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Article

The RegTech Revolution: Cutting Compliance Costs with Automation (2025)

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Abstract: Over the last 10 years, compliance costs of financial institutions have risen steeply due to more stringent regulations, higher volumes of transactions and manual processes. Regulatory Technology (RegTech), which applies automation, analytics, and digitization to compliance, seeks to reverse this trend by enhancing Know Your Customer (KYC) onboarding, anti-money laundering (AML) monitoring, trade reporting, and other aspects of risk control. In this respect, this article presents original research on the degree to which RegTech can reduce compliance costs while providing the same or higher degree of effectiveness. In 2023, worldwide financial crime compliance expenditure surpassed $200Bn per annum, and banks are allocating as much as 10–15% of their operational costs to compliance. If you want to reduce operational risk, the false-positive alert in a way that involves high-volume tasks (customer due diligence & transaction screening) can be automated with over 50%, and the case handling time is reduced up to two to three times the limit by the help of end-to-end automation of certain tasks. We map its key processes - KYC, sanctions screening, transaction monitoring, trade reporting, model risk management - to their major cost drivers, and we highlight areas for automation that decrease manual hours, speed up turnaround times, and enhance the accuracy of risk detection. Use cases for banking, capital markets, insurance, and fintech have early adopters pointing to meaningful outcomes - weeks-long onboarding times are down to days in major banks, alert volumes are halved, and millions in annual compliance costs saved. It includes an ROI model that gives you formulas to compare baseline and automated costs, and reports payback periods of under 3 years. The findings show that RegTech can create a major shift in efficiency, allowing institutions to do more while spending less on manual compliance. This lets them focus more on real risk management without reducing effectiveness or adding new risks.

Keywords: RegTech; compliance costs; automation; Know Your Customer (KYC); anti-money laundering (AML); false positives; return on investment (ROI); regulatory technology; financial regulation; risk management

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1. Introduction

It is a crises around the compliance cost for financial institutions across the globe. For example, the challenge of complying with regulations ranging from anti-money laundering checks to trade reporting has increased dramatically over the last 10 years, outpacing revenue growth in all but the most successful firms. Banks allocate as much as 10% to 15% of total operating budgets to compliance today, approximately double what it was in the early portions of the last decade.

Almost three-quarters of organizations respond to surveys that their slim resources are making compliance an increasingly burdensome task. As explained by the increased number of regulatory requirements, in addition to the ineffectiveness of the traditional manual compliance methods, these higher costs follow. Specifically, in 2023, the cost of the average corporate Know Your Customer review was nearly US$2,600 and took 95 days to complete a 17% increase in cost and slowdown in turnaround time compared to 2022. According to a survey, almost 48% of banks lose clients because of indecisive or slow onboarding processes [1].

But advancements in technological solutions have also continued since then. Regulatory Technology (RegTech) refers to the use of technology driven solutions for regulatory requirements to make compliance more efficient through the use of automation, data analytics, artificial intelligence (AI) and other digital tools. RegTech, in theory, is a means of "doing more with less" automating the rote tasks, complementing human judgement with algorithmic expertise, and centralizing data to prevent duplicated effort.

1.1 Purpose and Contribution

A thorough, data-based discussion on how efficiencies gained via RegTech automation will reduce costs of compliance and manage the risk around 2025. Using industry surveys and the financial metrics of some of the largest firms, we decompose compliance costs in 2015-2025, per sector (banking, capital markets, insurance, payments and fintech).

The article features original case studies from a global bank, a fintech payments vendor, an insurance company, and a capital markets broker. The case studies include before and after metrics alert volumes per 1,000 transactions, average handling time per alert, percentage of due diligence accomplished straight-through, with no manual remediation, and compliance staffing levels that show the level of RegTech tools' real-world impact on organizations. [2].

Literature Review

This section reviews previous research on compliance cost trends and the rise of RegTech solutions, using peer-reviewed studies, industry reports, and trade publications.

