OLIVER WYMAN

FINDING A NEEDLE IN A HAYSTACK

THE CASE FOR RETHINKING AND UPGRADING ANTI-MONEY LAUNDERING TRANSACTION MONITORING

AUTHORS

Dov Haselkorn, Partner
Allen Meyer, Partner
Adrian Murphy, Partner
Stefano Boezio, Principal

MARSH • GUY CARPENTER • MERCER • OLIVER WYMAN

MARSH & McLENNAN COMPANIES

EXECUTIVE SUMMARY

As the global volume of transactions continues to increase and money laundering techniques become ever more sophisticated, financial institutions face fundamental strategic, methodological and operational challenges with regard to anti-money laundering (AML) transaction monitoring. These derive largely from process inefficiencies and ineffective methods, and ultimately impact confidence in current AML programs.

Rather than limiting efforts to addressing specific symptoms, and responding to supervisory feedback, organizations should profoundly revisit their approach to AML transaction monitoring in order to increase the effectiveness of their programs and reduce their mounting costs, while still meeting evolving regulatory requirements. Financial institutions today often focus solely on the dynamics of transaction monitoring, which is often considered simplistically only in terms of false positives and false negatives produced by existing approaches. Institutions should instead look at their AML transaction monitoring programs holistically on an end-to-end basis, and structure them with a view to actively target the AML risks they are facing. This will enable a better understanding of threats, rigorous prioritization of efforts, and structuring of appropriate approaches to prevent and identify actual money-laundering activity.

The full range of AML transaction monitoring processes should be considered as part of an end-to-end risk-focused transformation, from the initial identification of relevant risks faced by an institution to the final act of filing SARs with the authorities. Existing approaches and capabilities should be reviewed and potentially upgraded, which requires organizations to adopt more advanced analytics, data, and technology, in parallel with the necessary enhancements in processes, governance, and operating model.

Similarly to what has already been witnessed in other areas of risk management, organizations are adopting more sophisticated analytics in the context of AML transaction monitoring, gradually moving from heuristic or analytically informed approaches to more advanced statistical methods, and in some cases exploring the use of machine learning algorithms. Adoption of more robust analytical approaches allows banks to streamline processes, use resources more effectively, and better engage with internal and external stakeholders. In parallel to investment in analytics, AML transaction monitoring processes, governance, and operating model need to be re-designed with a focus on risk management best practices, operational effectiveness and realization of efficiencies.

Initiatives to upgrade AML capabilities can be difficult to design and execute, especially due to the need to carefully balance these with ongoing regulatory response and business-as-usual activities, and exact benefits may vary across organizations, but the proposed enhancements result in substantial efficiency gains without negatively affecting – on the contrary, often improving – overall program effectiveness, and propel an increased confidence in the AML risk management capabilities of those institutions that make the necessary investments.

AN INCREASINGLY ONEROUS AND EXPENSIVE TASK

Monitoring of financial transactions is a cornerstone of the international anti-money laundering (AML) framework aimed at combating and preventing financial crime. Governments, multinational organizations, law enforcement agencies and regulatory authorities are all involved at various levels in the fight against money laundering, but they extensively leverage financial institutions for the purposes of transaction monitoring.

