SAFEKEEPING EMPOWERED: REIMAGINING THE US CUSTODY BUSINESS









BRUNO CAMPENON –
Head of Financial Intermediaries

& Corporates Client Line

To get a better understanding of clients' fintech requirements, we engaged TABB Group, the leading provider of research and advisory services to the capital markets, to acquire a deeper understanding of the trends, drivers and requirements from the perspective of banks and broker dealers.

Technology is fast becoming a key driver of change in the financial services industry – second only to regulation. Since the financial crisis of 2008, custodian banks have been grappling with the challenge of becoming more

As a top five global custodian, staying ahead of market developments is part of our job, so we decided to work with TABB Group to identify the technology

efficient, while maintaining quality of service.

trends shaping our industry in the US market.



Americas Head of Financial Intermediaries & Corporates Client Line

We know that clients in today's environment are looking to us to provide innovative solutions in conjunction with enhanced customer service to help them stay competitive. This TABB Group research report identified the areas in which banks and brokers are transforming their own operating models, and how they expect their service providers to modernize their offerings to support this transformation.

We have actively been developing advanced technology in the areas identified as being top of mind to clients: cybersecurity, robotics, artificial intelligence, cloud computing, advanced data analytics, distributed ledger technology and more.

We recognize that state-of-the-art technology is foundational, and that at its most valuable it is an enabler of superior client service – something that clients appreciate from their service providers above all else.

At BNP Paribas, we are committed to staying ahead of the new digital landscape and providing the highest level of service possible to our clients in these times of significant change. We hope you will find this report informative and useful.



Until recently, the global custody industry operated fundamentally in the same manner for de-

Introduction

The custody banking industry has sturdily led the development of the financial services system as we know it today in the US, perhaps tracing back to the establishment of the first US stock exchange in Philadelphia in 1790. The New York Stock Exchange followed soon after, along with the Buttonwood Agreement of 1792 that helped set the stage for a network of banks whose purpose was to support the embryonic securities market, keeping stock certificates safe from theft, and facilitating the exchange of their ownership. With the advent of the first modern US mutual fund in 1924, banks expanded their service offerings to maintaining records of shareholder transactions and balances. It is not surprising that the custody industry has an image of stability and steadfastness given its pedigree.

While the global custody industry of today is dominated by a few large banks after a period of consolidation over the past 20 years, it has become difficult to rein in costs without sacrificing customer service. Restructuring initiatives and integration of acquisitions has often resulted in lean client teams. Many banks put in place well-publicized digital transformation projects at the enterprise level as a way of meeting these challenges and are now beginning to launch emerging technology innovation labs to move them to the next level. At the same time, their bank and brokerage clients are also facing similar pressures to remain competitive. They too are dealing with the imperative to reduce costs while remaining compliant with regulation.

And although custody banks have not been immune to regulatory scrutiny in the past, recent announcements such as the one by the UK's Financial Conduct Authority citing issues around stale technology, cybercrime, and lack of competitiveness indicate that they may be in for a bumpier road ahead. The move to two-day settlement in the US taking effect in September 2017 is another regulatory market driver that the custody industry must contend with and prepare for. With the industry poised to meet a flood of new regulatory constraints, IT budgets must consequently be maximized strategically to achieve the greatest value.

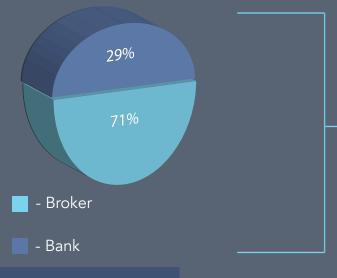
In addition to fee pressure and regulatory attention, banks are fearing loss of revenue to independent financial technology companies. According to recent industry estimates, 88% of institutions believe that they are already losing business to innovators.

Custodian banks today must embrace technological innovation and automation to meet these threats, achieve operational efficiencies, remain competitive, and empower high-touch customer servicing.

TABB Group interviewed a select group of sell-side senior executives (COOs, heads of operations and heads of technology) at mid-sized banks and brokers in the US regarding their own priorities, and, in turn, what they expect from their custody banks (see Exhibit 1). We found that the custody industry is set for transformation in terms of the technology they use to support our respondents, while the focus on customer service reigns supreme. Adoption of automation for remaining manual processes, combined with better data analysis, are critical enablers of the high-touch coverage the sell-side so covets.

