Trade finance document checking and data management:
the case for automation

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Foreword

Conpend's idealistic mission – to support international financial organizations on their journeys towards digital transformation – is, in execution, highly practical. It's a "journey" in which the benefits must be apparent from the start while always encouraging further progress. It's also one in which current concerns and barriers, from external as well as internal sources, are not only fully accounted for but integral to the solutions offered – again, while always planning for and expecting future transformation.

For clients, our mission can be observed in our automation software for trade finance documentary checking and data management. Automation, in this respect, does not mean digitization, although it's most certainly a step in that direction. It means empowering banks and other financial institutions (FIs) involved in trade finance to independently increase their productivity and efficiency. By automating the highly manual process of document checking using artificial intelligence (AI) and machine learning (ML), we can help our clients streamline paper-based processes – providing operational efficiency as well as increasing competitiveness by freeing up resources for more meaningful reallocation.

This goes well beyond trade finance, although this white paper focuses on that discipline because it's here where we have been able to most starkly demonstrate the transformative power of automation, including for leading banks such as ING Bank (a successful case study with this highly innovative trade financier is included within this paper).

For many of the world's largest banks, trade finance is a significant part of their offering for corporations and businesses. Yet their size and reach doesn't prevent them having to navigate the persistent use of paper-based documents within trade finance processes and supply chains: from letters of credit to bills of lading. Optimizing existing processes using AI, while also opening the door to digital advancement, is what Conpend is all about.

And trade finance is just the start. Client onboarding – dealing with know-your-customer (KYC) and other compliance concerns – as well as credit assessments for corporate lending are two other areas where manual document-checking can be automated using AI and machine learning. Conpend has developed apps for these areas too, again with the focus on the smooth digital transformation of clients through a tailored and collaborative partnership approach.

Conpend itself was launched in 2016 after emerging from the digital consultancy Proferus. The consultancy supported international FIs on their digital journeys by fully understanding clients before offering flexible and practical solutions specific to their needs and situations. Conpend continues this highly-tailored process, although goes beyond advice to implement the solutions in partnership with its clients. As always, the focus is on using AI to streamline and automate previously manual processes. Yet the mission remains the same: digital progress that delivers immediate and tangible benefits to clients.

I hope you find this white paper a useful introduction to the topic of using automation as part of your journey towards digital transformation. If you want to know how you can benefit, or organize a demonstration, then please visit our website www.conpend.com for more information, or find us on LinkedIn: https://nl.linkedin.com/company/conpend.

Marc J. Smith
Founder and Director

Torben Sauer
Chief Executive Officer

Executive summary

The movement of goods around the globe relies largely on trade finance. For many banks, it forms a significant part of their corporate banking business. Optimization of trade finance processes and systems therefore presents a considerable opportunityfor banks looking to manage costs and maximise returns.

However, there is a barrier to process improvement. Trade finance depends heavily on the exchange of documents, most of which are paper-based. As well as being checked for fraud, these documents have to be rigorously analysed for regulatory and legal compliance. Such checks – often undertaken in Operations Centres – remain largely manual.

This creates a number of challenges, including:

- how to scale operations when workload fluctuates

- how to adapt to change, such as that experienced in 2020; and

- how to make the best use of the wealth of data within trade finance processes to inform decision-making and promote growth.

Could automation provide an answer? Automation, through AI and ML, offers a way to address the limitations of existing trade finance document processes. It stands to optimize resources, reduce errors and alleviate the burden of repetitive tasks on skilled workers. It does so by cutting the time spent checking documents and capitalising on the data banks hold in their transactions history. What's more, it equips banks to support remote working and to build on the digital skills of employees now entering the workforce. As banks continue on their digital journeys, it is therefore worth considering whether automating the document checking process has a role – and whether that role could be expanded in time to capture other banking processes such as client onboarding.

This paper explores the case for automation in trade finance document checking and its benefits for more effective data management. It considers the current trade finance environment, the impact of manual checking processes on banks, and the contribution that AI can make to maximise efficiencies, reduce costs and support flexible working arrangements. Finally, it looks ahead to the wider applications of using AI- and ML-supported automation, with the potential to transform KYC, client onboarding and syndicated lending processes.
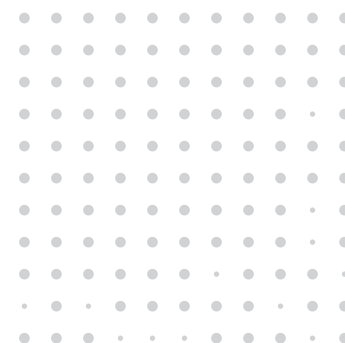
The trade finance environment

As much as 80 per cent of world trade relies on trade finance.[1] In turn, trade finance depends on accurate documentation to run smoothly. Banks undertake a range of checks against paperwork generated across the supply chain to approve finance.

