

# Understanding The Rise Of Regulatory Technology And Challenges In Financial Sector

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## **ABSTRACT**

Financial markets, services, and institutions are undergoing profound transformations as a result of legislative reforms and technology advancements that have arisen since the Global Financial Crisis of 2008. RegTech, short for regulatory technology, is the intersection of these two trends, and it refers to the use of technology, typically information technology, to the tasks of monitoring, reporting, and complying with regulations. To keep up with the times, regulators in developing markets have started to rethink their approaches to regulation and embrace a more data- and technology-based strategy. New forms of cooperation between regulators and technology entrepreneurs will be necessary to bring about the future of a RegTech approach to regulation, which is only now beginning to become visible. While it's true that RegTech isn't a magic bullet, when coupled with astute decision making, it may put regulators in a far stronger position to meet the challenges in the financial sector.

**Keywords:** Regulatory Technology, Challenges, Global, Regulation, Risk management

## **I. INTRODUCTION**

The financial sector has been affected by new technologies and technology businesses as a result of the rising digitalization of the industry. There have been some first shifts in the financial sector brought on by FinTech companies and apps. New FinTech systems and firms have had an effect on payment systems, funding platforms, and financing methods. RegTech

refers to the innovative technological solutions that are used in the risk and compliance management processes of financial institutions (FIs). RegTech is an emerging yet crucial part of the financial technology industry. RegTech is still in its infancy compared to other technological advances of the day.

There are already difficulties in regulating FinTech, and now technology is playing an increasingly important role in regulation generally and in financial regulation specifically. There is mounting pressure on financial regulators to shift their focus from controlling human conduct to monitoring automated processes in response to the increasing use of technology in the industry. What this means is that the development of FinTech has resulted in the demand for RegTech. The word "RegTech," an abbreviation of "regulatory" and "technology," refers to the application of IT-based solutions for regulatory monitoring, reporting, and compliance.

Financial firms may be able to save a ton of money by using RegTech to fulfill their compliance duties, but regulators may also be able to do their jobs better. FinTech and RegTech, when combined, might set the stage for the creation of a radically new financial system. The pace and scale of change that is feasible may be seen in China, and a shift that is already underway can be seen in India.

There hasn't been a lot of time devoted to studying RegTech thus far. Regulatory and compliance technology is "the application of new technologies to address regulatory and compliance obligations more effectively and efficiently," as defined by the Institute of International Finance (2015). The phrase RegTech is 'the use of technology, particularly IT, in the context of regulatory monitoring, reporting, and compliance'.

The term "RegTech" refers to both the technology solutions designed to help financial institutions (FIs) deal with regulatory concerns and the businesses that have developed expertise in this field. Financial institutions (FIs) must not only employ IT and risk management infrastructures, but also be able to integrate these new technologies, in order to successfully adopt RegTech. Nevertheless, neither of these descriptions mentions any particular technology employed by RegTech systems.

According to the definition offered by the Institute of International Finance, RegTech refers specifically to tools used for keeping tabs on and reporting on various regulations. Considering the overarching nature of this study's intended presentation of thematic sectors, we have chosen to employ the Institute of International Finance's definition of RegTech. RT Associates provides RegTech-specific terminology taxonomy (2020).

## II. EMERGENCE OF REGTECH

During the financial crisis of 2008, traditional financial institutions, especially large global banks, were the primary drivers of the development of RegTech due to their insatiable need for effective solutions to meet the increasingly complicated regulatory and compliance requirements they faced. Regulators have relied significantly on such systems since the 1990s, when financial companies first began applying technology intensely to risk management and compliance. In any case, the paradigm shifted significantly after the GFC. Following the crisis, authorities throughout the world have adopted comprehensive regulatory reforms that have pushed the development of information technology and compliance in the world's largest financial institutions. To adapt to the shifting regulatory and compliance landscapes, multinational corporations are establishing central risk management and compliance departments.



**Figure 1: RegTech World**

Responses to crises have been the driving force behind regulatory efforts throughout the history of global financial regulation. The Developing Country Debt Crisis of 1982, which followed the widespread financial liberalization and

deregulation of the 1970s, was a major factor in prompting the first Basel Accord on capital adequacy in the late 1980s.

From the late 1960s until the Great Financial Crisis, financial institutions steadily increased in size and scope, eventually becoming massive international behemoths.

<sup>37</sup> This was achieved via both internal expansion and external consolidation; the 1999 combination of Travelers Insurance and Citibank to establish Citigroup is illustrative.