In their role as systemic "First Line of Defense", financial institutions increasingly devote considerable resources to the identification, investigation, and reporting of suspicious activity to relevant authorities. Without rethinking and upgrading current approaches to transaction monitoring, this investment trend is unlikely to change significantly over the coming years.
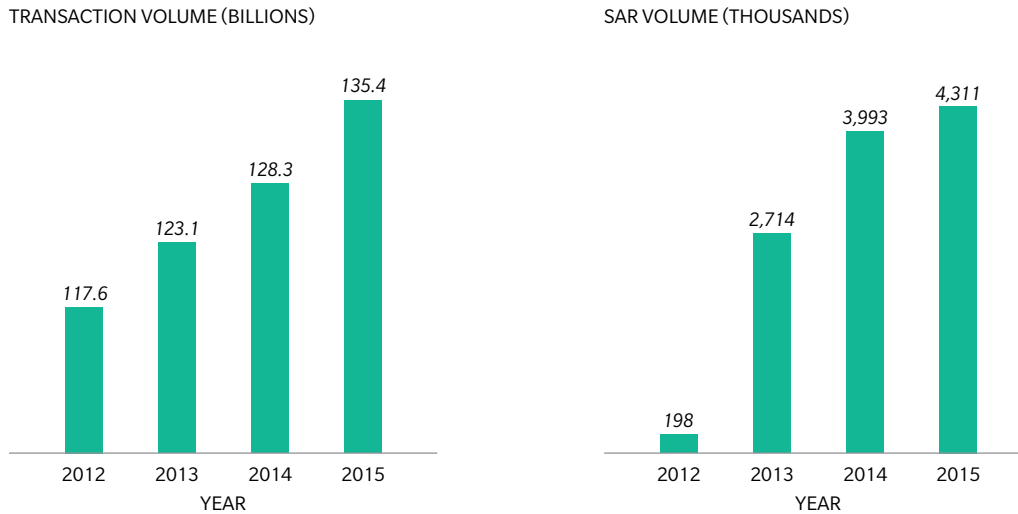
- The *volume of global financial transactions* continues to rise on a year-on-year basis and has more than doubled over the past five years alone[1]. This growth in number of transactions is expected to continue due to payments digitalization, the rapid pace of technological innovation, and increasingly accessible transaction services offered by non-bank financial institutions.

- At the same time, *money laundering techniques* are becoming more sophisticated, evolving into methods that are more difficult to recognize and tackle. This is in large part connected with the advancements in cyber-enabled crime associated with money laundering, increasingly facilitated by the use of electronic systems and devices for transaction execution.

- Moreover, despite current uncertainty in the regulatory environment, detection and prevention of money laundering remains very much a *supervisory priority* (e.g. DFS 504, FinCEN 31 CFR CDD requirements) due in particular to the potential association of money laundering cases with highly visible criminal activities, such as terrorism, corruption, tax evasion, and drug or human trafficking.

- In addition to external scrutiny, AML transaction monitoring is increasingly an area of focus by model validation/model risk management teams. As more advanced analytics are employed for the identification of money laundering activity, there is greater expectation for correct application of *risk management discipline* and robustness of analytical approaches and documentation.

Within the current regulatory framework, AML transaction monitoring is becoming increasingly onerous and expensive, as a result of the growing volumes of financial transactions and the development of more sophisticated money laundering techniques. In other words, if detecting money laundering is akin to finding a needle in a haystack, the haystack is getting bigger and the tolerance for missing the needle is getting smaller. As a result, institutions need to enhance approaches and industrialize processes and tools to be able to sift more efficiently and effectively through haystacks to detect needles of varying shapes and sizes.

---

1   Source: Capgemini, BNP Paribas. 2016 World Payments Report

TRANSACTION VOLUME (BILLIONS)

SAR VOLUME (THOUSANDS)

