



Asia-Pacific  
Economic Cooperation



## FINANCING ASIA-PACIFIC INTEGRATION IN THE DIGITAL AGE

2018 PROGRESS REPORT  
ON THE WORK OF THE  
ASIA-PACIFIC FINANCIAL FORUM (APFF)  
ASIA-PACIFIC FINANCIAL INCLUSION FORUM (APFIF)  
ASIA-PACIFIC INFRASTRUCTURE PARTNERSHIP (APIP)

# ATTACHMENT B A Strategy for the Digitalization of Trade and Supply Chain Finance

An Undertaking of the  
Asia-Pacific Financial Forum (APFF)

TO IMPLEMENT THE **CEBU ACTION PLAN**'S INITIATIVE 1A

### *DELIVERABLES*

*DEVELOP REGIONALLY CONSISTENT LEGAL, INSTITUTIONAL AND OPERATIONAL STRUCTURES TO FACILITATE THE FINANCING AND EXPANSION OF CROSS-BORDER TRADE AND SUPPLY CHAIN FINANCE.*

*EXPAND THE USE OF ELECTRONIC SUPPLY CHAIN MANAGEMENT PLATFORMS.*

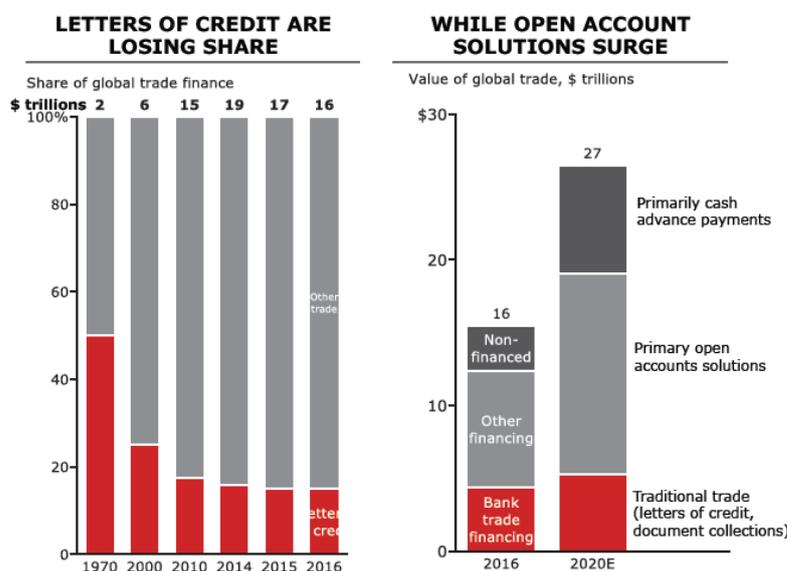
*FACILITATE DIGITAL, MOBILE AND INNOVATIVE WORKING CAPITAL MANAGEMENT TECHNIQUES*



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

## Trade and Supply Chain Finance: State of Digitalization

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 continues to be largely a paper-based and manual process and thus unnecessarily costly and time consuming due to the need 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 percent that as a result, letters of credit and guarantees have become economically unattractive for banks to offer 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, newly regionalizing enterprises and SMEs continue to rely on bank intermediated documentary trade – such as letters of credit – as a medium to build trust with their new counterparties located in other economies. Therefore, the costs and inefficiencies associated with paper-based manual documentary trade can become a higher hurdle in their efforts to access finance and cross-border commercial activities.

Consequently, the APFF’s work on the digitalization of trade and supply chain finance focuses on the area of documentary trade finance.

The cost factor associated with paper and manual documentary trade processing remains significant despite many attempts to digitalize and improve enterprises’ value through better inventory forecasts and management, generation of free cash flow, 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 among its participants to intermediate trade flows. In such cases, digital documents are accepted as a result of membership-based agreements. While digitalization in these cases have been successful, their network and scalability effects are not as optimal as they are hoped to be, 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 the use of electronic Bank Payment Obligations (BPOs) show that even if banks invest into and accept digitalization methods for financing, the overall initiative's success will still need the involvement of other trade and finance constituencies such as corporate buyers, sellers, shippers, ports, customs, logistics and insurance to successfully achieve digitalization and also to be on the same or similar technical standards. These other constituencies can have their own inertia, reluctance to invest due to a lack of scalability – a chicken and egg issue – or requirements to produce 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, such as for example with respect to whether judicial courts recognize title transfer documents that are not on paper and signed with a pen (“wet signature”), or how to perfect assignment and collateralization.