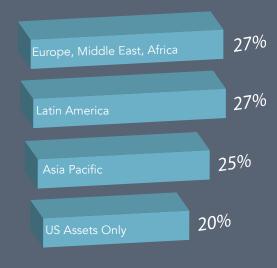
Exhibit 1 Outreach Demographics

What best describes the type of firm you represent?



Source: TABB Group

We currently hold assets from (choose all that apply):



The Strategic Priorities of the Sell-Side

The priorities of the sell-side consumers of custody services, particularly mid-sized banks and brokers, are being compelled by the needs to achieve value, comply with regulation, aggregate data, and reduce costs. Their initiatives are both technical and workflow-oriented in scope. The first objective of our outreach was to gain an understanding of how they are prioritizing their development budgets.

Sell-Side Technology Initatives

Technology initiatives across the sell-side are focused on a combination of foundational and transformational priorities required to achieve a new business model (see Exhibit 2 below).

Exhibit 2

Top Sell-Side Technology Initatives

Cybersecurity

Client-driven user interface

Big data

Digital transformation

Cloud computing/Storage

DLT/Blockchain

Smart contract automation

Digital identity

Other (please specify)

- Broker

- Bank

Source: TABB Group

When asked about their most important technology initiatives, our sell-side respondents rated cybersecurity and the need for a client-driven user interface at the top the list. While not necessarily cutting-edge technology, these are both non-discretionary developments. With the financial industry's cybersecurity market being the largest and fastest growing, firms of all sizes must protect themselves from the real threat from cybercrime. Large institutions are expected to spend millions annually as firms assess their vulnerabilities. What is driving this new awareness

"As technology changes, we are trying to create a new offering to our clients. As the environment continues to get competitive, we are trying to provide some bells and whistles.

> - Chief Operating Officer Mid-sized broker

and focus? Recent cyber breaches and upcoming regulatory milestones. Additionally, with new, improved and dynamic client interfaces on the way, digitalization of securities and regulatory oversight the need to improve cybersecurity is amplified. In fact, a client-driven user interface was the number one priority specifically amongst the brokers we spoke with. Many are trying to create new offerings for their clients that are in step with technology changes, giving them a more graphic and interactive look and feel. Others are looking under the hood to ensure that core platforms are speaking to each other to provide more advanced, real-time, and transparent client reporting. One is working to migrate .pdf reporting to their web portal, another to move inquiry management online.

Data aggregation across the enterprise is a foundational priority that was listed by 19% of our respondents. Certainly, accurately sourced and comprehensive data is a pre-requisite to many of the other technology initiatives that were cited such as the user interface previously mentioned. Every workflow begins and ends in data. The more comprehensive and accurate the data the greater the opportunity to provide enhanced services to the clients. Insight is derived from the data. Coupled with a deep understanding of the business and improved interfaces, the quality of client servicing should only rise. Projects to integrate data sourced from various systems to ensure consistency are in various stages across the firms we interviewed. One recently completed an initiative to build a consolidated platform that takes in data from three back-office systems to provide enhanced reporting to clients.

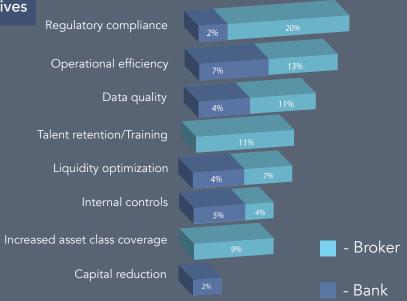
Sell-Side Non - Technology Initatives

"We have tripled our regulatory and compliance team. It has become a major priority at the firm and in the industry."

In addition to their technology development projects, our group of senior sell-side executives was also asked about their non-technology priorities. However, when looking at the rankings it is not difficult to associate at least some elements of technology with each (see Exhibit 3, next page). Regulatory compliance ranked No. 1 with 22% of respon-- SVP, Operations, dents overall and amongst brokers, with many saying that Mid-sized broker they were actively involved in industry regulatory initiatives. One broker mentioned trade reporting as a top priority, with specific focus on the upcoming Consolidated Audit Trail.

Its requirements will require significant investment in people and technology to capture the customer and trade data the plan calls for.

