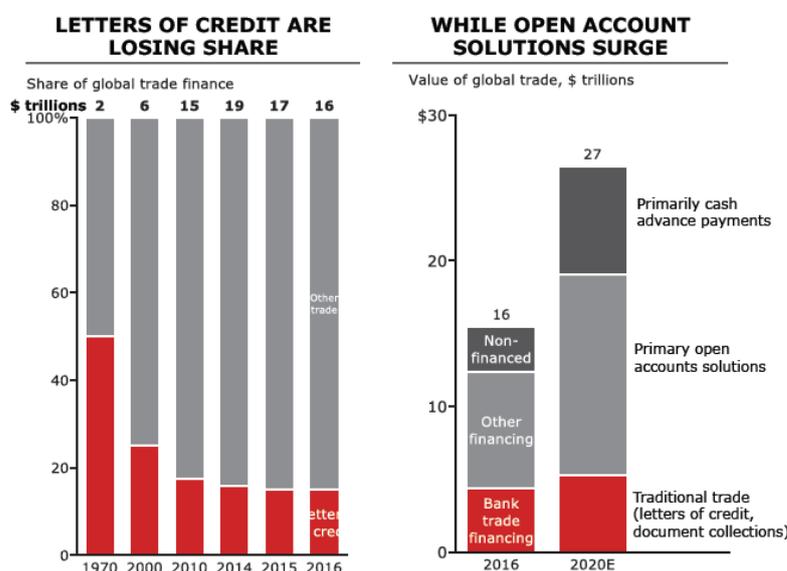


**A Strategy for the Digitalization of Trade and Supply Chain Finance**

**A Brief State of the Digitalization of Trade & Supply Chain Finance**

In banking, trade and supply chain finance is broadly divided into documentary and open account trade. Traditional or documentary trade that includes Letters of Credit continue to be largely a paper-based and manual process and thus unnecessarily costly and time consuming from the needs to check for completeness, reconciliation and other non-automated activities. A World Economic Forum report<sup>1</sup> noted that the typical cost-to-income ratio in documentary trade is 50-60% that as a result, letters of credit and guarantees have become economically unattractive to banks to be offered to lower value transactions and SMEs due to costs. As a result, volumes have been shifting from documentary trade finance to open account which implies an established trust between the buyer and seller.



Source: World Bank; ICC Global Survey Rethinking Trade and Finance (annual reports 2010-2015); MISYS Financing Future Supply Chains

Source: Trade Tech – A New Age for Trade and Supply Chain Finance, White Paper, World Economic Forum, January 2018

However, for the newly regionalizing enterprises and SMEs, they will still need to rely on bank intermediated documentary trade – such as Letters of Credit – as medium to build trust with their new counterparties located in other countries. Therefore, the costs and inefficiencies associated with paper-based manual documentary trade can become a higher gate in their access to finance and cross-border commerce activities.

Thus, for the APFF Trade & Supply Chain Finance workgroup’s work in the digitalization of trade and supply chain finance, it focuses on the area of documentary trade finance.

The cost factor associated with paper and manual documentary trade processing is despite many attempts to digitalise to improve enterprise’s value through better inventory forecasts and management, generation of free cash flow and more liquid working capital, and other benefits.

<sup>1</sup> Trade Tech – A New Age for Trade and Supply Chain Finance, White Paper, World Economic Forum, January 2018

For example, there are well-established third party industry platforms like Bolero and EssDocs that utilizes technology and digital documents amongst its participants to intermediate trade flows. In such cases, digital documents are achieved as a result of membership-based agreements. While it has been successful, the network and scalability effect of digitalization in these cases is not as optimal as it could as non-members would not be able to participate in such efficiency and cost-saving digitalization capabilities.

What is required is a method or methods that can support broader participation in the trade ecosystem.

These and other experiences including electronic Bank Payment Obligation (BPO) shows that even if banks invest into and accept digitalization methods for financing, the overall initiative's success will still need the other trade and finance constituencies like corporate buyers, sellers, shippers, ports, customs, logistics and insurance to become digitalized and be on the same or similar technical standards too. These other constituencies can have their own inertia, reluctance to invest due to a lack of scalability – a chicken and egg issue – or requires physical documents for legal and other reasons.