2. Materials and Methods

2.1 Rising Compliance Costs (2015–2025)

Various sources attest to an enormous rise in compliance expenditure of financial services over the last 10 years. According to an Oliver Wyman Forum analysis (2025), these days banks are spending an ever-larger share of their resources on regulatory compliance, with an average of 10%–15% of their overall costs. It has dramatically increased from the mid-2010s, suggesting that compliance costs have grown faster than other operating costs [3].

According to a global survey by Thomson Reuters (2016) the average annual compliance cost was $60 million for financial firms, and some large banks, spent as much as $500 million on separate KYC and Customer Due Diligence requirements. According to the survey, KYC onboarding times had risen 22% year-on-year, with some institutional clients requiring more than two months to onboard. U.S. and Canadian spend on financial crime compliance, by vertical, as reported in the 2022 LexisNexis Risk Solutions report In 2022, $56.7 billion was spent on financial crime compliance in 2022 (+13.6% increase on 2021). The cost of compliance for financial institutions around the world is large: a LexisNexis report from late 2023 shows the global annual cost for financial crime compliance at $206.1 billion. According to the study, 98–99% of the institutions surveyed reported the increased compliance costs had increased yet again in the last 12 months [4].

2.2 Automation and Technology in Compliance

As this cost pressure mounts, attention from researchers and practitioners has turned towards RegTech. Investigations have increasingly found that regulatory compliance through technology can be both more efficient and more effective. Concrete data is available from industry case studies. Firstsource (2021) identified a case study of KYC automation being completed for a fintech company, enabling a time reduction for onboarding within 1 paperless process of 83% (4 days compared to 24 days) and ultimately annual cost savings of approximately 25% ($1.5 million per annum).

Several RegTech providers report on reducing false positives. Descartes Systems states that AI-based entity matching can reduce OFAC sanctions screening false positives by 20% to 60% on average. These improvements suggest a dual benefit: increased efficiency (fewer alerts to review, quicker processing) and improved effectiveness (detecting issues that older methods might have missed)[5].

3. Results

3. Regulatory Landscape (2023–2025)

Regulatory expectations in the mid-2020s both drive the need for compliance automation and establish the boundaries for its use. This section reviews key developments in the United States, Europe/UK, and Asia-Pacific from 2023 to 2025.

3.1 United States

U.S. federal banking agencies have encouraged banks to innovate in compliance, but within a robust risk management framework. The Federal Reserve's SR 11-7 guidance on Model Risk Management is regarded as relevant to machine-learning compliance models. The OCC established an Office of Financial Technology in 2023 to further assist and oversee fintech and regtech developments in national banks[6].

A significant U.S. regulation is the New York Department of Financial Services (NYDFS) Part 504 rule, which mandates that banks have strong automated systems for transaction monitoring and sanctions screening. Under Part 504, banks regulated by New York must annually certify that they operate a compliant monitoring and filtering program, including oversight of models and algorithms.

3.2 European Union and United Kingdom

RegTech is impact by regulations and the EU is ongoingly updating its regulatory framework. AbstractThe Digital Operational Resilience Act (DORA)which is aimed at financial institutions in the EUhas been adopted 2022 and will come into effect in January 2025. According to DORA, companies must enforce a solid ICT risk management including incident reporting and monitoring of critical ICT third-party providers [7].

The FCA Consumer Duty was introduced in the UK in mid-2023 and gives the FCA the power to compel firms to demonstrate they can deliver positive outcomes for retail customers. This has greatly escalated expected compliance monitoring — firms must track all the important metrics around the clock. We expect firms will be capitalising on the data analytics in these cases and will be watching for such outcomes and in turn, many of them are already using RegTech tools.

3.3 Asia-Pacific

March 15, 2023 Singapore will have the first mover’s advantage with RegTech Monetary Authority of Singapore (MAS) has been known for its focus on RegTech. In 2021, the Monetary Authority of Singapore (MAS) announced a RegTech Grant to offer funding support (up to $100k per project) to financial institutions to adopt RegTech solutions. The Hong Kong Monetary Authority has set forth a "RegTech 2025" vision wherein it envisages full RegTech adoption by 2025 for banks and has released various guidance papers with real-life examples [8].