Exhibit 3 Sell-Side Non - Technology Initatives



Source: TABB Group

A further top priority at both banks and brokers is achieving operational efficiencies to create an operating model that is as automated as possible, across asset classes and functions. Removing manual components along the trade workflow is an essential step to mitigate operational risk and reduce trade errors. One should keep in mind, however, that automation does not necessarily result in a significantly reduced workforce. Automation can eliminate human participation in repetitive low-value tasks. Automation may bring the need for re-skilling an organization to add analytical and technology skills and it may also mean a reallocation of resources to focus on client services, for instance, instead of being

"Operationally, we have people who are seeking more in terms of professional development."

> - Director, Clearing Mid-sized bank

growing their client service staff.

a cog in a machine that it better served by technology. Again, another described 'non-technology' priority with a major dependence on technology to make it happen. Another area of investment on the brokerage side of the research is in people: Talent attraction and retention, with a large component of that being employee training as a way of both mitigating and remediating staff turnover. One respondent recalled an exercise to evaluate and use outside vendors and training portals as they are

Looking ahead, our respondents expect their own operational efficiency to be impacted most by

blockchain or distributed ledger technology (DLT) both in the next year, and over the next five years (see Exhibit 4). Some mentioned that they already have internal teams in place that are either working on DLT or participating in industry working groups, such as following the Depository Trust Clearing Corporation (DTCC) Fixed Income Clearing Corporation (FICC) effort to clear repos on the blockchain. The importance of blockchain technology is expected to continue

"Realistically, it's all about our ability to meet the regulatory obligations in Europe and the US as they rollout."

> - President Mid-sized broker

over the next five years as well, and was cited as a potential means for achieving overall operational efficiency. Regulato-

ry technology, or RegTech, was also of importance to the sell-side. A catch-all term, RegTech generally refers to solutions that help firms better understand, navigate, and automate regulation and regulatory compliance (see TABB Group report Financial Markets: Embracing RegTech).

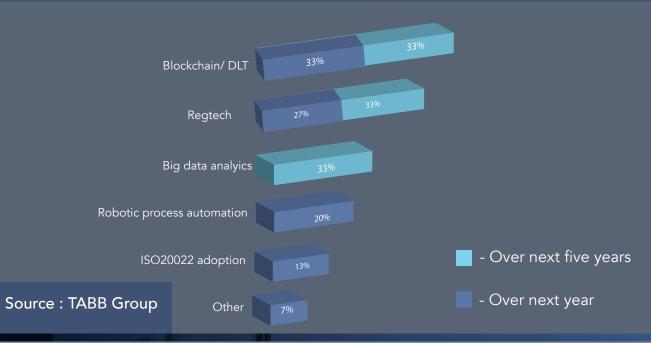
"T+2 is our priority over the next year or so, and over the next five years blockchain will be huge – for good or for bad."

- Director, Capital Markets Mid-sized broker

Most of our respondents named the industry's move to settling transactions on trade-date plus two (T+2) as their most immediate concern and a move to trade-date plus one (T+1) as a very likely next step over the next few years, given the SEC's current investigation into the viability of such a change. Robotic process automation and the industry's further adoption of ISO20022 standards were noted as major impacts to operations in the next year.

Exhibit 4

What technology will most impact your operational efficiency over the next year? The next five years?



What the Sell-side Wants

Our outreach additionally sought to gain an understanding of what mid-tier sell-side custody clients are looking for from their existing custodian bank relationships; how they might evaluate a new, prospective custodian; and how they believe custodians should be prioritizing technology to advance their relationships.

Sell-side customers such as the banks and brokers we reached out to have a very distinct set of criteria with which they evaluate their existing custody relationships. Both segments plainly believe that their custodian must possess knowledge of their business, whether bank or broker, as illustrated in Exhibit 5. They want to know that the people they deal with at all levels understand the context of any issues that arise, and why resolution of those issues is particularly critical, regardless of the size of their organization. In addition to having the right 'fit' with their service provider, clients are looking for communication and responsiveness, or as one respondent mentioned, "common sense." Brokerage clients tended to feel that strength of balance sheet was more important to them than easy to use technology, while bank clients believed the inverse, although both are undeniably vital to the relationship and evaluation process.

Exhibit 5

What is most important to you when evaluating your experience as a customer of a custodian (on a scale of 1 to 5 with 5 being of most importance)?



And when they are selecting a new custodian, presumably with a blank sheet of paper, they focus on elevated levels of customer service; value in return for their custody fees; and first-class operational expertise as differentiators. Broker clients were more influenced by technology offerings when looking at a new relationship (see Exhibit 6), relative to their banking colleagues. An international network, domestic strength, and product offerings, while important, did not resonate as much with our sell-side respondents, perhaps because they are considered core at this stage of the industry's maturity. What cannot be taken for granted is consistently effective customer service and the ability to prevent issues from occurring in the first place.

