forum meeting, the agreement is part of efforts to move from the existing paper-based system for world trade to digitally-enabled trade. The parties agreed to advocate and adopt open and neutral networks, using TradeTrust for interoperability.

Moving towards digitalised trade requires a globally recognised and interoperable trading system, and interoperability was noted Minister for Communications and Information, Dr Ratchanee Siribhumin, at the Digitalisation Forum. The TradeTrust project is a key component of the Singapore government’s Digital Trade Strategy 2020, which aims to facilitate further digitalisation in international trade.

TradeTrust aims to ensure interoperability, allowing digital trade documentation to be verified using smart contracts and blockchain technology, thus reducing fraud and increasing efficiency.
We shall proceed further collaboration (like API linkage) with 20 other platformers (Exporter’s, Importer’s, etc.) to build digital trade ecosystem in the world.

Interoperability

Economy’s platforms

- National Digital Trade Platform ("NDTP")
- TradeWindow

APIs connected to:
- Exporter’s platform (UI)
- Importer’s platform (UI)
- Insurance company’s platform
- Bank’s platform
- eC/O issuing platform
- Government custom platform
- Logistic partner’s platform
- Shipping company’s platform

Powered by Blockchain
Linked together by API