Inconsistent and unclear legal treatment of digitalized documents by different jurisdictions have also driven performance and enforcement uncertainties; for example, whether if judicial Courts recognize title transfer documents that are not on paper and signed with a pen (“wet signature”), and how to perfect assignment and collateralization.

Implementation, scalability and the need for network have also been the other challenges to wider digitalization adoption. As a result, in the banking industry, this has created organizational spaghetti bowls of manual and digital processes that raise cost hurdles that can away certain sized enterprises. “Digital islands” of non-standardised ways of doing things have added new inertia.

As a common denominator, it has been relatively less costly and more prudent for participants to continue with the paper artefacts since the heightened legal, regulatory and performance risks in transacting in digital cross-border trade title documents can outweigh the economic and efficiency potentials.

While today's status quo could probably continue, it would mean that the activities of modern electronic commerce, trade and finance will be supported by 18<sup>th</sup> century legal requirements – it is like a modern automobile travelling at high speed using wooden axis to hold the wheels together.

This is unlikely to be sustainable in the long run.

### **The key areas to address:**

In progressing the documentary trade documents and processes further into digitalisation, there are 4 key building block factors to address.

1. The first is the complexity of coordination as a result of the trade ecosystem's size which is huge, its participants is diverse and can span across different jurisdictional borders. Corporate buyers, suppliers – in addition to banks, logistic companies, warehouses, ports and shippers – need to be equally engaged for momentum, as are the public sector policy makers and regulators in the areas of Trade and Commerce, Technology, Judicial/Law and Finance.

This creates significant coordination challenges - between the different trade constituencies within and across the borders, for progress in the same directions and for the same standards across the trade ecosystem to be used.

- The second is the necessary legal reforms to recognize data in digital forms despite the different types of technologies in the different areas of trade processing.

## New technologies have emerged to enable digitalization of Trade

New technologies	Pre-transaction		Transaction processing			After transaction	
	Product selection	Data entry	Workflow management	Document check	Compliance check	Problem resolution	Info & client MI
Optical character recognition (OCR)		Text Recognition from trade docs to minimize data entry		Check for completeness of documents based on transaction/ product type	Scrape docs for AML keyword hit		
Artificial Intelligence (AI)	Intelligent & personalized marketing: Offer new product sales or client promotions based on insights on clients' needs and behaviors	Populate fields with text extracted from documents (integrate OCR with bxn process)		Validate/remediate data with cross-references, machine learning	Contextual filtering: Identify suspicious or unusual activity and block suspicious transactions based on predictive indicators	Intel'nt problem resolution: Track indiv. error rates & flag users in need of remediation	
Advanced analytics (AA)		Enhanced KYC (e.g. web scrape)	Efficient process & productivity monitoring & predictive analytics to detect patterns				Reports enable enhanced operations & strategic decisions
Robotic Process Automation (RPA)	Bridge data flow and communication: Integrate data from different systems into single interface						
Internet of Things (IoT)	Ease of tracking goods and documents; dynamic pricing & financing triggered by shipment events; automated payments release based on "Smart Contracts"					Track document locations: Track goods (location, volume, quality)	
Distributed Ledger Technology (DLT)	Replace documentation, checks, data entry, validation, with single digital record		Real time verification & reconciliation; workflow executed as per smart contract conditions; Replace payment & funds transfer with cryptocurrency				

Create smart LC as 'Smart Contract' on DL – auto notifications

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Source: “Fintech and Trade and Supply Chain Finance, Bain & Company, June, Fukuoka, Japan

This can drive needs to ensure that there are “fit for purpose” future laws and regulations to address the issues and uncertainties in the intersection of technology and applications. As starting blocks, laws such as those on electronic commerce or the recognition of data in digital form, electronic signatures and electronic title transfer documents best represented today by the UNCITRAL Model Law on Electronic Transferable Records (ETRs) will be needed. Other associated and complementary laws and regulations can be in the area of cybersecurity and data privacy and confidentiality.

- As the third major synergistic area, common international standardization, interoperability of market practices as well as process flows need to be established.

Standardization areas include technology protocols like message formats<sup>2</sup> which will need to be agreed, established and adopted.