These checks are undertaken for regulatory compliance and commercial risk mitigation purposes. Should a transaction become a legal issue, the International Chamber of Commerce (ICC) guidelines prevail. Therefore, checks against the guidelines provide the bank with commercial protection in the event of a later dispute.

Paper persists in the supply chain

The modern supply chain comprises many stakeholders, between which primarily paper-based documents are exchanged. Each trade finance transaction comprises many documents. In fact, the end-to-end process can involve ten to 20 documents, totalling more than 100 pages.[2]

In 2020, the ICC commented that, "document verification is a notable laggard when it comes to removing the use of physical paper" – so much so, that 45 per cent of its survey responses from banks stated that physical paper for documentary transactions had been removed "to no extent".[3]

Digitization is happening in finance of course, as it is in all industries. But trade finance processes are not solely within banks' control. Paper remains prevalent within the supply chain and it is unrealistic for banks to wait for stakeholders to digitize. Instead, many outsource document checking to operations centres, often offshore, to carry out the manual checks.

If there are efficiencies to be made, they must therefore take into account the fact paper is likely to endure in the process for some time to come. Technology solutions must accommodate this, while being flexible enough to work with documents in a range of formats.

A laborious process prone to error

Paper-based document verification is a laborious and time-intensive process, and time means money when price-sensitive commodities require rapid turnaround.

Checks on transactions up to a set value threshold may take an authoriser one hour to complete, with an additional hour of a second authoriser's time for higher value trades. If 100 transactions a day require two authorisations, a team of 25 will be set to the task all day.

The COVID-19 impact

The pandemic forced temporary office closures and accelerated the use of technology in support of remote forms of working. Such working practices are at odds with activities that depend on paper.

"COVID-19 has … uniquely exposed an additional vulnerability in the provision of bank intermediated trade financing: specifically, its reliance on paper-based processes."*

The ICC

Document checking by hand can also be prone to error, which banks can ill-afford. Keeping pace with evolving compliance and legal standards surrounding anti-money laundering (AML), sanctions, fraud and other considerations is an ongoing challenge. So much so, that 84 per cent of bank respondents to one survey were extremely or somewhat concerned about AML/KYC requirements as potential obstacles to growth in international trade finance[4].

Transgressions can, and do, incur punitive measures. In 2019, around $10 billion of fines were levied against FIs for non-compliance with AML, KYC and sanctions regulations. Of these, 40 per cent were related to trade sanctions[5]. With stakes this high, compliance and legal checks absorb ever more resources, and the time and cost impact is an increasing burden on banks.

A skills challenge

Finally, the workforce is changing. Within the next five years, considerable numbers of experienced members of banks' staff will retire – in some cases halving the workforce and seriously reducing levels of expertise. New recruits taking up vacated positions are unused to working with paper. They are more familiar with technology and digitized processes than repetitive, manual tasks. This is a challenge but also an opportunity. Accustomed as they are to the pace of technology change, these recruits bring digital skills into the workplace and consider technology to be an enabler rather than a threat.

$10 billion

Fines levied against financial institutions for non-compliance with AML, KYC and sanctions regulations in 2019

How automation can help

Operations centres need to be relieved of the burden of human-eye, page-by-page document checking. It is error-prone and costly in terms of human resources, making banks vulnerable – not least to unknowingly transgressing AML or sanctions regulations, resulting in highly punitive fines. What's more, freeing operatives from manual processes liberates them to undertake tasks that better reflect their increasing skills.

Automation is the key – with banks utilizing AI and ML to shoulder the burden of repetitive work. Documents arriving by post at a bank in Amsterdam, for example, can be automatically checked in Manila or Mumbai using AI, with the operatives on hand to deal with any anomalies discovered by the automated process.

AI helps find patterns in documents, making it ideal for trade finance document checking. The AI application is pre-configured to check the content of documents against pre-defined rules and compliance stipulations. These can include ICC and the Bankers Association for Finance and Trade (BAFT) rules, AML guidelines, and regulatory sanctions screening, including those of the Office for Foreign Assets Control (OFAC). AI checks are reliable because they are consistent: there is no room for human error due to tiredness or distraction. And the rules against which the documents are checked can be added to and updated on an ongoing basis, so that the app is always up-to-date with the latest regulations.