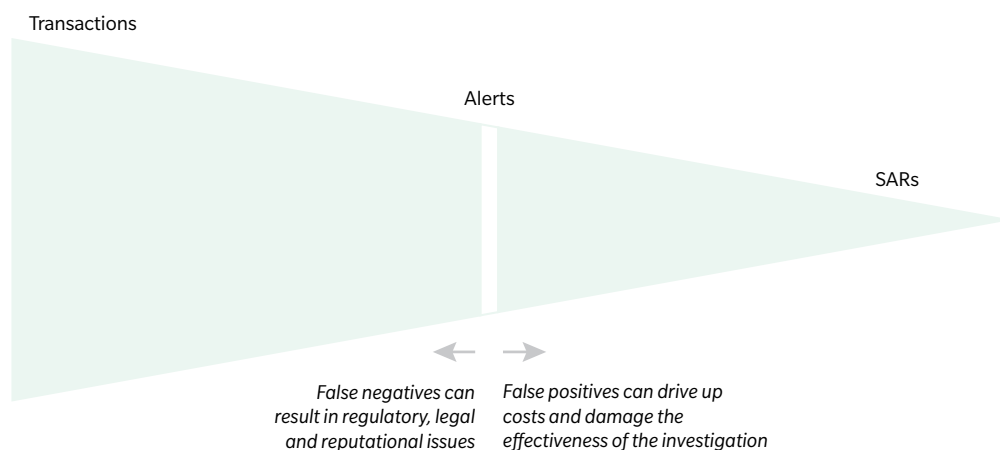# NEED FOR AN EMPHASIS ON ROOT CAUSES IN ADDITION TO SYMPTOMS

In this rapidly evolving environment, financial institutions are already facing a growing number of challenges with regard to the efficacy and cost of AML transaction monitoring. Particular issues vary across organizations, but there are common strategic, methodological, and operational themes ultimately related to the ability to sift through many millions of transactions and appropriately recognize and report suspicious activity.

Challenges related to effectiveness and efficiency of AML transaction monitoring approaches tend to be incorrectly considered exclusively in terms of false positives and false negatives produced by existing transaction monitoring approaches.

- In order to comply with regulatory requirements, and effectively identify suspicious activity, financial institutions aim to *minimize money-laundering cases not being detected* (false negatives), particularly as these can result in sanctions and significant fines from regulators, as well as reputational damage with potential impact on the bottom-line of businesses

- Organizations also intend to *minimize non-productive alerts being generated* (false positives), given their negative impact in terms of operational cost and efficiency, as well as detriment to the overall effectiveness of the investigations, though in truth the majority of systems are still highly inefficient in this respect

Transactions

Alerts

SARs

← →

False negatives can result in regulatory, legal and reputational issues   *False positives can drive up costs and damage the effectiveness of the investigation*

Source: Oliver Wyman research and analysis

These are indeed real and important concerns that should be appropriately addressed by financial institutions, but they are often symptoms of more fundamental issues with organizations' approaches to AML transaction monitoring. In addition to trying to resolve these symptoms, therefore, organizations must consider their root causes.

There may often be issues in the modelling approaches and data used for the purpose of AML transaction monitoring; however, reasons for efficiency and effectiveness challenges often extend beyond just these tools and techniques to encompass the entire value chain of anti-money laundering activities, from the initial identification of relevant risks faced by an institution to the final act of filing SARs with the authorities. Current industry solutions generally fail to consider the full scope of the problem, including the need for a step-change in skillsets and approaches.

Risk mitigation efforts should be structured and prioritized to address the multiple risks faced by institutions in relation to potential money laundering activity. These include the risk of regulatory penalties for missing suspicious activity or demonstrating inadequate controls, but extend beyond regulatory compliance to encompass – among others – the risk of direct loss due to criminal activity, the financial risk from inefficient allocation of resources, and the reputational risk associated with any of the above.

Financial institutions are starting to cooperate in a number of industry initiatives to help reshape the AML landscape, for example in areas such as creation of information utilities, sharing of SARs information, use of risk based tiering and digital IDs, and alignment of regulatory requirements. While these developments are very welcome and important, they will require significant co-ordination, time and effort before coming to fruition, and therefore yield benefits in the medium to long term. As a result, it is important for organizations to act in the immediate term to improve cost-effectiveness and sustainability, independently of potential industry-wide initiatives.

STRUCTURING FOR AN END-TO-END RISK-FOCUSED TRANSFORMATION

To this extent, financial institutions should consider where specific issues related to AML transaction monitoring originate and address them at the source, starting from those posing more severe risks to the efficacy of their programs.

1. Organizations need to think more fundamentally about how best to *manage AML risk holistically on an end-to end basis* (from risk identification and data management through to investigations and reporting processes); by doing so they will be able to prioritize efforts and make advancements in a number of areas, in order to solve their key concerns while also being better positioned to address evolving regulatory expectations.

