

INDUSTRY BANKING KYC UTILITY PROJECT AFTER-ACTION REPORT – KNOWLEDGE SHARING

INTRODUCTION

1. A party proposing a geographic or cross-border Know-Your-Client (“KYC”) utility capability for corporates will benefit from the foreknowledge that this subject matter is much more technically demanding and operationally challenging than appears from a cursory analysis.
2. For the past 2 years, such a project was undertaken by an industry utility steering committee (the “IUSC”) comprising Singapore indigenous and large international banks, reporting to the Council of the Association of Banks in Singapore (“ABS”). The objective was to create:

A centralised utility capability for performing, to the maximum degree possible, end-to-end KYC tasks in respect of corporate customers, mutualising each such record in order to reduce duplication and to prevent criminals exploiting information asymmetry between institutions.

In September 2018, the project was put on hold by the ABS.

3. This report is published by the IUSC to share knowledge around:
 - a. The problem statement
 - b. Core design decisions made
 - c. Achievements
 - d. Challenges
 - e. Learning experiences

This report is not intended as a technical paper but as an incisive reflection on the problem to be solved, the key decisions around which similar projects are likely to pivot, and discusses the trade-off options associated with these decisions.

4. The parties involved in the project are of the firm view that KYC remains an industry-wide pain point from the perspective of regulatory risk, operational cost and customer experience. Most significantly, criminals are able to exploit asymmetric information between institutions. A KYC Utility *mutualising*¹ KYC information could help to identify and prevent such asymmetry. Secondly, doing KYC on a bank-by-bank basis means the consequential cost to the economy from both the direct, aggregate cost of operationalising KYC and the consequent impact on business efficiency cannot be underestimated – which translates into impact on the customer experience. As such, the problem statement deserves continued consideration.
5. Parties wishing to obtain more detailed underlying documentation relating to the project are welcome to contact ABS at banks@abs.org.sg. Provision of the documentation may be subject to non-disclosure conditions. Meetings with key IUSC personnel can also be arranged upon request.

¹ The maintenance of a single KYC profile record for a customer, consolidating all available data so that the benefit of the mutualised profile can be shared, subject to appropriate controls, with other banks who have onboarded that customer, and with the authorities.

THE PROBLEM STATEMENT

6. KYC as a term broadly and generally means that a financial institution is required to have enough knowledge of a customer to be able to determine and mitigate the money laundering or terrorism financing risks associated with that customer. As used in this report, the term is interchangeable with Customer Due Diligence (“CDD”), which reflects the operational tasks of obtaining sufficient information on the customer to effect compliance with applicable regulations – and thereby assess and mitigate any risks.
7. These operational tasks have roots in recommendations published by the Financial Action Task Force. In essence:
 - a. *Identifying and verifying* the customer using *reliable independent source documents or information*;
 - b. *Identifying the beneficial owner* and using *reasonable efforts to verify* the same;
 - c. Understanding and as appropriate *verifying the nature and purpose of intended business relations*; and
 - d. Continually verifying that activity is consistent with the information gathered.

Associated with these tasks is also a need to ensure that customers and persons associated with customers are *screened against relevant money laundering, terrorism financing and sanctions sources*.

8. These tasks have to be performed when establishing business relations and have to be refreshed on a periodic basis and/or depending on certain defined triggers including transactional activity or if reasonable suspicions arise.
9. Thus, when approaching the KYC problem, it is insufficient to consider the problem statement to be limited, say, to identification of a customer. That is only a small part of the problem. A further discussion below will illustrate why this is inadequate, and unreflective of the true effort associated with KYC. It is necessary to consider KYC as a combination, and a continuity, of the operational tasks required to satisfy the regulatory obligation.
10. For the purposes of this report, certain terms will be used to elaborate on KYC tasks:
 - a. “ID&V” describes the tasks associated with *identifying and verifying* a customer and any natural persons who are related parties to the customer (beneficial owners, controlling persons, authorised signatories etc.);
 - b. “Unwrapping” describes the process of *identifying* any other connected or associated persons, by drilling down into the corporate hierarchy of shareholders and/or shareholders of shareholders, and *verifying the nature and purpose of intended business relations*; and
 - c. “Screening” describes the tasks associated with *screening customers and associated persons against money laundering and terrorism financing sources*. Screening is done at the time of on-boarding/periodic renewal as well as on an ongoing basis.