Exhibit 6

What is most important to you when selecting a new custodian?



- Broker

- Bank

Source : TABB Group

We asked our respondents what specific areas of technology they wanted their custodians to invest in during 2017, given their own priorities for the year (see Exhibit 7). The sell-side answered with clear expectations for their custodian banks. With their budgets declining, they are looking for new operating models that provide the prospect to reduce costs and feel that there are opportunities for their banks to provide services utilizing cloud distribution. They want their service providers to benefit from a scalable and robust infrastructure and to

therefore pass cost benefits back to their clients. With their custodians adopting cloud, clients in effect migrate their own applications to the cloud also, as they access the custodian's service layer and aggregated client data via an application programmer interface or API. With that in mind, the sell-side has concerns around security.

Alongside the development of the cloud infrastructure, they anticipate simultaneous investment in digital identity or biometric technologies as part of multi-factor authentication methods to mitigate security risks. Sell-side respondents also expect their custodian banks to invest in distributed ledger technology as a way of capturing efficiencies and reducing errors, demonstrating their belief that the technology will be transformative. As the focus on blockchain shifts from the hype cycle into the need to show real-world benefits, the major custodian banks are members of various industry consortia working together to develop an open blockchain platform for the capital markets. Additionally, many have set up their own blockchain projects and innovation labs within their own organizations. Custody clients are hopeful that those efforts will ultimately benefit them as well.

Exhibit 7 What are your top 3 technology priorities for your custodian in 2017? Cloud computing/storage Digital Identity Distributed Ledger Technology Al/Cognitive Computing Client driven user interface Big data Digital transformation Cyber security Smart contract process automation Source: TABB Group

The Future of Custody

US sell-side customers of custody services expect their custodians to keep up with emerging technology trends and automate wherever and however appropriate to enhance their service

"I think that over the course of the last eight years the amount of regulatory controls is completely out of control."

levels and to keep fees down. Expectations for their custodians basically mirror their own priorities: Automation, operational efficiency, competent staff. As depicted in Exhibit 8, the sell-side is most concerned about the regulatory environment in the near future; 33% said that they felt constrained by regulation and regulatory obligations and that the fees they charge their clients reflect that. They anticipate that once T+2 is reached,

- Head of Operations it will just be a matter of time until Mid-sized broker T+1 is mandated. To get there they will need their service providers to be prepared and fully able to assist

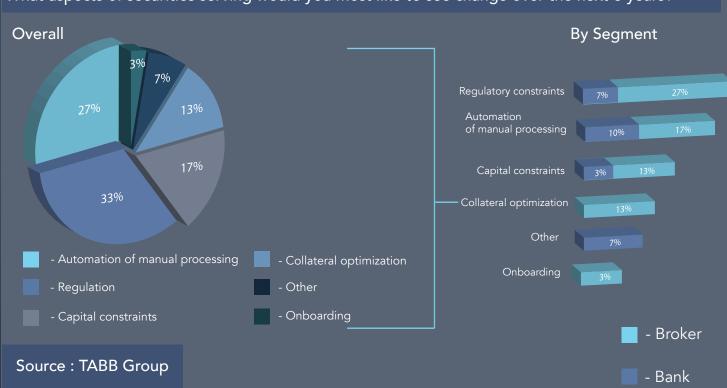
them in helping their own customers. One broker commented that T+1 will "completely change the world," and that it will require a complete rebuild of his operations. In addition to anticipating T+1, they want the expensive on-boarding anti-money laundering/know your customer (AML/KYC) process to be more automated and standardized.

"To get to T+1, we are going to have to get all manual processing off the board. Everything will have to be done electronically."

> - SVP, Operations Large broker



What aspects of securities serving would you most like to see change over the next 3 years?



Automation of manual processing has always been an objective of financial services firms. However, our research indicates that it is now more critical than ever if compliance with regulation such as

"We are doing an analysis over the next 12 months to look at the whole back office, to upgrade all of our technology to get us to the next level."