AI at work

Conpend is a software developer focused on helping banks and other FIs on their digial journey. The aim is to use AI and ML technology to automate previously laborious manual-only processes – liberating operatives, compliance officers and relationship managers to undertake more meaningful tasks and to generate operational efficiencies. With respect to trade finance, Conpend has developed the TRADE AI app specifically to encourage automation and digitization of the supply chain while accepting the current situation with respect to documentary checking.

Under the app, the AI process is simple but effective. First, the paper-based documents are scanned and enter the AI application, which 'reads' the contents and checks them against a set of pre-defined rules. Some of these rules will be pre-determined according to compliance and internationally defined legal checks.

Handling document checking in this way automates the otherwise people-based process that takes many hours. Only anomalies, flagged by the application, are manually checked, at which point operatives can make the best use of their evaluation skills to add value to the process.

When people undertake a regular activity, they learn from it and build experience that they bring to bear on the task, performing better the longer they work at it. The same is true of an AI application. Through ML, it builds 'knowledge' from all the transactions it has processed. And this automatically feeds into application updates, generating continuous improvement. If corrections have to be made, the application will then make the necessary adjustments on future documents.

The impetus behind digitizing the trade finance process has been the need to tackle the inefficiencies of paper-based processes. Yet the automation of document checking applies across the board. Whether documents arrive by hand or electronically, the benefits are the same – an automated checking process that increases efficiencies exponentially.

Those documents that do arrive by courier, usually at the bank's headquarters, are first digitized (i.e. scanned). Meanwhile, electonic documents enter straight into the digitized application. In this way, AI transforms document checking and data management, without imposing change on clients and stakeholders, who can continue to provide documents in a range of formats, according to their own processes.

Digitization is a must for every company

Yet the significance of Conpend's TRADE AI app extends far beyond trade finance. In the past decade, there have been great successes in the digitization of bank processes – not least in retail banking. But there has also been progress with respect to the digitalization of supply chain functions, again often instigated originally at the retail level. Both areas can be said to be on digital journeys, with automation very much part of that process. In both cases, automization streamlines paper-based processes by improving operational efficiency. This increases competitiveness by freeing resources for more meaningful reallocation.

TRADE AI converts paper-based documents into a valuable data set. The key is what is done with the data. Currently, it is primarily used for document checking, but banks are also using it for ledger purposes, including bookings and payments. Whether banks are working with paper or digital documentation from their suppliers, TRADE AI automates the document checking process and makes the necessary data available for all automation in downstream processes. With this, TRADE AI beams trade finance processes into the future - today. It complements existing processes, while simultaneously driving a bank's digital journey. ;

TRADE AI is more than a step towards the future Nirvana of fully-automized trade finance processes. It is the future, and one that can cope with the imperfect present. Whether a supply chain is 100 per cent paper-based or 100 per cent digital is now irrelevant – the TRADE AI app can shuttle seamlessly between the two.

A change programme

This is a change programme that can digitalize the whole trade finance process, but at the pace of the counterparties' various digitalization journeys. But how do we implement the change? Certainly, introducing automation into trade finance document checking involves more than selecting and instructing an application to do a job. The initiative should be approached as a change management programme, with due regard to its impact on people, processes and systems. That way, the transformation is more likely to succeed.

Banks embarking on such an endeavour should focus on four different aspects:

1

An end-to-end review

Of the current state of trade finance document checking and data management, including what works and where improvements can be made. An understanding of existing processes and technology investments will be required, so that the implementation of AI-based automated document checking seamlessly integrates with other resources and authentication tools (such as Dow Jones, World Check and Oracle) used by the bank. The aim is to improve efficiency and outcomes, not to duplicate or reinvent unnecessarily.

2

Decision-making

The right teams and individuals will need to be involved. This means ensuring that the project has the right decision-makers but also implementing programme management extending to change managers, communications teams and people managers. The business case will depend upon understanding the aims of the project, defining measured outcomes that will determine return on investment, and the agreed involvement of all impacted teams.

3

Objectives and targets

The change programme will need clear objectives that define the purpose of the initiative, as well as parameters for targets and measurement. A target of achieving a 20 per cent time saving, for example, is only meaningful if the team can first measure how long activities take. Working towards targets will require co-operation across the whole business, not just the implementation of a technology solution.

4

Measurement

The programme should be data-driven. After all, digital solutions produce data – usually lots of it. A significant benefit of digitization is that data can be analysed to inform decision-making and support continuous improvement.