11. Typically, ID&V, Unwrapping and Screening tasks have an intricate and iterative relationship with each other. One institution provided data that suggests that this iteration is responsible for more than 65% of the KYC effort. For example, Unwrapping may identify an associated person which may then have to be subject to Screening or further ID&V. An improperly

performed ID&V process may have to be re-performed if Unwrapping or Screening shows further work to be done. Screening may reveal hidden relationships that need to be subject to Unwrapping and ID&V. Thus, it can be argued that an end-to-end design that incorporates ID&V, Unwrapping and Screening is likely to maximise operational benefits and minimise risks.

12. Delinking ID&V from the rest of the KYC operational task load (as is typical of most KYC repositories currently available), or delinking Screening from the rest of the KYC operational task load in fact deals only with a small part of the problem. This potentially creates more operational hand-offs because the unit performing one task will have to interact with another unit for a different task, which is a back-and-forth interaction creating more effort and operational risk. Within this, there is an interesting debate about the trade-offs to be made between a full end-to-end process, and how this interacts with existing operating models of banks, some of which may have more developed capabilities and efficiencies on select aspects of the end-to-end process.
13. As a starting point, however, the discussion above introduces the reason the IUSC approached the project as an *end-to-end* design.

CORE DESIGN DECISIONS

14. For reasons mentioned above, there was a focus on the *end-to-end* approach. Specifically, to map out the entire process flow for KYC and to identify the maximum number of processes that could be in scope for the Industry KYC Utility.
15. **Mutualisation:** To tackle the challenge of information asymmetry, the IUSC agreed that the utility would mutualise record information across all banks using the Utility, enabling banks to maintain one single KYC record of a common customer. This potentially reduces process duplication by performing KYC once, and removes the need to repeat this on a bank-by-bank basis, thereby translating into higher operational efficiencies and enhanced customer experience.
16. **Centralisation versus decentralisation:** An early decision was taken to attempt a centralisation of the database for the Utility. As at the time of the initial design work, this was considered the most viable design option. Some examples of decentralisation were explored given the prevalence of proposals involving distributed ledger technology. The key consideration at the point in time was a lack of maturity in decentralised technology, and some of the factors working against distributed ledger technology included latency and immutability in the event of operational error or intentional misrepresentation by criminals. The IUSC wants to flag in this report that the trade-offs associated with this issue – centralisation or decentralisation – are an important core design element.
17. **Exclusion – for the time being of the retail banking segment:** A decision was taken to focus on the corporate client segment as opposed to the individual client segment(s). This was driven by a few factors. Firstly, the Unwrapping problem is less prevalent in the retail segment and a solution for the retail segment would be less operationally intensive than one for the corporate segment. Secondly, the amount of fully digital retail onboarding initiatives underway by banks was already compelling enough to deprioritise the retail segment.

18. **Exclusion – for the time being – of the private banking segment:** Another distinction was drawn between the corporate client segment and the private banking segment. An argument can be made that private banking overlaps with corporate banking due to usage of legal entities as investment vehicles. In private banking however, significant effort could be expended on what is called source of wealth corroboration, which is in many ways more operationally challenging. It was also thought that private banks compete on the basis of a deep understanding of their clients’ wealth and investment profile and there was limited appetite to share such information.
19. **Harmonised policy and operating model:** To create a platform for mutualisation of customer information, it was considered important to embark on an exercise to harmonise KYC policy standards and operational processes across participating banks. This was because of varying practices in the implementation of regulatory KYC requirements by banks reflecting complex decisions around factors such as existing platforms, group-wide policies, risk appetite and/or other historical decisions including regulatory commitments. Creating harmonised policy standards in consultation with the regulators strengthens risk management across the industry if a “highest standard”² approach is adopted as much as possible. Further, with a harmonised policy, it becomes feasible to create a standardised target operating model and enable mutualisation of records by banks, which provides for consistency in delivery and assurance. Absence of a harmonised policy or operating model may make it challenging to realise operational efficiency, a key benefit from mutualisation.
- This was a very detailed exercise, culminating in a key achievement – summarised later - of a target operating model that could form the basis of operational standardisation between the Utility, customers and participating banks.
20. **Customer interaction by Utility:** The IUSC was unanimous that customer interaction should continue to remain with the banks. This is for risk management purposes, to maintain first line involvement in the KYC process, to know the customer well, as well as to ensure service quality is not impacted. In addition, the banks felt that customer interaction was a strategic feature of a banking relationship which should not be left to a Utility.
21. **Ownership model:** The IUSC, in consultation with the ABS, determined that the best model would be for the Utility to be set up as a separate company (under the ABS), with independent management and governance. The Banks will be customers of the Utility and will not have any ownership in the Utility. This would also benefit the adoption model by showing that this was not a consortium of banks which would otherwise control and profit from the Utility.
22. **Adoption strategy:** Finally, a key consideration in all design efforts was how to design for maximum adoption by customers and other institutions (i.e. not just banks – KYC also applies to other financial institutions and even non-financial institutions such as corporate service providers and law firms). To this end, various factors were considered, including:
- a. ensuring ecosystem connectivity with other data sources and equivalent utilities (for other segments and geographies);

² Note that this is not a “highest common denominator” approach, but a question of commitment to standards when harmonising. If a denominator approach was taken, this could have for example resulted in 2/3 of the countries in the world being tagged as “high risk” for the purposes of the KYC policy.