4. Discussion

4. Findings (Empirical Results)

4.1 Compliance Cost Benchmarks

We start by summarizing current compliance cost levels across different sectors and how they have changed over time. Table 1 presents key benchmarks from 2019 to 2022 [9].

Table 1. Compliance Cost Benchmarks by Sector (2019 vs 2022)

Sector & Region	2019 Cost	2022 Cost	% Change	Notes
U.S. Banking (AML/KYC)	$26.4B	$45.9B	+74%	10-15% of cost base

Sector & Region	2019 Cost	2022 Cost	% Change	Notes
N. America Financial Crime	$50.0B	$56.7B	+13%	Rising geopolitical risks
Global Financial Crime	$180B	$206.1B	+14%	EMEA 40% higher than US
Fintech/Payments (avg)	—	25% of revenue	—	18% firms spend >50%

Source: Compiled from LexisNexis, ABA, Oliver Wyman, Thomson Reuters, and survey data.

Compliance costs reached astronomical heights and grew exponentially Table 1. U.S. AML compliance costs increased almost 100% between 2019 and 2022, with a large bank spending as much as 15% of their resources on compliance. Fintech shows barriers to entry and high automation need with very high percentages.

4.2 Impact of Automation by Process Area

We analyzed several key compliance processes to determine where automation delivered the greatest cost savings. **Table 2** summarizes process-level improvements from our research[10].

Table 2. Compliance Processes – Cost Drivers and Automation Outcomes

Process	Cost Drivers	Automation Lever	Efficiency Gain	Key Outcomes
KYC/CDD	Manual document checks; data re-entry	e-KYC platform; OCR; biometrics	25-50% cost reduction	24→4 days; $1.5M saved
Sanctions Screening	90-99% false positives	AI entity matching; RPA	20-60% fewer alerts	FP 98→85%; 20 FTE saved
AML Monitoring	Huge alert volumes; 95%+ false positive	ML risk scoring; triage	30-50% efficiency	3× faster review; OT cut 80%
Regulatory Reporting	Manual data gathering; reconciliation	Data integration; auto-validation	50-70% time reduction	2 weeks → 3 days; zero errors
Model Risk Mgmt	Manual testing; documentation burden	MRM workflow; auto-testing	30-40% effort reduction	100→60 hours per model

Source: Case study data and industry reports. This table links specific pain points to tangible improvements from RegTech.

4.3 Key Performance Improvements

Organizations have gotten exceptional productivity from one implementation after another. For instance, KYC onboarding achieved an 83% reduction in processing time (from 24 to just 4 days) with a reduction in costs of about one forth. False positive rates dropped by 20–60% and total alerts volume reduced by 45%, resulting in sanctions screening being exponentially more effective. AML monitoring processes improved similarly with a 3x reduction in processing time of alerts in Level 1 along with a 30–50% increase in processing efficiency overall. For regulatory reporting, however, prep time was slashed by 50–70%, wiping out errors in the process. At last, model risk management activities have validation efforts slashed by 30–40%, supporting compliance and oversight operations.

Economic Model and ROI Analysis

Sample ROI Calculation

Let us take a mid-sized bank who is doing an automated AML transaction monitoring for which it has made an initial investment of $5 million and the project is expected to last for a lifetime of 5 years. A simplified pro forma of costs and benefits is found in Table 3[11]. The baseline cost was around $3.28 million each year, the target cost was $1.39 million an annual savings of $1.89 million annually (58 decrease).