2. At the same time, it is important for institutions to structure their AML transaction monitoring programs with a view to *actively target AML risks* they are facing; a comprehensive understanding of these risks will help structure appropriate approaches to prevent and identify actual money-laundering activity and plan for an efficient allocation of resources, rather than merely addressing regulatory requirements.

Only an end-to-end risk-focused transformation of AML transaction monitoring will enable substantial improvements in the effectiveness and efficiency of these programs. Institutions must address a broader set of dimensions, rather than focusing solely on the mechanics of transaction monitoring.

Exhibit 3: Main AML transaction monitoring processes to be considered as part of an end-to-end risk-focused transformation

Source: Oliver Wyman research and analysis

All processes essential to the detection of potentially suspicious transactions should be reviewed and potentially upgraded, including but not limited to the following:

- **Risk identification** based on scenario analyses and workshops, which should complement standard industry sources of AML risk information, in order to effectively identify the full range of AML risks to be targeted and enable identification of key scenario design drivers.

- **Data collection** aligned with business-specific AML needs and based on established sources, which should supply correct and extensive customer, account, and transaction information to better identify and address suspicious activity.

- **Customer and account segmentation** based on robust AML risk identification and a rigorous quantitative approach, which should improve transaction monitoring accuracy by leveraging KYC data effectively to appropriately identify groupings of customers or accounts sharing similar profiles or behaviors.

- **Customer and transaction risk scoring** refreshed frequently based on behavioral/transactional information, pre-defined warning triggers, and inputs from the end-to-end process (e.g. feedback from analyst reviews), which should improve the overall effectiveness, efficiency, and – importantly – justifiability of the AML management framework.

- **Model development and calibration**, accommodating all relevant data sources and embedding risk models more cohesively into scenario design, which should combine quantitative and qualitative approaches to fulfill business and regulatory requirements, aided by analytics and processes to evaluate and learn from past model performance.

- **Ongoing monitoring mechanisms**, both above and below the line, including robust governance for elaboration of responses to findings, which should aim to verify analytically that current transaction monitoring models and tools reliably differentiate interesting from non-interesting activity, consistently with their development or calibration objectives.

- **Alert processing and investigative operations**, managed to minimize time spent by investigators on low-value manual activities through streamlined user interfaces and intelligent solutions for pre-assembling cases, with advanced players establishing feedback mechanisms to other processes and considering implementation of cognitive computing decision-support tools.

OPPORTUNITIES TO ENHANCE ANALYTICS, PROCESSES AND OPERATING MODEL

Achieving this end-to-end risk-focused transformation requires institutions to invest in enhancing existing AML transaction monitoring capabilities. To this objective, organizations need to explore opportunities to adopt more advanced analytics, data, and technology, in parallel with implementing the necessary improvements in processes, governance, and operating model.

Exhibit 4: Key dimensions for enhancement of AML transaction monitoring capabilities

Analytics

- Development of robust transaction monitoring models and appropriate justification to validation teams and regulators

- Validation of transaction monitoring models, including quantitative analytics and qualitative evaluation

- Implementation of robust data management, visualization and decision support tools on an end-to-end basis

Processes and operating model

- Establishment of comprehensive risk management framework, including robust risk identification process, clear accountabilities and governance

- Design of AML transaction monitoring processes to be operationally effective and efficient

- Definition of Target Operating Model and prioritization of initiatives for improvement

Source: Oliver Wyman research and analysis

Use of advanced analytics has long been a focus in some areas of risk management, but most financial institutions have started only recently to explore the possibility of adopting more sophisticated approaches for AML risk management. In the context of AML transaction monitoring, we expect a rapid evolution in the adoption of advanced analytics, which has many parallels with what we witnessed in the credit world over the past 20–30 years, although AML is a very specific type of risk requiring many nuances in approach.