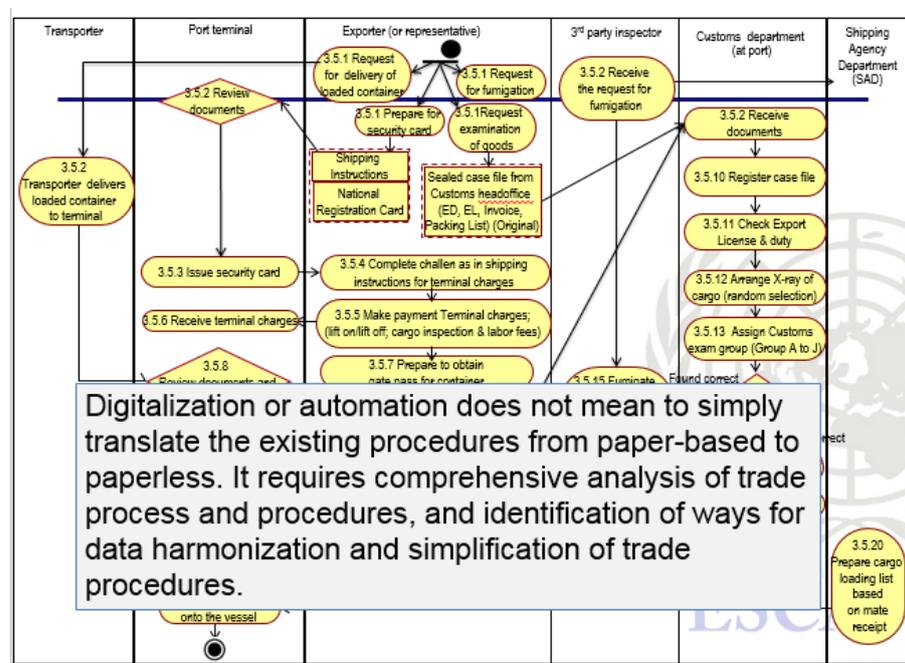
Market convention and protocols will need to be reviewed too, as the digitalisation of documentary trade will change manual-based concepts that have driven much of today’s practices. For example, the industry standard ICC UCP600 that sets out the rules and operations around documentary trade addresses acceptance protocols that establishes validity of trade finance documents, for example, like the place of presentment of a paper-based letter of credit, original documents, etc. What should place of presentment mean if Letters of

<sup>2</sup> This includes the current SWIFT MT798 standard. How should it be adopted and inter-operated with emerging technologies like Distributed Ledger Technology and digitalised trade documents will be important for banks, corporates and other participants to re-use existing investment into the MT798 capabilities.

Credit became digitalized and advance technologies like blockchain / Distributed Ledger Technology was used?

Other aspects of standardization can include corporate identifiers.

Existing process flows will need to be reviewed too as the following slide succinctly highlight this need.



Source: “Regional cooperation for promoting digital trade”, Dr Tengfei Wang, Economic Affairs Officer Trade, Investment and Innovation Division, United Nations Economic and Social Commission for Asia and the Pacific; APFF Trade & Supply Chain Finance workshop, Singapore, June 2018.

- The fourth area is on trade-based anti-money compliance, which will involve sharing of data from the different participants in order to identify suspicious transaction patterns more efficiently and effectively.

A BAFT report<sup>3</sup> highlighted that current banks’ TBML efforts, which is focused on documentary trade, may only be trying to intercept roughly 0.1% or less of illicit funds flows whereas the larger potential areas of illicit fund flows are in the non-documentary and non-bank intermediated trades. However, in order to focus on the later 2 areas in which there is a dearth of documents to check, data sharing and pooling is required. Digitalised data in trade and in payments can result in more precision TBML practices to also reduce costs and risks in the industry.

We would note that human resource availability to handle paper-based trade finance can be a shrinking pool as it is not perceived as a 21<sup>st</sup> century attractive career. In the next 10-15 years, the scarcity of the right type of people available for Trade Ops will be exacerbated by baby boomers’ reaching official retirement age in many economies. Therefore, the Trade

<sup>3</sup> Combating Trade Based Money Laundering: Rethinking the Approach, BAFT, Aug 2017

ecosystem has a mid-term need to be digitalized and efficient to mitigate the human resource availability challenge.

## **Recommendations.**

We would like to submit the following recommendations as part of the implementation of the APEC Cebu Action Plan (CAP) areas that are related to trade and supply chain finance.