Implementation, scalability and the need for networks have also been the other challenges to wider adoption of digitalization. As a result, within the banking industry, organizational spaghetti bowls of manual and digital processes have emerged, creating cost hurdles that can drive away smaller enterprises. “Digital islands” of non-standardized ways of doing things have added new inertia.

Consequently, it has been relatively less costly and more prudent for participants to continue using paper artefacts, as heightened legal, regulatory and performance risks of transacting using digital cross-border trade title documents can outweigh the economic and efficiency benefits.

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, much like a modern automobile travelling at high speed using wooden axles to hold the wheels together.

This is unlikely to be sustainable in the long run.

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

In progressing the digitalization of documentary trade documents and processes, there are 4 key building blocks that need to be addressed.

1. The first is the complexity of coordination as a result of the trade ecosystem's huge size, the broad diversity of its participants and the multiplicity of various jurisdictional borders. Corporate buyers, suppliers, banks, logistic companies, warehouses, ports and shippers need to be equally engaged in order to sustain the

momentum of efforts, together with public sector policy makers and regulators in the areas of trade and commerce, technology, justice and law, and finance.

This creates significant coordination challenges among the different trade constituencies within and across borders for the achievement of progress in the same direction and adoption of the same standards across the trade ecosystem.

2. 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 txn 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 Finnace, Bain & Company, June, Fukuoka, Japan

Such efforts will need to ensure that future laws and regulations are "fit-for-purpose" to address the issues and uncertainties in the intersection of technology and applications. As initial building blocks, laws such as those on electronic commerce or the recognition of data in digital form, electronic signatures and electronic title transfer documents aligned with 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.

3. The third major area where synergies need to be established is the development of common international standards and the interoperability of market practices and process flows.

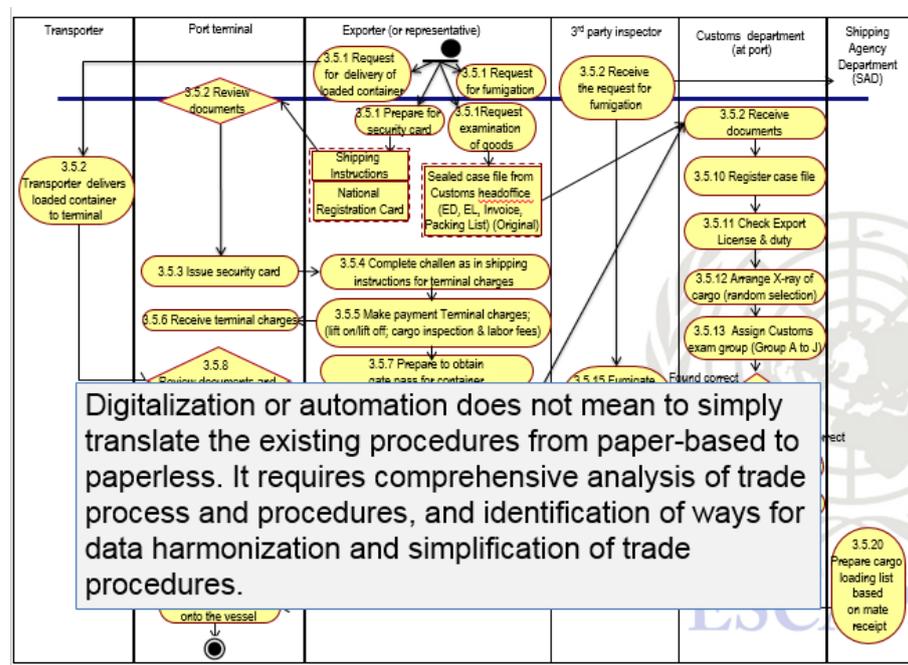
Areas needing standardization include technology protocols like message formats<sup>2</sup> which will need to be agreed, established and adopted.