Organizations are gradually moving from heuristic or analytically informed approaches, which rely largely on expert judgment and only iteratively optimize performance, to more advanced statistically optimized analytical methods, which can improve performance substantially. In some cases, institutions have also started exploring machine learning algorithms, which can further enhance performance, but also require sufficient transparency and justifiability to ensure understanding of the criteria used to identify suspicious activity.
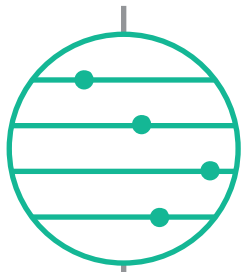
Heuristic or rules based

Heuristic or rules based approaches rely on factory settings or expert input in order select risk factors and set thresholds

Resulting scenarios are often not efficient or effective in identifying suspicious activity and subjective threshold setting is difficult to defend to regulators
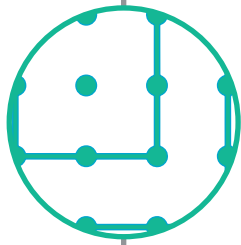
Analytically informed

Analytically informed approaches consider patterns of suspicious activity to raise or lower thresholds to iteratively optimize performance

This is an improvement, however scenarios may still be sub-optimal and may not consider a broad range of inputs or more nuanced interactions

Current state of the industry
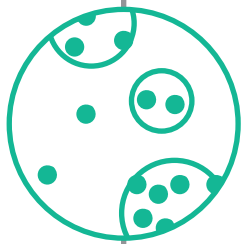
Statistically optimized

Statistical and quantitative analysis leverages statistical techniques to identify correlations and clusters of activity that can be used to help identify suspicious activity

This affords much more freedom to improve performance, considering a wide range of factors and portfolio specific drivers to optimize performance
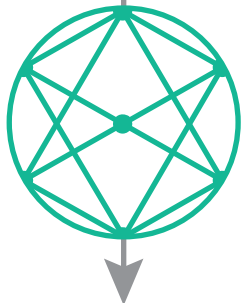
Machine learning

Machine learning tools leverage prescribed inputs and outputs to build sophisticated algorithms (e.g. GBM, deep neural nets) that identify suspicious activity based on multiple data inputs and complex behavioral patterns

They can "learn" over time based on feedback on their own effectiveness – identified false positives lead to improvements in future performance

Source: Oliver Wyman research and analysis

Renewed attention from regulators and increased scrutiny from internal validation teams is also a major driver for organizations to consider upgrades in current analytical approaches for AML. However, in addition to resolving immediate needs related to confirming robustness of current approaches, advanced analytics can also more broadly improve effectiveness and efficiency of AML processes. Adoption of more robust approaches can enable banks to streamline processes, use resources more effectively, and better engage with internal and external stakeholders. Given the ability of money launderers to quickly change and adapt to banks' approaches, institutions need to establish nimble model development and validation processes to respond rapidly to emerging threats.

It is critical to consider enhancements in analytical approaches alongside the necessary changes in processes and strategy, in order to successfully obtain the desired impact in terms of effectiveness and efficiency of AML transaction monitoring programs. These changes require an accurate understanding of the current state, and should consider regulatory expectations as well as broader organizational objectives.

Exhibit 6: Upgrade in processes and operating model

OLIVER WYMAN'S AFC/AML FRAMEWORK
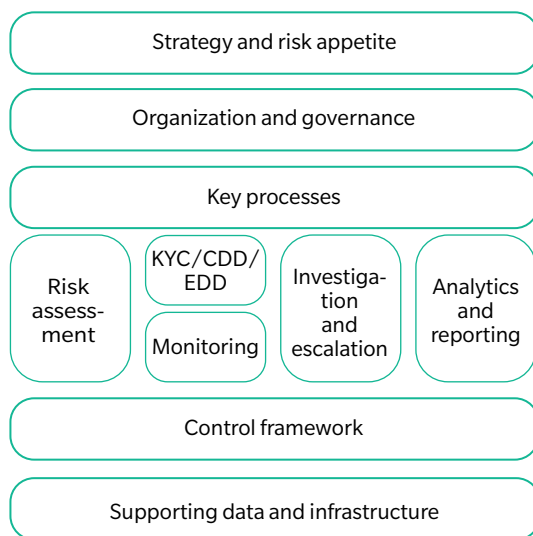
CONSIDERATIONS FOR ENHANCEMENT

Diagnostics and strategy reviews can inform a more accurate understanding of current state and identification of future improvements