Assessing the benefits

Automation addresses the limitations of manual document checking in trade finance. It can cut the time it takes to perform checks, reduce errors and optimize resources. And, without the burden of repetitive tasks, workers can apply their skills to higher value work.

Banks automating in this way can benefit from:

Cost reductions
The cost of labour deployed to undertake manual checks can be reassigned to other tasks, contributing significantly to reduced overheads in trade finance document checking

Process optimization
Optimizing processes propels banks towards more streamlined operations, integrated systems and effective use of data

Efficiency improvements
Automation enables a quicker, leaner, more efficient process. In the earlier cited example of 200 hours spent on transactions requiring second-level authorisation, automating the initial check would halve the required time

Innovation
Automation in trade finance increases banks' overall level of digitization. This contributes to organization-wide goals to transform paper-based processes, remove inefficiencies, implement cost reduction strategies and innovate for future growth

Improved compliance
Repercussions from regulatory contraventions can be severe, damaging and far-reaching – ranging from fines to jail time for executives. Reputational damage can be significant and long-lasting. Mitigating the risk of failure in document checking processes helps banks be compliant and meet required quality standards

Risk reduction
An AI application doesn't get tired or distracted, skip checks by accident or pass something by mistake. It lowers risk for the bank as its checks are not at the mercy of human error. AI is ideally suited to crunch through high volume, repetitive work; people are suited to assessment and decision-making – automation plays to the strengths of both

Remote working
Working with paper-based documents requires staff to be in offices. Automation equips banks for flexible location strategies with fewer offices performing specific functions. This is cost-effective, supports employee work-life balance and ensures workloads can be reshuffled in line with capacity and to backfill employee absence

Skills optimization
Operations centre employees applying their time to discrepancies revealed by the automated checks can add more value and increase their skills. This makes for more rewarding work, the opportunity to build advanced skills within the organization and a chance to capitalise on the digital skills of employees entering the workforce

Trade inclusivity
Automation affords any supply chain participant the same access to bank operations, even if they are incapable of providing electronic documentation. This helps to keep suppliers in less digitally advanced countries in the system

Data analytics
The app retains knowledge of each transaction. This repository of acculumated checks, assessments, results and anomalies can be drawn upon to provide insights. It's a learning system supporting continuous improvement

The way ahead

Beyond trade finance, other opportunities exist to improve data management and automate document checking. Essentially, any processes that depend on applying a structure to data and comparing that data against set criteria are potential candidates for automation.

A whole range of banking processes involve confirming data quality and ensuring that required information is in place. These include:

Customer onboarding and KYC

AI-based automation can simplify the time-consuming process of onboarding customers and suppliers through automated AML screening, identity verification, document authentication, country-specific workflows and due diligence analysis. Tedious and repetitive, error-prone tasks are carried out by the AI application, freeing-up compliance officers and relationship managers to focus on resolving identified discrepancies. An AI-based automation solution also provides case management with an audit trail, automated client profiling, flexible risk modelling and scoring, and secure information storage.

Loans

Digitization and automation can benefit agreement investigations and analysis, and agreement creation, negotiation and approval to save time, increase productivity and provide an automated audit trail. Amendments to existing contracts can be bulk generated while draft contracts can be created from templates. These can then be shared externally and comments or additions can be made directly in the system to be approved or rejected in a configurable workflow.

Automation in action: ING Bank

AI-based automated document checking provides a major boost for ING's trade efficiencies

ING Bank has a well-deserved reputation as one of the world's most innovative and tech-savvy banks. As such, it is constantly looking to see where innovation and, in particular, automation, can add efficiencies – not least in trade finance, another area in which ING is regarded as a leader.

Yet one area of trade finance that has so far resisted digitalization is the checking of documents such as bills of lading and letters of credit. Supply chains – especially those involving small emerging market manufacturers in the poorer countries of regions such as South and Southeast Asia – still rely on paper-based documentation and will do so for the foreseeable future.

Banks on their own cannot solve this. But they can come at the problem with fresh thinking, which is exactly what ING has done. Rather than trying to convert the entire supply chain to digital documentation, ING's propensity for innovation has led them to focus on potential efficiencies within the documentary checking process. The bank accepts that electronic documentation is simply not viable for certain supply chain markets and participants – yet – so instead wants to make the existing process better, with the added benefit of liberating their staff for more meaningful work.

Working with Conpend – an Amsterdam based banking software specialist – ING has explored solutions deploying AI based automation for the mundane aspects of documentary processing. These include checking for compliance with ICC rules, as well as against the BAFT AML guidelines and regulatory sanctions screening, including for the OFAC in the U.S.

