CAPCO

THE GREAT IMBALANCE

FINTECH VS. REGTECH

INTRODUCTION

There appears to be a significant imbalance between fintech and regtech that could lead to compliance risk returning to square one.

From a market perspective, the variance in revenue projections between fintech and regtech is telling. Estimates indicate that, by 2023, the fintech market revenue will generate $305.7 billion[1], compared to roughly $7 billion[2] generated by the regtech.

The higher demand for fintech brings us to the conclusion that banks are much more focused on upfront revenue that comes from loans, deposits, etc., and less focused on the added pressure increased volumes create on their compliance partners. The result is a dramatic growth in volume with the same, or less, compliance oversight. All of which, whether loans or deposits, will inherently generate more risk and compliance issues.

This is exacerbated by the ever-increasing regulatory burden. Warren Breakstone, of S&P Global Market Intelligence, sums up the situation well, "It does not take a freshly minted analyst to see what's happening here. Steadily increasing compliance demands have taken a serious toll…forcing them (financial institutions) to spend a great deal more money – and time – managing compliance risk..."[3]

Now is the right time to give equal consideration to regulatory technologies and strike this critical balance.

1. https://www.moneycontrol.com/news/technology/global-fintech-market-set-to-reach-305-7-billion-by-2023-report-3810171.html
2. https://www.researchandmarkets.com/research/z4vz8z/global_regulatory?w=4
3. https://www.marketsmedia.com/regtech-vs-fintech-banks-caught-middle/

MODERNIZATION: FROM WANT TO NEED

"By 2020, as a new breed of artificial intelligence (AI)-powered screening, data visualization, reporting tools, and cloud-based solutions begin to gain widespread acceptance in the industry, many people-driven activities and compliance consultants will be replaced."[4]

This transition to a new way of doing business will not come easy. To be successful, financial institutions will need to alter many of their current entrenched processes. In short, they will need to start thinking a lot more like their clients, recognizing that future growth in every industry – even investment banking – is predicated on the application of new technologies that will disrupt the status quo. However, the need for strategic thinking around the balance institutions will strike between fintech and regtech will be critical to that success.

BRIDGING THE GAP WIH REGTECH

Regulatory technology (regtech) uses information technology to enhance regulatory monitoring, reporting, and other compliance processes for the financial industry.

John Byrne, chief executive at regtech provider Corlytics, says: "Before the 2008 crisis, compliance was a small department in banks. They saw it as a tick-box function, with a legal approach. But for many large firms, compliance costs are now between 5 and 10 percent of revenue. They need to use technology to reduce these overheads and improve outcomes with stakeholders."

Artificial intelligence in regtech presents real revenue upside by repurposing those staff to revenue-generating tasks while being able to segment the data for analysis to penetrate new markets. Furthermore, artificial intelligence can enable institutions to strengthen existing markets by introducing the ability to delve deeper into their behavior and help bring any abnormalities or suspicious acts to view.

"Regtech can speed things up dramatically, while also [adding value to the stakeholder experience] and freeing staff to do other value-adding things. So banks must change. The trouble is they find it difficult to roll out innovation as it requires extreme change-management processes."[5]

It also allows for numerous cost reductions, mainly by lowering the number of FTEs performing cost generating tasks to maintain compliance. Not to mention reducing the number of errors that usually require costly look-backs and enforcement actions as a result of non-compliance.

Let's take a closer look at a real-world example of how this could directly impact over 7,000 financial institutions: The Home Mortgage Disclosure Act (HMDA).

4. https://www.marketsmedia.com/regtech-vs-fintech-banks-caught-middle/
5. https://www.raconteur.net/finance/regtech-add-value

USE CASE: HMDA
A BRIEF HISTORY

The Home Mortgage Disclosure Act (HMDA), initially enacted in 1975, requires most lenders to report information about the home loans they originate or purchase, as well as applications they receive for such loans. The data collected, recorded and reported in the loan application register (LAR) include application-level information about the lenders, loans, properties, and applicants. In peak years, HMDA public data contained as many as **10 to 12 million records per year**[6].

Some of the primary purposes of HMDA data are to:

- Provide public officials with information that helps them make certain housing-related decisions;
- Help determine whether lenders are serving the housing needs of their communities; and
- Uncover lending patterns that could be discriminatory.

HMDA: MATERIAL CHANGE

A financial institution should verify the accuracy of the data in the entries in the HMDA LAR against the corresponding loan files. Examiners should document in their work papers any differences between the data in the HMDA LAR and information in files, and determine whether the differences may be explained by any additional information that the financial institution may provide. Discrepancies that they cannot adequately explain should be identified as errors and fixed.

With the new rules in effect, institutions are experiencing an exponential increase in the fields they are now required to get right. For 2018 and beyond, there are **110 potential data fields** to be captured per application, which includes 48 'new' critical data points that effectively added 27, modified 16, and eliminated two fields from the previous year.