Regulatory expectations and industry practices should drive the definition of the desired target state and key objectives for efficiency and effectiveness upgrades

Stakeholders' input should be considered throughout the process to appropriately incorporate broader objectives and address constraints

Source: Oliver Wyman research and analysis

The increased sophistication of analytical approaches for AML transaction monitoring and the related upgrade in processes and operating models also require a transformation of AML staffing models. In addition to subject matter expertise, AML functions increasingly necessitate more analytical profiles at all stages of the transaction monitoring process. Better interpretation and use of data allows a deeper understanding of key risks, development of more robust approaches and informed decision-making.

UPGRADING AML CAPABILITIES IS HARD WORK BUT BENEFITS ARE MULTIPLE

Prioritization, design, and execution of a program to upgrade AML capabilities is complex, requiring input from multiple stakeholders across different areas, and a thoughtful approach in order to carefully balance regulatory response, business-as-usual activities, and improvement initiatives. The improvements in AML transaction monitoring analytics, processes, and operating model resulting from an end-to-end risk-focused transformation can yield benefits to institutions across a number of dimensions. Not only can these enhancements help address challenges related to effectiveness and efficiency of existing AML transaction monitoring approaches, but they can also propel an increase of confidence in institutions' AML risk management capabilities and transaction monitoring programs.

Exhibit 7: Key benefits of an end-to-end risk-focused transformation of AML transaction monitoring capabilities

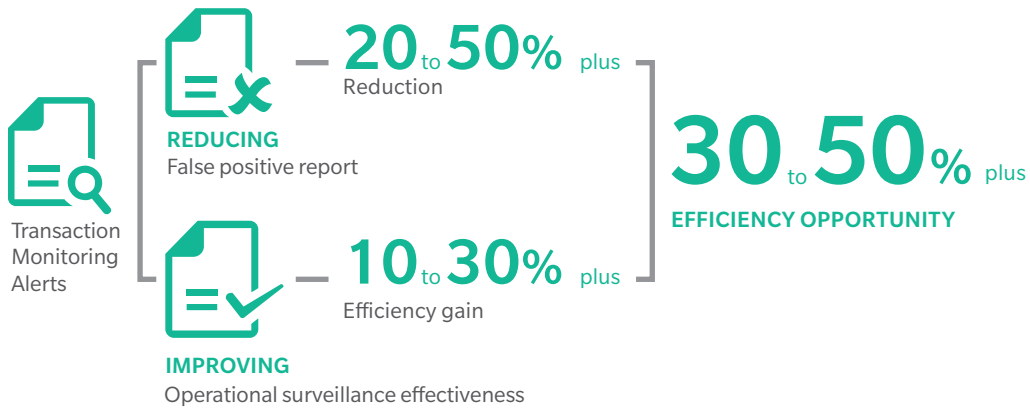| HIGHER PROGRAM CONFIDENCE	EFFICIENT AML FUNCTION	EFFECTIVE AML PROGRAM
AML risk management view, considering risk factors relevant to the institution's business model	**Process optimization**, including scenario development and calibration, monitoring, alert management, and case resolution	**AML analytics tailored** to the institution and its customers, leveraging intuitive client segmentations and robust AML risk identification
High confidence that the AML program aligns with regulatory expectations and peer practices	**Reduction in false positives** from best-practice tuning, risk models, data improvement, and ongoing monitoring	**Reduction in false negatives** and **more accurate SAR detection**, from improved processes, analytics, and resource allocation
Improved transparency and coordination, benefiting key internal and external stakeholders	**Potential for significant time savings** delivering substantial efficiency opportunity	**Robust feedback loops** to drive ongoing improvements