As financial institutions grew in size and presence across borders and industries, they encountered greater operational and regulatory hurdles. As a result, the fields of risk management and law and compliance grew rapidly, especially in the '90s and '00s. Because of the rise of quantitative finance and the maturation of information technology, risk management has been accomplished through the use of financial technology since the 1980s. As a result of these two factors coming together, Value at Risk (VaR) systems and financial engineering become commonplace in the world's largest banks. These systems were crucial to the pre-GFC evolution of the financial sector, but they also posed significant dangers and led to significant failures, which contributed to the GFC. The financial sector's confidence in the efficacy of quantitative finance and information technology for managing and controlling risks had grown inflated by the turn of the 21st century.

As the Basel II Capital Accord heavily relies on quantitative internal risk management systems, it's clear that regulators, too, got overconfident in the efficacy of this quantitative IT framework for risk management. The internal risk control processes of the main industry participants were essentially outsourced by regulators.

Regulation technology (RegTech) was launched with the widespread use of quantitative risk management systems by businesses and government agencies. The Global Financial Crisis (GFC) broke the false feeling of security and confidence afforded by the pre-crisis collaboration between the banking sector and its regulators, which was founded on quantitative internal risk management systems.

### **III. FROM FINTECH TO REGTECH**

It's important to think about the rise of a new field called "RegTech," short for "Regulatory Technology," which is used for keeping tabs on, reporting on, and complying with various regulations. Regulatory technology is a relatively new word that developed at the end of 2016 to describe businesses and products that use technology to streamline compliance procedures. RegTech provides a clear example of how the financial services industry has embraced technological innovation to simplify the configuration of reports and the execution of technological solutions, thereby increasing the efficiency with which services are provided and bringing clarity and efficiency to the management of regulation and the achievement of compliance. Because of the importance of verifying the identities of bank customers and conducting thorough background checks on them, it is imperative that regulators make use of technological advancements in the financial sector. However, many FinTech innovations fall outside the scope of existing financial regulation.

Although though regulatory technology has been around for a while, RegTech promises 'agility, speed, improved integration, and analytics. Tools like Software-as-a-Service solutions, application programming interfaces, predictive coding, and open sharing platforms can be easily integrated into banks' existing practices and serve to automate manual processes, improve data quality, and obtain access to unprecedented amounts of granular data in risk assessments, all of which aid in regulatory reporting and reduce compliance costs.

Nevertheless, RegTech is not meant to be a "cure-all" for issues related to regulation and compliance, and care must be taken to determine the extent to which certain tasks may be automated. Others, however, argue that RegTech represents a "pivotal transformation leading to a paradigm shift in regulation," and so should be given more weight than it now receives from certain regulators who see it as just a sub-category of FinTech. In any case, some would argue that RegTech is the foundation of the financial services industry as a whole and represents the natural progression of a data-led, dynamic financial regulation environment.

#### **IV. REGTECH DRIVERS**

Financial institutions' risk-taking, profits, and operational scope have all been drastically reduced as a result of GFC and post-crisis financial regulatory changes. The compliance

burden on financial institutions has grown considerably as a result of the flood of new post-crisis legislation, not to mention the direct cost of regulatory fines.

The post-crisis regulatory reform agenda aimed to make these adjustments. RegTech has been spurred in large part by the current regulatory climate. The fast development of FinTech may be traced back to the drastically changing regulatory, operational, and compliance environment. While the name "FinTech" has only been widely used for the past few years, the relationship between the financial sector and new technologies is far older.

Every sector of the financial system is now affected by FinTech, but probably most dramatically in China, where digital giants like Alibaba, Baidu, and Tencent (the "BATs") have revolutionized the financial industry and presented new issues for regulators. Also, since 2016, authorities in countries like the USA, AU, SIN, and UK have been working hard to comprehend the characteristics of the FinTech business and create novel regulatory measures.

Traditional financial institutions stand to save a ton of money thanks to the implementation of technology in the monitoring and compliance processes, while new FinTech companies, IT companies, and consultancy firms stand to gain a lot of ground. The use of RegTech opens the door to the possibility of continuous monitoring, which would boost productivity by freeing up unused regulatory resources and, from the standpoint of regulators, speeding up the investigation of businesses following compliance breaches. Yet, RegTech provides more than just after-the-fact enforcement; it also has the potential for continuous monitoring capacity and near real-time insights, thanks to deep learning and artificial intelligence filters.

Unlike RegTech, which has the ability to be applied in a wide range of situations, including monitoring firms for environmental compliance and tracking the worldwide position of airliners in real-time, FinTech has an intrinsically financial focus. A new regulatory paradigm is required to address issues ranging from digital identity to data sovereignty, and its effects will be felt well beyond the financial sector as our financial system shifts from one based on Know-Your-Customer ('KYC') principles to a Know Your-Data approach.