<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

Market convention and protocols will also need to be reviewed, as the digitalization of documentary trade will require changes in manual process-based concepts that are driving 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 such as the place of presentment of a paper-based letter of credit and original documents, among others. This leads to the question of what the place of presentment would mean if letters of credit become digital and advanced technologies like blockchain or distributed ledger technology are used.

Other aspects of standardization can include corporate identifiers.

Existing process flows will likewise need to be reviewed. The following illustration succinctly highlights 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 trade-based anti-money laundering (TBML) compliance, which needs to involve sharing of data among 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 are focused on documentary trade, may only be trying to intercept roughly 0.1 percent or less of total illicit fund flows while 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 latter two areas in which there is a dearth of documents to check, data sharing

important for banks, corporates and other participants to re-use existing investment into the MT798 capabilities.

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

and pooling is required. Digitalized data in trade and in payments can result in more precise TBML practices to also reduce costs and risks in the industry.

An important challenge is that human resources handling paper-based trade finance is a shrinking pool, due to its not being perceived as an attractive career for the 21<sup>st</sup> century. Within the next 10 to 15 years, the scarcity of the right type of people for these tasks will be exacerbated by the Baby Boomer generation's reaching of official retirement age in many economies. Thus, the trade ecosystem is facing a medium-term need for digitalization and efficiency to mitigate the challenge of human resource availability.

## **Recommendations**

The following are recommended to implement various deliverables of the APEC Cebu Action Plan (CAP) related to trade and supply chain finance:

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

To address the challenges of cross-ecosystem communication and developing the expertise required for the digitalization of trade and supply chain finance, a virtual industry cross-agency, cross-ecosystem, private-public sector “lab” should be established using the APFF platform (“APFF Digital Trade Finance Lab”). This platform will focus on documentary trade, and on coordinating and facilitating communications among the different constituencies involved in this effort. Policy makers, regulators and the private sector are invited to collaborate with the Lab to explore the intersection of local laws and market practices, technology and documentary trade and supply chain finance products, highlight detailed legal and regulatory challenges, develop knowledge and assist in the formulation of specific next steps to be taken by stakeholders.

Several similar initiatives already exist within the industry. To optimize synergies and to the extent practically possible, the APFF will encourage collaboration with such initiatives, including for example 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**

Parallel to the establishment of the APFF Digital Trade Lab initiative, legal and regulatory reviews and reforms need to be undertaken to address the challenges of legal uncertainties associated with the digitalization of documentary trade. These reviews and reforms should include areas related to the promotion and use of digital trade finance title transfer documents and digital trade-based anti-money laundering, referencing the associated UNCITRAL Model Laws (such as those on e-commerce, e-signatures and electronic transferable records).

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

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

## ATTACHMENT

***Bangkok, Thailand, 17 October 2017, the APFF Financial Infrastructure Development Network (FIDN) co-organized with Joint Standing Committee on Commerce, Industry and Banking (JSCCIB) of Thailand the APFF Seminar on Trade and Supply Chain Finance.***

The Seminar provided an updated picture of the current situation and trends in trade and supply chain finance in terms of the global and regional context, best practice developments, the use of technology, legal and regulatory issues and the way forward. The seminar highlighted various themes.

One is the evolution of social values that are being translated into policy objectives such as sustainability, fighting crimes and terrorism that are impacting businesses and financial institutions in such forms as penalties for non-compliance or incentives for voluntary contributions. Another theme is the growing complexity of business arising from its increasing cross-border nature. Finally, the seminar discussed the theme of technology and its potential for facilitating transactions, and what is needed to enable the development use of technology, including the modernization of legal, regulatory and institutional ecosystems.

***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 Parrenas, 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

*Teleconference calls with Mr Alexander Malaket, Deputy Head of the Executive Committee, ICC Banking Commission (Paris).*