- b. ensuring the ability to ingest and output many different types of data formats, which included a range of options from application programming interface (“API”), various file formats, or dedicated front end; and
- c. exploring ways to increase adoption rate of the Utility, e.g. regulators mandating the use of the Utility.

ACHIEVEMENTS

23. The following are some of the major achievements of the project, some of which are global firsts and went farther than other similar efforts around the world.
24. **Public/private collaboration:** The project saw unprecedented collaboration between public sector and private sector. AML/KYC expertise, operational expertise and technology expertise was provided to a large degree by the private sector. However, the public sector was instrumental in:
 - a. **“Golden sources” of data:** confirming “golden sources” in Singapore (i.e. ACRA or MyInfo) of data required for KYC which could then be legally relied upon for KYC purposes. This resulted in key data fields for KYC being identified and mapped to government databases, and with a roadmap for the operational access to those data sources into the Utility’s infrastructure. A further roadmap was agreed to define characteristics of “golden sources” which may exist outside Singapore and therefore could be relied upon for the purposes of the Utility.
 - b. **Harmonised KYC policy:** working on a harmonised KYC policy for Singapore corporate customers which, to the greatest extent possible, reflected a “highest standard” approach to eliminate policy and operational inconsistencies between banks. A commitment to these standards when harmonising was a key enabling factor facilitating support for the Utility, both for local banks and international banks, since the policy standard was consistent with all the multi-jurisdictional and/or global standards which were applied. This was fundamentally differentiated from other KYC utility projects because of the interaction with MAS to ensure the policy standards were also consistent with the direction of travel of regulatory opinion. Achievement of this harmonized policy would, where adopted by banks, continue to serve to improve the standard of KYC risk mitigation capability across banks in Singapore, even in the absence of a shared Utility.
 - c. **Collaboration on key design features:** iterating through numerous design considerations to arrive at consensus positions³. The most ambitious experiment of the project – which was to reduce turn-around time for simple KYC onboarding from days/weeks to minutes or even seconds – was concluded to be operationally feasible by the end-to-end design. In that sense such “straight-through” processing for an appropriate subset of customers was potentially one of the key capabilities of the Utility.
 - d. **Target operating model:** reducing all the design considerations into a target operating model which provided a common base of reference for further

³ This included, for example, analysing an early proposal to tag customers with “red”, “amber” and “green” risk ratings which could have made “straight-through” processing of KYC output even more feasible. However, due to risk appetite differentials between banks, this was ultimately discarded, in favour of a design which better represented the continued responsibility of banks (and not to the Utility) for KYC.

implementation, including operational change management by the banks in order to reflect Utility output to the banks.

All these in turn allowed for a technology infrastructure and API to be defined which formed the basis for taking data from “golden sources”, processing it through ID&V, Unwrapping and Screening and for the output to be directly ingested by banks into their customer onboarding systems.

The achievements described here would not have been possible without a whole-of-government level of participation and engagement – whether MAS, ACRA, GovTech or any other stakeholder. A KYC utility project is less likely to succeed in the absence of a very high degree of public/private collaboration.

25. **Liability model:** One of the key issues likely to be faced by any type of Utility project is whether upstream banks contributing data to the Utility, or the Utility itself, is liable for the output which is relied upon by downstream banks. A key achievement of the Singapore Utility project was also to define a liability model which was agreeable to the Utility, to upstream and downstream banks, and which had a level of input from the regulator. The liability model would allow enforcement to take place against banks which, despite using the Utility output, still performed KYC poorly, and set out a consensus approach on how to allocate such liability upstream in an acceptable way.
26. **Proforma solutions defined for many other issues:** A project of this ambition would clearly encounter numerous types of risk management issues, whether arising from the impact of regulation or otherwise. Such issues include banking secrecy, data privacy, data ownership, outsourcing risk management, technology risk management and regulation of the Utility. Each of these issues had been given due consideration and proforma solutions had been developed.
27. **Identification of a Screening engine delivering potential for differentiated results:** Since Screening was a necessary component of the end-to-end design, one area of focus for this project was the evaluation of several next-generation Screening capabilities. These were not current rules-based capabilities enhanced by fuzzy logic but had an array of artificial intelligence capabilities to both identify matches or potential matches, and to adjudicate on the disposition of such matches. A proof of concept was conducted involving manipulated data contributed by banks in a blind test with each next-generation vendor solution after which it transpired that one particular Screening engine was sufficiently differentiated both in terms of higher matches and lower false positives.
28. Despite these achievements, the project encountered significant headwinds.

