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Applying Thought

Robotics: Taking Automation to the Next Level in Capital Markets

Robotics has picked up in the last 3-4 years with a rapid growth in off-the-shelf configurable platforms. With significantly reduced timelines to automate manual processes and low investment, Robotic Process Automation (RPA) has become a part of cost and efficiency programs across back office operations and shared services. RPA fits in well to provide a secure and controlled environment, making the processes error-free.

In capital market firms, complexity cannot be avoided – it is a natural by product of growth and success. There is an emerging need to solve deep-rooted operational inefficiencies in a fundamental way. Some of the reasons for operational inefficiency are

- Gamut of applications, data movement in multiple applications requiring reconciliation

- High capex requirement, long gestation period to enhance or replace aged applications

- Complex processes, changing regulatory requirements resulting in change in business rules

- Labor intensive processes, leading to operational risk and higher cycle time and errors

To succeed in today's challenging and complex environment, capital market firms need to act swiftly with precision to maximize economies of scale and reduce cost per trade to penetrate new customers. In order to reduce costs in middle and back office operations, capital market firms have been using the traditional method of offshoring work from high cost location to low cost locations. However, since labor arbitrage has become institutionalized, it is no longer sustainable to achieve further cost reductions. Therefore, there has been a major focus on new digital technologies in the capital market industry. Most of the capital market firms are resorting to RPA as a quick and tactical solution to transform their back office to achieve cost reduction and higher efficiency.

In this paper, we have presented RPA's applicability in the context of capital market back office operations (excluding front office) for sell-side firms (Investment banks and brokerage houses) based on our experience in performing these operations for leading clients.

Robotic Process Automation in Capital Markets

Most of the large financial institutions have successfully completed robotic pilots leveraging multi-product vendors and service providers in the last 12 months. They have now shortlisted RPA as the tool of choice and have carried out due diligence exercises to identify right opportunity areas for robotics within their back office operations, either outsourced or captive.

Our initial assessment of the process landscape in capital market firms suggest multiple process areas wherein value can be derived from robotics, subject to scale of operations, level of consolidation and nature of information (See Figure 1).
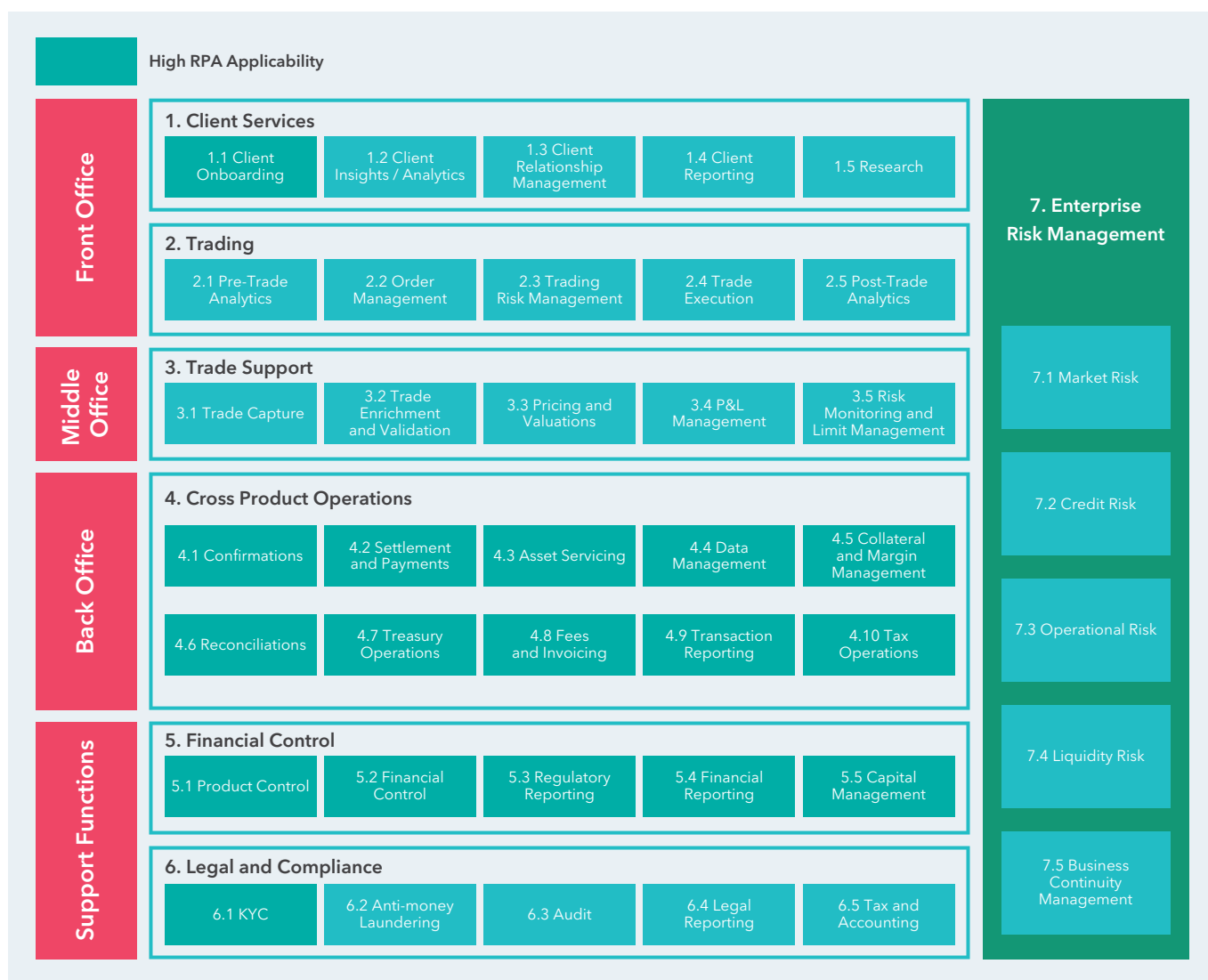