Source: Oliver Wyman research and analysis

Results from AML transaction monitoring capabilities upgrades are tangible across all dimensions mentioned above. In particular, financial institutions who have taken an end-to-end risk-focused approach have been able to achieve significant benefits, both in terms of reduction in false positives, as well as in the ability to produce higher-quality SARs in larger quantities. Efficiency gains vary across organizations, depending on their initial state and the extent of their investment in capabilities upgrade, but improvements are evident and – most importantly – cost savings need not occur at the expense of the effectiveness of the AML transaction monitoring program.

Exhibit 8: Business case – Significant efficiency opportunities are achievable

Transaction Monitoring Alerts

REDUCING
False positive report
20 to **50**% plus
Reduction

IMPROVING
Operational surveillance effectiveness
10 to **30**% plus
Efficiency gain

30 to **50**% plus
EFFICIENCY OPPORTUNITY

Source: Oliver Wyman research and analysis

Beyond transaction monitoring, similar issues and opportunities for improvement can be observed more broadly across financial crime and compliance, including areas such as KYC/CDD/EDD, client review and sanctions screening. In essence, the challenge is how to better detect suspicious activity, reduce false positives, and better deploy manual resources to manage risk on an end-to end basis, through use of more sophisticated and robust analytical capabilities.

Banks in the United States are spending billions of dollars on AML on an annual basis. With the use of more sophisticated analytics and advanced technologies there is a real opportunity to drive a step change in efficiency, reducing or at least containing escalating costs for banks, and at the same time dramatically improving the effectiveness of solutions in order to better identify suspicious activity in the fight against financial crime.

CONCLUSION

Financial institutions face fundamental challenges with regard to anti-money laundering transaction monitoring, making this an increasingly onerous and expensive task. However, a rapid evolution is unfolding in this space that has similarities to that observed in the credit world over the past 20–30 years. Organizations now have the opportunity to move beyond simple business rules and disparate data management approaches to substantially improve their end-to-end AML transaction monitoring capabilities through the use of more advanced analytics, data, and technology, in parallel with the necessary improvements in processes, governance and operating model.

1. In terms of *analytics*, by applying the right risk management discipline and techniques to enhanced data and IT environments, there is an opportunity not only to dramatically improve the efficiency of scenarios and risk models to reduce false positives and false negatives, but to actually increase the number and quality of SARs being reported.

2. In addition, AML transaction monitoring *processes and governance* can be re-designed to be operationally effective and to meet relevant risk management requirements, including those set by model validation teams, who are increasingly involved.

3. Moreover, the definition of a strategy and *target operating model* for AML transaction monitoring can help banks to prioritize initiatives, communicate progress to key stakeholders, and realize efficiencies over the short to medium term, whilst providing improved, higher quality inputs to law enforcement.

Finding a needle in a haystack is still a challenge, but tools are now available to make this task easier. It's time for financial institutions to take action.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

For more information please contact the marketing department by email at info-FS@oliverwyman.com or by phone at one of the following locations:

AMERICAS
+1 212 541 8100

EMEA
+44 20 7333 8333

ASIA PACIFIC
+65 6510 9700

ABOUT THE AUTHORS

DOV HASELKORN
Partner, Americas Head of Finance, Risk & Compliance IT and Operations Practice
dov.haselkorn@oliverwyman.com

ALLEN MEYER
Partner in the Americas Finance & Risk and Public Policy and Corporate & Institutional Banking Practices
Allen held various Compliance leadership roles at Barclays, Credit Suisse and UBS
allen.meyer@oliverwyman.com

ADRIAN MURPHY
Partner in the Americas Finance & Risk and Public Policy and Retail & Business Banking Practices
adrian.murphy@oliverwyman.com

STEFANO BOEZIO
Principal in the Americas Finance & Risk and Public Policy Practices
stefano.boezio@oliverwyman.com

www.oliverwyman.com

OLIVER WYMAN