CHALLENGES

29. **Impact of end-to-end design on costs, and business case:** The project assessed 3 main buckets of costs:
 - a. **Utility set up costs,** primarily driven by fixed costs to set up the Utility technology platform and integrate the various components. Many levers were examined in connection with these set-up costs, including using cloud architecture and offshore operations. Nevertheless, this still accounted for nearly a third of the project cost.

- b. **Migrating historical bank data into the Utility.** In order to gain the benefit of mutualising customer records, a one-off exercise had to be performed to ensure that there was clean and mutualised KYC data for all relevant customers of IUSC banks in the Utility. This would also have allowed the Utility to be seeded with KYC profiles and assist adoption since that profile could then be accessed by every bank which onboarded that customer. This ended up being an operationally intensive work leading to high costs, since the data had to be transferred to the Utility (in the same way a credit bureau would be created), processed, and then returned to banks which then had to ingest the processed data and assign a final risk rating. If that rating changed from before, then there was also a prospect of administrative overhead associated with deciding whether to accept the risk or not. All in all, this component also accounted for approximately a third of the costs.
- c. **Bank integration costs**, comprising the technology and workflow changes necessary in order to use the Utility output. Banks are all at various stages of sophistication and evolution in terms of client data systems and KYC workflow systems. And somewhat counterintuitively, banks which may have spent more time developing integrated client data and workflow systems incurred potentially more cost to make the changes necessary to ingest data from the Utility. Because of that significant fragmentation in bank systems, bank integration costs also accounted for upwards of a third of the project costs.

This led to a knock-on impact on the overall commercial business case for the Utility. As a starting point, and based on the estimated fees which could be charged by the Utility, it was assessed that the overall margins at a systemic level did not allow for a viable business case in a projected term, and the proposed solution was going to cost more than the savings that banks would get out of it. And as a broader reflection, in order for the Utility to create room for forward investments given the pace of development of KYC technology and evolving regulatory expectations, it would have been necessary to start accumulating that investment headroom from the margins of the Utility's business.

30. **Further cost impact** was also likely and reasonably foreseeable. We have already discussed the pace of development of KYC technology and the need for investment headroom. Additionally, there was growing focus on cybersecurity risks (there was contemporaneously a high-profile Singapore cyber incident affecting health infrastructure), and the impact of progressively hardening systems and operations to mitigate increasingly sophisticated threats had not yet been taken into account. This was pertinent because that the Utility would conceivably hold hundreds of thousands of KYC profiles and much more director/shareholder information - this being a logical consequence of a design choice to centralise the database in order to achieve mutualisation. The debate could be around whether a decentralised approach offers better trade-offs.
31. **Operational risk** was a major component that had to be factored in. There was considerable room for operational error translating into potential liability scenarios, including dealing with fragmented bank systems and processes, different sources of data (some "golden sources", some provided by customers), a need to deconflict data if the same data field is populated from sources of different quality, and so on. The quality assurance put into operations would likely have to be examined closely before the Utility went live, and this was also a foreseeable scenario where costs may again be impacted adversely simply because the history of

performing KYC continues to give rise to many lessons learned and opportunities for improvement.

32. **Cross-border impact of proposed banking secrecy/data privacy approach:** The experience of other KYC utility projects has shown that obtaining customer consent is a major impediment to utility adoption. Although a Singapore national Utility model could have been used to deal with some of this impact domestically, banks would continue to face the challenge of dealing with the issue in other jurisdictions where those customers may have originated from.

LEARNING EXPERIENCES

33. **The trade-offs between design/innovation and business case impact:** It is self-evident from this report that significant priority was given to design choices which represented a highly ambitious ideal. Equally self-evident is the fact that the cost of those design choices meant that there was no consequential path to systemic commercial viability in a projected term, and that the cost was more than the savings that banks would get out of it. The logical conclusion therefore is that more could and should have been done in terms of managing the iteration between design idealism and the business case, and/or obtaining more concrete clarity around tolerance levels of various stakeholders. This is not always possible, as:

- a. in any given negotiation process (including negotiations relating to design choices and costs), bottom line positions are never transparently known; and
- b. without a level of design idealism, vision or ambition there would have been no differentiated innovation,

but the fact remains that more agility in governing the interaction between design and cost could have helped.