Figure 1: RPA Applicability Areas in Capital Market Firms

We have seen early success in areas of transaction reporting, reconciliations, and settlements and payments processes over the last 12 months. This has resulted in significant reduction in transaction time (30-70%), accuracy improvement (70- 90%) and effort reduction on in-scope FTEs (above 40%).

Let us consider the case of deployment of robotics in a client's pre-matching process, which was completely manual. A pre-matching process typically involves extracting a report, identifying unmatched trades, checking agent updates and calling/e-mailing counterparties to resolve discrepancies and updating narrations with comments. This process, which is performed across asset classes i.e. Cash Equity, Fixed Income, Prime Brokerage and Stock Borrow Loan, faced numerous challenges related to manual effort involved in pre-matching the trades and sometimes, not all trades were pre-matched before the value date. Also, there were multiple instances wherein multiple analysts were sending multiple queries for un-matched trades to a single counterparty contract. Post robotics deployment in the pre-matching process more than 80% of the manual effort in the process was automated (See Figure 2). Apart from that, 100% pre-matching is being done on touchpoints and there has been a 70% reduction in trade fails through standardized approach and narrations. The pre-matching work was centralized by asset class and proactive pre-matching using RPA, thereby improving ability to focus on matched fails reduction.
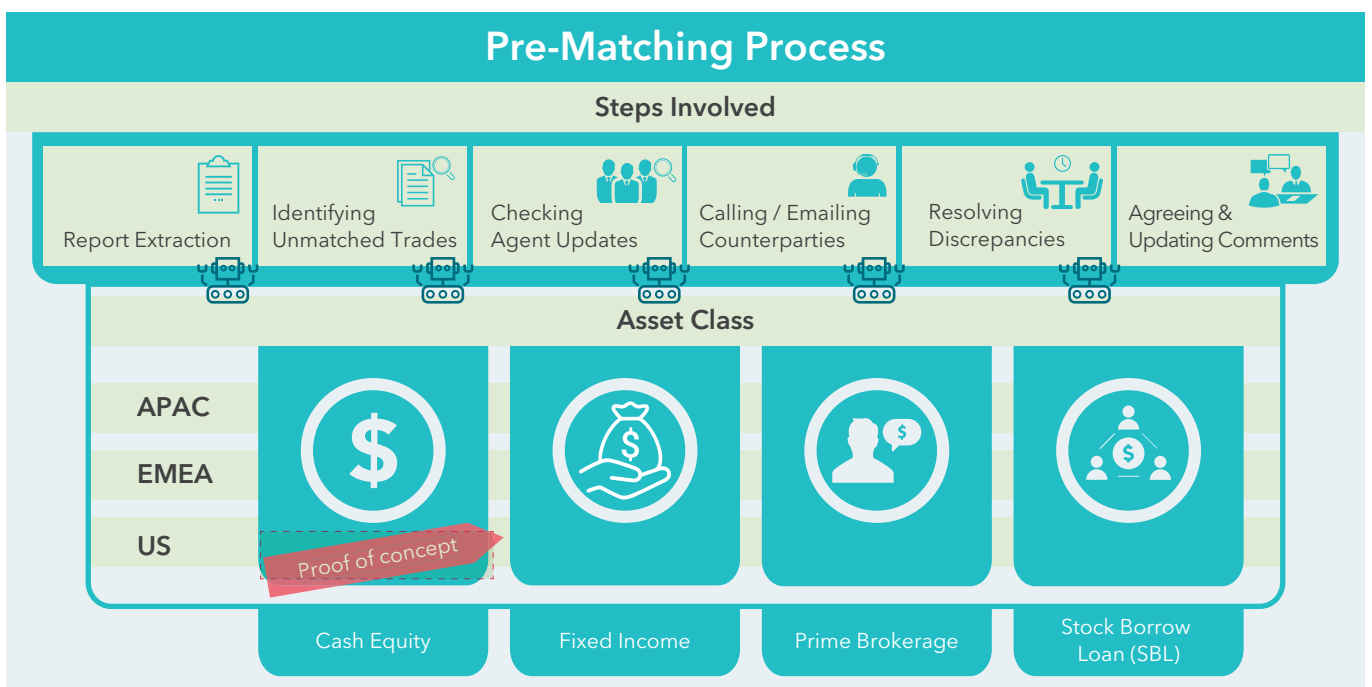