From the standpoint of market dynamics, FinTech has expanded since 2008 as a bottom-up movement headed by start-ups and IT corporations, whereas RegTech has risen in reaction to top-down institutional demand. As a result, there are three different yet interdependent communities involved in RegTech. With the 45-fold rise in regulatory penalties and settlements, the financial services industry's desire to reduce costs has been a primary motivation for RegTech development too far. In the following phase, regulators will undoubtedly take the lead in pushing for more supervision. In contrast to the FinTech industry, which caters to both consumers and businesses, we may anticipate RegTech to place a greater emphasis on B2B solutions.

## **V. CHALLENGES IN THE FINANCIAL SECTOR AND THE RISE OF REGTECH**

The financial sector requires the intervention of the regulator as it is a regulated sector. While the recent growth of FinTech has the potential to improve financial industry efficiency, it also presents at least the following three problems to financial authorities throughout the world.

To begin, regulators of the financial sector must deal not just with traditional financial institutions but also with non-financial businesses that offer technological services for the sector. Cyber risks, third-party risks, data privacy risks, etc. are just a few of the various types of threats that financial institutions must contend with as a result of the widespread use of innovative technologies and the regular introduction of novel business and operational models. In order to mitigate these threats, banks are increasingly relying on both other FinTech firms (such as data analysis firms or cyber security firms) and third-party service providers (such as internet service providers, information technology suppliers, etc.). Moreover, the information asymmetry created by cross-industry and even cross-border partnerships presents new challenges for financial authorities. More than ever before, financial regulators must learn as they regulate because of the prevalence of the known unknown and the unknown. To keep up with the times, modern financial regulators need to be flexible enough to allow for more trial and error in their regulatory activities and supervisory decision-making.

Second, the entrance of new nonfinancial enterprises has increased the difficulties financial authorities already have in

striking a balance between these two competing interests and protecting the stability of existing financial institutions. As a result of technical development, non-financial companies or startups may now offer financial services at competitive rates, lowering the bar to entry for these businesses. Thanks to this shift, pioneers in the FinTech industry may reach the financially excluded by expanding access to banking for the unbanked and under banked. It may, however, reduce the competitiveness of the incumbents, putting their financial stability and that of the entire financial system at risk. Using the licensing system as a checkpoint, authorities in the financial sector can now limit entry into the sector and so regulate competition. This raises the question of whether or not the regulator should provide a financial service license to a new entrant, and if so, under what circumstances. Yet the availability of data has been a problem for banking authorities trying to figure it out. However "while the plethora of data is itself at the heart of FinTech advances," the FSB has observed that "regulators typically highlight having few formal data sources to supervise the industry." There are numerous businesses that are not financial institutions that do not have any reporting requirements since they do not come inside the current financial regulatory standard. So, there is insufficient information and evidence for the financial regulator to determine whether or not allowing new rivals into the market is beneficial to the ecosystem as a whole.

Finally, as the technologies used by the market continue to evolve and grow more complex, the difficulties for financial regulators to comprehend, monitor, and regulate the markets financial services have increased. Since the 2008 financial crisis, we have seen a widening gap in knowledge, power, and resources between regulators and those they are supposed to be keeping in check. For instance, financial organizations may compete for and keep the finest people in the market with generous remuneration packages, whereas financial regulators are severely constrained by a lack of budget and fiscal resources. Financial authorities sometimes turn to long and complex legislation, as well as hefty fines for non-compliance, to close this gap. This approach places the onus for mitigating regulatory cost asymmetry on the regulated, with the expectation that they would improve compliance effectiveness in response to the increased cost. In light of the increasing complexity and high cost of compliance, regulated financial institutions are turning to RegTech solutions. Because of this, regulators are under even more duress as they attempt to



evaluate the efficacy and quality of the compliance outcomes produced by these RegTech solutions. As a result, regulators must increase their regulatory capacity and efficiency by utilizing technology solutions. So it's up to financial regulators to do something about the imbalance.

Financial regulators need to modify their technologies immediately to enhance regulatory compliance and supervisory efficiency in response to these regulatory difficulties. That's why RegTech has finally arrived.

## **VI. CONCLUSION**

Overall, going forward, regulatory sandboxes are just the beginning of a process that will embrace new smart—digitized and datafied—regulatory systems and a new smart approach to regulation that draws on all available tools, in a sequenced structured manner, to achieve the balancing act required of regulators. In sum, the integration of technology into governance has evolved greatly during the past half-century. RegTech 1.0 refers to the pre-2008 iteration, which was a paradigm badly weakened by the GFC. RegTech 2.0, or the use of technology to assist and streamline compliance, has been under development since 2008, when new regulatory duties were combined with technology. The second part of RegTech 2.0, in which regulators employ technology to bolster oversight and regulation, is in its infancy.

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