34. **Not all corporations are the same – the balance between operations and technology:** Currently, KYC is an exceedingly operational process. However, there is increasing technological disruption in this space. Over the past 2 years, significant advances have been made in mundane areas such as API connectivity, workflow management and dashboarding, and sophisticated areas such as artificial intelligence capabilities for Screening. Also, the use of “golden sources” could offer opportunities to innovate ID&V further in client segments where Unwrapping is less of an issue. By better identifying such segments (such as simple small/medium enterprises with limited operating history) it may have been possible to apply better technology solutions and avoid impact from seeding needs. This latter proposition – *applying better technology to the KYC problem* – remains an area of focus for ABS. However, this needs an important caveat because in certain other client segments – for example complex multinational corporations – it is very unlikely to be able to avoid operations entirely. If anything, as stated earlier, the operational component of KYC associated with Unwrapping, and the consequential relationship with ID&V and Screening, accounts for the majority of the work associated with KYC for this segment. Thus, with regard to the main pain point associated with KYC, there does not appear to be any other solution than a very operationally capable setup able to achieve efficiency through scale, streamlined process and outstanding operational management.

35. **Stakeholder needs are widely divergent:** This may sound obvious, but it is a given that KYC has been operationalised differently by different banks. One resultant issue is stakeholder management – bearing in mind each bank will have its own preferred position on any given

issue, and the regulator will have a view, and other stakeholders such as vendors and/or the ABS may also have a view. This also accounts for the amount of time and effort necessary to achieve a design conclusion. It was often necessary to accommodate a long process of requirements gathering and then distilling a common view to achieve consensus.

It also became more evident that the cost of performing KYC varies considerably between banks – something to be expected considering the various stages of sophistication and evolution of the banks. These cost differences impact every aspect of the business case – for example, cost of integration, comparative cost of performing KYC, and break-even points. This required an analysis of profitability on a per-bank basis as well as a systemic industry basis. Any KYC Utility project will benefit from the learning that it is in many ways more expensive to try to bring such divergent processes together, than it is to keep them apart – which was why it is such an achievement to be able to define a target operating model. But the challenge continued to be the state of development, maturity and sophistication of banks which is continually in flux. Each of the system environments and workflows had been optimised for maximum standalone efficiency and regulatory compliance, and making alterations to those systems proved to be an expensive proposition.

36. Modularisation. The fragmentation of bank operating models then raises the issue of whether modularisation - offering on a component-by-component basis ID&V, Unwrapping and/or Screening capabilities - was feasible. Because this was not a core design principle from the outset, it was difficult at a late stage in the project to require modularisation as this would affect the target operating model. However, modularisation is a consideration around which many other design challenges would arise:

- a. the most fundamental aspect would be whether the “straight through” proposition of the end-to-end design would be realisable; and
- b. more optionality around services of the Utility could introduce additional complexity, cost and operational risk.

Nevertheless, the viability and design impact of modularisation was not fully analysed and input on feasibility is welcomed. For one thing, modularisation could have a materially beneficial impact on adoption.

37. A final reflection on the greater good: It should be noted that the cost-benefit analysis conducted for this project was an analysis around a business case for a projected term based on current participants, and was necessarily limited to the aggregate benefit to the IUSC banks. Due to the wide divergence in bank costs, it was not possible to accurately model the extrapolated benefit to the entire industry without making certain high level assumptions. Nor was it possible to accurately model any “greater good” by quantifying a broader benefit to society from mutualisation. In some ways, left to its own devices a private sector analysis will probably always be driven in this narrow way, even while it is logical and intuitive that the long-term flow-through benefit to the entire industry is likely to materialise – just that it cannot be immediately demonstrated. A further counter argument is whether society should recognise much longer term benefit – quantified and unquantifiable – which justifies looking at KYC in a very different way than as a commercial business case alone. This might allow a consideration of much broader factors as justifications, such as competitive differentiation of an entire country in terms of both risk management standards and ease of doing business.



It is hoped that the publication of this report helps the industry understand and reflect on the nature of the problem that is KYC. But no problem can be solved without action. The call to action for the industry is this:

Is there a way to approach the KYC problem described in this report with better or different design, better technology and/or better or different client segmentation, in order to achieve a more sustainable business case, proving both short term profitability and which also creates enough investment headroom for future investment needs?

Parties interested in further engagement are welcome to reach out to ABS at banks@abs.org.sg.