### **1. Cross-ecosystem coordination and communication**

To address the challenges of cross-ecosystem communication and the type of expertise required in the digitalization of trade and supply chain finance, the APFF should establish a virtual industry cross-agency, cross-ecosystem, private-public sector “lab” (“APFF Digital Trade Finance Lab”) to focus on documentary trade, and to coordinate and facilitate communications between the different constituencies in this journey. The lab will work with policy makers, regulators and private sector to explore the intersection of local laws and market practices, technology and documentary trade & supply chain finance products and highlight detailed legal and regulatory challenges, create learning and assist in the formulation of specific next steps for progress by stakeholders.

We note that there are many similar initiatives in the industry. To optimize synergies and to the extent practically possible, the APFF would seek to collaborate with such initiatives for example, from the ICC Banking Commission, IFC/World Bank, Bankers Association for Finance and Trade, the Digital Standards for Trade body and the UN ESCAP’s Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific.

### **2. Legal and regulatory reforms**

Independent of the establishment of the APFF Digital Trade Lab initiative, to address the challenges of legal uncertainties associated with digitalization of documentary trade, we recommend key legal and regulatory review and reforms related to the promotion and use of digital trade finance title transfer documents and digital trade-based anti-money laundering. Of considerations will be the associated UNCITRAL Model Laws (e-commerce, e-signature and electronic transferable records)

### **3. Market standards and inter-operability guidance.**

Related to the reforms of key legal and regulatory reviews and reforms, we recommend a review of existing market standards including identifiers and requirements for inter-operability in order to support the legal and regulatory reforms.

## **ADVISORY GROUP MEETING PAPER 3-C**

### ATTACHMENT

*Hangzhou, China, 31 May 2018, the APFF Financial Infrastructure Development Network (FIDN) co-organized with Cainiao, MyBank and IFC a forum on Logistics and Supply Chain Finance (SCF).*

The Forum discussed how to develop logistics-linked supply chain finance and, in particular, how to build up new eco-system under the technology-driven SCF platforms. As modern economic activities are increasingly concentrated on hubs and clusters, logistics services have expanded to connect among businesses and with consumers including cross-border deliveries.

Logistics are also transforming powered by Internet, mobile communication, cloud computing and IOT. The Forum found that logistics firms have become key repositories of supply chain data and information which can be leveraged to make more MSME finance available. Some of these firms have been set up digital SCF platforms. Participants emphasized the need for better enabling environment, collaboration among chain actors, greater linkages with credit institutions, etc. in order to scale up logistics-linked SCF.

*Asia Financial Innovation Forum, Fukuoka, Japan, 18 June 2018. Held with ASEAN+3 Bond Market Forum's private-public sector audience and other invited guests, a discussion was made on "Fintech and Trade and Supply Chain Finance".*

- Mr Thomas Olsen, Partner, Bain & Co
- Mr Boon-Hiong Chan, Head of Business Control and Market Advocacy APAC, Global Transaction Banking, Deutsche Bank
- Dr Julius Caesar, APFF Main Coordinator and Senior Advisor, Mizuho Bank

*"Tapping into Digital Technologies To Facilitate Trade and Supply Chain Finance", an ABAC and APFF workshop, Singapore, 21 June 2018. Speakers, panelists and moderators were:*

1. Dr Allan Bollard, Executive Director, the APEC Secretariat
2. Mr Srinath Keshavan, Chief Executive, Trade Risk Consulting Private Limited
3. Mr Yap Tat Yeen, Head of Product Management Asia, Trade Services and Finance, Societe Generale
4. Ms Li-Sar Oon, Regional Head of Trade Finance Product Management, Deutsche Bank
5. Mr Azeem J Azmi, Vice President, Enterprise Development, Mastercard
6. Mr Tod Burwell, CEO, Bankers Association for Finance and Trade
7. Ms Angelia Chia, Partner, Mayer Brown JSM
8. Dr Wang Tengfei, Economic Affairs Officer, Trade Investment and Innovation Division, United Nations ESCAP
9. Mr Mark Borton, Head of C&IB Transactional and Trade, Customer Products & Services, National Australia Bank Limited
10. Mr Boon-Hiong Chan, Head of Business Control and Market Advocacy APAC, Global Transaction Banking, Deutsche Bank
11. Teleconference calls with Mr Alexander Malaket, Deputy Head of the Executive Committee, ICC Banking Commission (Paris).