Automation also deals with the increasing regulatory burden on trade financiers since the 2008 financial crisis, which has resulted in an increase in compliance checks as well as heightened jeopardy for non-compliance. Given this, allowing ING Bank to automate the checking process even while it accepts the continuation of paper-based documentation has been hugely advantageous for the bank.

Conpend's TRADE AI app

ING's innovation is in the integration of Conpend's TRADE AI app, which automatically checks documents against inputted rules and regulations. As has been the case with trade finance departments for decades, documents arrive by envelope and are then scanned and sent through a secure file-share to processing centres in the Philippines and Slovakia. Yet, where operatives once had to laboriously read all the documents before compiling a compliance report, the TRADE AI app now scans the document for key words and phrases. If an anomaly is spotted, a query is raised and one of the operatives checks the document.

> "The app has delivered more than we expected quicker than we expected"
>
> *Dermot Canavan, Trade Operations Manager, ING Bank*

The app has the power to convert all documents – whether they are copies, originals, clear or unclear papers – into machine-readable words through optical character recognition (OCR). Yet the app also learns from all previous transactions. Applying the learning to all future documents, the result is a process that is faster and more consistent than any human checkers can achieve – allowing it to produce analysis as well as recommend actions and solutions, all while constantly improving.

Meanwhile, the operatives are freed from the drudgery of document reading and, as such, can spend more time checking the queries thrown up by the app – all adding to the efficiency gains.

Improved efficiency

For ING the objectives were clear: faster turnaround times, reduced errors and improved interaction with clients for day-to-day activities. And TRADE AI does just that, resulting in ING adopting it as part of their Digital Bank and Robotic Process Automation strategies, including Trade Based Money Laundering and Document Checking.

Certainly, ING has achieved significant cost savings as well as savings on turnaround time as document checking and transactions are processed faster. Not to mention the significant operational simplification and reduction in the probability of error that TRADE AI has made possible.

It is also important to note that the implementation of TRADE AI has not led to any job losses. On the contrary, it has increased job satisfaction at the processing centres as the document checking process was repetitive, boring and time-consuming.

Working with Conpend

The ING-Conpend partnership was critical for the project's success. ING realised that banks cannot accelerate financial services technology on their own, hence why it embraced cooperation with a developer that specialises in the smooth transition to a digitalized future.

Yet it was important for both parties that this was a partnership rather than a simple supply contract.

"With clear and defined objectives from day one, ING has been realistic about the process and the execution of the project – allowing Conpend to successfully build and deliver on their vision based on ING's feedback and requirements," said Marc Smith, Founder and Director of Conpend.

"The partnership has been a journey, and it has been approached as one right from the start, with no expectations that TRADE AI would be installed and immediately save time," said Dermot Canavan, Trade Operations Manager at ING Bank. "That said, the app has delivered more than we expected quicker than we expected."

The partnership between Conpend and ING Bank – forged through the development of trade documentary checking – is now entrenched, opening up other bank processes that could benefit from AI.

"Watch this space," concludes Conpend's Smith.

About Conpend

By automating document checking using AI and machine learning, Conpend's clients can streamline paper-based processes – providing operational efficiency as well as increasing competitiveness by freeing resources for more meaningful reallocation.

Conpend's TRADE AI app checks against International Chamber of Commerce (ICC) rules and undertakes compliance checking against the Bankers Association for Finance and Trade (BAFT) anti-money laundering (AML) guidelines and regulatory sanctions screening, including Office for Foreign Assets Control (OFAC). Conpend strives to be part of our clients' journey every step of the way – offering them the latest innovative solutions that will change their business for the better.

Visit conpend.com to find out more.

[1] ICC TRADE FINANCING AND COVID-19: Priming the market to drive a rapid economic recovery May 2020 https://iccwbo.org/content/uploads/sites/3/2020/05/icc-trade-financing-covid19.pdf

[2] The Boston Consulting Group Sibos 2018: 'Pulse check' of Digital in Trade Finance 2018 https://www.bcg.com/en-gb/pulse-check-of-digital-in-trade-finance

[3] ICC 2020 ICC Global Survey on Trade Finance: Securing future growth https://iccwbo.org/publication/global-survey/#1595003571985-d788eb68-ce7c

[4] Ibid

[5] eflow Global financial institutions have been fined over $36 billion since 2008 https://eflowglobal.com/2020/02/04/27104/

* ICC TRADE FINANCING AND COVID-19: Priming the market to drive a rapid economic recovery May 2020 https://iccwbo.org/content/uploads/sites/3/2020/05/icc-trade-financing-covid19.pdf

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