Table 3. Sample ROI Calculation for Compliance Automation (Mid-sized Bank)

Item	Baseline (Annual)	Post-Automation	Impact
Alerts generated	100,000	50,000	−50%
False positive rate	95%	85%	−10 pts
Hours per alert	0.5 hr	0.25 hr	−50%
Total labor hours	50,000 hrs	12,500 hrs	−75%
FTE needed	28 FTE	7 FTE	−21 FTE
Labor cost	$2.78M	$0.69M	−$2.09M
Tech operating cost	$0.20M	$0.50M	+$0.30M
Total annual cost	$3.28M	$1.39M	−$1.89M
Implementation cost (Year 0)	—	**$5.0M**	One-time
5-year NPV (10% discount)	—	**$2.58M**	**Positive**
IRR	—	**~29%**	**Strong**

Source: Model based on case data. This illustrates how combining efficiency gains leads to substantial labor savings that outweigh the costs of new technology.

Here, the baseline price was $3.28 million per year, and target price was $1.39 million, yielding yearly savings of approximately $1.89 million (58% less). At a 10% discount, the NPV over five years is approximately $2.58 million at a $5 million initial cost, with an IRR of around 29%. Its payback period comes to being in the third year [12].

Key ROI Drivers

A sensitivity analysis, such as this pins the primary ROI drivers. Other factors, such as alerts avoided or significant improvements in efficiency, were noted to make annual net benefit the most sensitive driver. This means that for the first implementation, a ±20% change in cost results in approximately the same percentage in NPV — roughly a ±$1 million change in NPV for every ±20% of cost. On the other hand, the discount rate has a much less evident effect, since the NPV still remains positive when the discount rate is between 8% and 12%,

Case Studies

Global Bank A – AML Transaction Monitoring

An international bank with $1 billion of assets and a compliance staff of more than 1,000 staff members found their AML inefficiencies in the form of nearly 1,000,000 alerts per year, with 95% proving to be false positives [13]. Last year, it added machine learning, an alert triage tool, and workflow automation. They observed a 40% drop in alert volume, a reduction in review time from 30 to 10 minutes, and a decrease in annual costs from $60 million to $40 million. The project cost a total of $15 million which was recouped in less than 12 months. The involvement of investigators led to increased performance and confidence in accuracy from the model trained.

A rapidly scaling fintech also reinvented their KYC. It took us 24 days to manually get customers onboarded, causing this customer drop-off. The company achieved 4 days of onboarding, diminished costs by 25%($1.5 million annually), and increased customer conversions through the use of automated document checks, OCR, and biometric verification [14]. The project paid for itself in less than one year due to excellent automation improving both customer service and productivity.

Discussion

It can be used for cutting down the cost of compliance by 20–60% but only with similar or higher effectiveness provided the RegTech automation is proven successfully. Automation of low-risk, routine actions enables staff to focus on higher-risk cases, which helps achieve better outcomes [15]. Compliance costs on the rise are not a fate set in stone; if risk and compliance institutions make sound technology choices for their investments, it can be possible to have both efficiency and accuracy. The goal is not to replace work but to free up individual effort and refocus human talent where it is best deployed.

Key Success Factors

Successful RegTech projects have a lot in common: clear accountability and oversight; emphasising governance; a set of high-quality, consistent data; engaging compliance teams in the design and rollout phases; an open and transparent communication with regulators; and an implementation journey from pilot to scale, powering implementation iteratively when proven to work.

5. Conclusion

Using this evidence, the study provides strong confirmation that RegTech automation can significantly reduce compliance costs, while sustaining or improving effectiveness over time. We now have an utterly unsustainable global level of compliance, costing us in excess of $200 billion a year. Automation in high volume but lower complexity processes e.g. KYC, sanctions screening and transaction monitoring enable institutions to mitigate costs of as much as 20–60% in some instances, as well as improve efficiency and accuracy. The payback is similarly strong; payback in 2–4 years and IRRs in the high teens and 30%+ are common. RegTech is emerging to signify a shift for compliance from cost prohibitive ethos to a flexible, effective and value-adding function Technology and regulation is maturing further in the direction of enabling this transformation with pioneers already experiencing tangible gains. So, for risk officers, compliance leaders and auditors, the bottom line is simple: they need to automate the workflows. The question is no longer whether we should automate, rather, how can we do it well and responsibly.

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