Figure 2: RPA Implementation in Pre-Matching Process

Why would RPA Succeed in Capital Markets?

As revenues and operating margins in the capital market industry continue to decline on account of evolving regulations, enhanced liquidity, capital requirements and new emerging technologies, the focus is on simplification and redefining business models to ensure growth and sustainability in this challenging environment.

Most of the capital market firms work in silos and have a number of legacy systems. Replacing these legacy systems require significant cost and time, and with shrinking margins, most of the firms do not have budgets for huge investment in technology. RPA can help them bring those efficiencies without much investment. Further, there has been increased scrutiny by market regulators, high volume of data and difficulty in integrating different legacy systems with new technologies. RPA is enabling capital market firms to overcome these challenges by automating middle and back operations. Robots can handle seasonal increase in volume of data without adding additional headcounts. Further, an RPA platform maintains an audit trail for each step/activity of a process, the same can be useful for audit and regulatory requirements.

We have identified areas within the capital market industry wherein RPA can play an important role in achieving cost efficiencies, reducing transactional errors, driving higher accuracy and enhancing compliances and controls.

- **Client Onboarding:** Recent regulations such as KYC, AML and FATCA for example resulted in capital market firms to collect, input and analyze client data to ensure they comply with regulatory and firm policies. Firms can use RPA in client onboarding process to improve regulatory compliance and reporting at a minimal cost. RPA will help gather and input a huge amount of structured data and maintain a complete audit trail. Other automation tools with Natural Language Processing, Metadata and ontology models can be used to process unstructured data and to enable content enrichment.

- **Reconciliation:** There are different types of reconciliations performed at various stages of the trade life cycle where huge amount of data needs to be reconciled across systems. RPA can be used as an important tool to reconcile the data between two systems and identify mismatches across datasets. This will help improve accuracy and productivity.

- **Reporting:** RPA can be useful in creating and sending annual and quarterly reports to regulators

and in standardizing client reporting. Robotics can extract information from different internal and external systems, compare the information across systems and highlight the variances.

- Corporate Actions: RPA can deliver good benefit in the corporate action process wherein they can pull out relevant information from standardized SWIFT messages to capture event announcement and entitlement calculation by checking positions on relevant dates in internal records.

The way forward

We have completed assessments of over 800+ sub-processes in capital market firms of varied scale, and have deduced that typically 20-30% of processes under study have a valid business case for automation due to high level of fragmentation and offshore-only focus. For robotics to yield meaningful business benefit, financial institutions should look at processes - front to back (onshore and offshore) to identify appropriate areas for robotics and chart out a 18-24 months' journey for value realization. Our current estimate suggests there is at least 15-20% cost benefit to be realized in back office operations through RPA by automating rule-based and transactional business processes in areas such as reconciliation, pre-matching, reference data wherein capital market firms deploy large number of low skill resources to manage exceptions.

About the authors

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