> - SVP, Operations Mid-sized broker

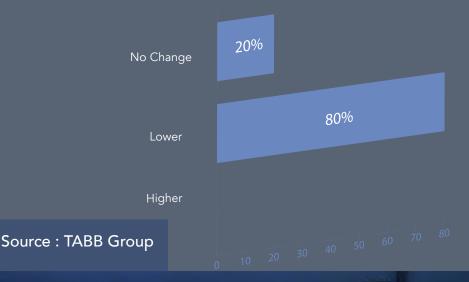
T+1 and reduction in costs are ever going to truly happen. Previous research conducted by TABB Group identified areas where custodian banks are adopting robotic process automation (RPA) to mechanize repetitive, high-value tasks to free human resources for more high-touch, service-oriented work. The sell-side respondents in our study support that development. Proofs of concept focused on automating inbound faxed instructions from clients, payments processing, KYC screening, and other on-boarding activities are taking hold in the industry. Other aspects of securities servicing that the sell-side would like to see change over the next few years, and want assistance with from their custodians where possible, are capital constraints and collateral opti-

mization. They are struggling with calculating the value, and getting the fees they think are appropriate, for the services they provide to their clients -- particularly services that had been given away in the past such as derivatives clearing. They are being forced to show a return for those services and are overseeing huge efforts to manage their capital, exposures and costs. Brokers mentioned collateral optimization as a challenge that their service providers could help with

> Because of the aggressive automation and adoption of innovative technology that the sell-side anticipates occurring at their custodian banks, 80% of our respondents believe that there will be fewer custody service providers in the next three years (see Exhibit 10). And they have provided a clear blueprint for what they think banks need to do to survive.

Exhibit 10

Do you believe that with automation there will be a lower or higher number of custodians in the next 36 months?



Conclusion

The custody business in the US is at a critical turning point. Having effectively emerged from the global financial crisis and the lean years that followed, assets under custody are on the increase. This result can be attributed partially to market growth but also to the transformative steps taken to cut costs and increase scale. Their banking and brokerage clients expect them to innovate and automate what's left of manual processes and to direct human capital and technical resources toward the end goals of providing superior customer service, knowing their clients' business, and controlling costs. The notion of offering value-added services has given way to an expectation of those expanded products being essential.

The sell-side firms in our outreach were clear in stating their own priorities, both technological and non-technical in nature. They are concerned about cybersecurity. They want to provide their own clients with real-time access to their data and flexible reporting via the internet. They are working to integrate data from back-office systems into a single platform. Anxiety about regulatory compliance and the real possibility of moving to a T+1 settlement regime in the US is an enormous driver of change and investment within their organizations. To prepare for a move perceived to be inevitable, they are reevaluating their operating models and looking to revamp their back offices, to come up with "the back office of the future." They want to retain and train their staffs. Looking to the horizon, they see blockchain/distributed ledger technology as being transformative to their business and to the industry. Some are even involved in industry projects to advance the technology in areas such as repo clearing and settlement. They are looking to adopt any technology or utility that can help them comply with regulation as a priority. And they want to harness the data that they already possess inhouse to enhance their operational efficiency.

In turn, the sell-side demands the same from their custodian banks as a way of assisting them achieve their objectives. They want their new and current custodians to be able to provide intelligent customer service and the ability to manage their transactions and interactions through technology. They want a custodian with a strong balance sheet and credit rating. At the same time, they want their banks to invest in technologies that they can benefit from either in terms of efficiency, meeting requlatory demands or lowering costs. Investment in cloud, digital identity and distributed ledger technology were the top three priorities for their custodian banks in 2017. To comply with a highly-anticipated T+1 environment, clients only want to maintain enough staff to deal with a very small number of custody exceptions. Custodians must automate whatever inefficient processes remain to reduce those exceptions, by whatever means necessary, while diverting resources to high-touch client service capabilities to best serve their sell-side customer base.

About

TABB Group

TABB Group is the international research and consulting firm focused exclusively on capital markets, founded on the interview-based research methodology developed by Larry Tabb. Since 2003, TABB Group has been helping business leaders gain a truer understanding of financial markets issues to develop actionable roadmaps and approaches to future growth. By accurately assessing clients' customer base, competition, and key market opportunities, TABB Group works with senior industry leaders to make critical decisions about their business. For more information, visit www.tabbgroup.com.

TABB Group's FinTech Research Practice

TABB Group's FinTech research practice is specifically designed to help financial institutions understand the latest spending trends, strategies and solutions that are critical to achieving best practices in financial services technology, data, analytics and technical infrastructure. The practice also helps technology and data solution sales and marketing organizations understand specific requirements and uses cases within financial services and capital markets firms.

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