These new data fields include those mandated by the Dodd-Frank Act, as well as some required by the Consumer Financial Protection Bureau (CFPB)* under its discretionary authority, and include:

- Age of borrower
- Application channel
- Mortgage loan originator NMLS identification
- Credit score
- Combined loan-to-value (CLTV) ratio
- Borrower's debt-to-income (DTI) ratio
- Borrower-paid origination charges
- Rate spread for all loans
- Points and fees
- Discount points
- Lender credits
- Loan term
- Prepayment penalties
- Non-amortizing loan features
- Interest rate
- Business or commercial purpose

6. https://www.raconteur.net/finance/regtech-add-value

CHALLENGES INSTITUTIONS FACE WHEN REPORTING HMDA

Below is a shortlist of common errors already resulting from the greatly expanded 2018 HMDA data:

- **Loan purpose:** Staff is confused by refinances under HMDA (e.g., transactions that do not replace a lien being labeled as 'refinances' rather than 'home improvement' or 'other'). This applies to commercial lending as well: certain loans are classified as 'refinances,' but are instead cash-out loans on property owned free-and-clear, which are not reportable (not an HMDA-reportable purpose).
- **Credit scores:** A score not considered is reported instead of only the score used to underwrite the loan. If it is only one score, it is to be reported for the appropriate borrower and 'NA' reported for the other borrower's score.
- **Commercial loans:** Certain fields are not applicable to commercial or business-purpose loans (e.g., introductory rate period, balloon payment, interest-only payments).
- **System issues:** Exported LAR is missing data, the system is extracting data from the incorrect location, or exported data is not in the required format (e.g., incorrect field length, whole numbers when decimal places are needed, not enough decimal places, etc.)
- **Geocoding format:** System is exporting the geocoding in the old format.
- **Multiple properties:** Confusion abounds as to when to report data based on one property versus all properties. Certain data points are to be reported for a chosen property (e.g., construction method, address, geocoding, occupancy, lien status and manufactured housing). All other data points should be based on the overall application and underwriting information (e.g., CLTV, number of units).
- **Reporting 'Not Applicable' (NA) on non-originated loans:** Depending on the action taken, several data fields default to NA or the numerical equivalent. Errors arise from incorrectly reporting NA when a value is required and vice-versa (e.g., credit score, property value, DTI, CLTV).
- **Reporting age:** Officers are calculating age at the present time instead of at the time of application.
- **Construction loans:** Some are reportable, but others are not. Rehabs are reportable, while spec construction is not. Rehab/construction is not reportable if the borrower will be seeking permanent financing after completion of construction (i.e., the construction loan is temporary and will be replaced).

THE COST OF HMDA COMPLIANCE

Research suggests that the most recent round of 'final' HMDA rules adds hundreds of millions in annual compliance costs for the lending industry in year one alone. The majority of that cost will be felt by the those generating the highest volume of HMDA reportable loans, those with the most complex variations of such loans, and the smaller institutions that do not have the resources (human or technical) to manage the new requirements.

The table below reflects an example of the current estimated cost, in time and money, of a 100 percent manual HMDA data integrity review for technical compliance by the number of LAR lines.

LAR lines	Hours	$$$
50,000	16,700	$1.4MM
25,000	8,400	$672k
10,000	3,340	$267k
5,000	1,667	$134k

THE COST OF HMDA NON-COMPLIANCE

For reporting institutions, the risks associated with non-compliance are incredibly high. Historically, HMDA-related enforcement actions that typically carry a **high operational cost to remediate** have been all too common, and often accompanied by **civil money penalties** ranging from tens of thousands to millions of dollars. In fact, the CFPB imposed the largest-ever HMDA fine on a non-bank lender, for $1.75 million in 2017[7].

But that's not all – the amount of time and money required to manually manage these big data sets looking forward, and in the worst-case scenario – backward – can be excessive. What's more, where consumers have a greater array of options for obtaining a mortgage loan, institutions also expose themselves to high levels of reputational risk when non-compliant with the HMDA rules.

7. https://www.consumerfinance.gov/policy-compliance/enforcement/actions/

CASE: VALUE PROPOSITION

Complex new HMDA reporting requirements present significant risks to financial institutions. As such, it is imperative to minimize costs, while maximizing accuracy. Using Capco's Automated Solution of Extraction (CASE) to manage compliance reporting requirements such as HMDA combines extraction and machine learning technologies that provide an integrated, 360-degree solution using compliance data to meet today's requirements and generate more business for our clients.

The results are greater efficiencies, fewer errors, and unlimited scale to realize real value for institutions of all sizes and complexities such as:

- **Significantly lowered costs** – operational and compliance costs can be reduced by as much as 30 percent, or more, once client source documents are entirely digitized, and the technology we call CASE is fully mature and integrated into the data integrity process.
- **Information de-duplication** – clusters of similar or duplicate content are quickly identified, thus cutting through the 'noise' and reducing the amount of content that needs review.
- **Unlocking the value in content** – compliance and operational leaders can rely on CASE results to help them leverage the large amount of data they generate to tap new and underserved markets for revenue opportunities while ensuring those that are served are done on a fair and equitable basis.
- **Streamlined regulatory compliance** – CASE ensures real-time risk detection abilities through the digitization and automation of manual compliance and reporting processes.

CASE: DOCUMENTATION STANDARDS AND IMAGE NORMALIZATION PROCESS

The image normalization required to achieve maximum efficiency with CASE can be done with relative ease along with the support of Capco subject matter experts, as needed, to ensure your process can accommodate the solution that will ensure HMDA compliance for your institution. Those standards include:

1. Copy the image and convert it to grayscale
2. Erosion and dilation of the curvatures on the image to absorb and remove the static dots on the page
3. Find all of the points of the image that are not white and then determine the bounding box by finding the outermost points and adding a margin
4. Crop the original image based on the bounding box
5. File type should be in PDF
6. Structure files so that they are within the lender case number folder or put in a single file
7. Information locations should be consistent
8. Document dimensions should not change

CASE: DOCUMENT DEFECTS TO AVOID

Defect Type	Defect Severity	Reasoning
Document Skew	2	Skewing can lead to difficulty using OCR to read the document and incorrect positioning of the bounding boxes
Margin Handwriting	3	Handwriting in the margins will change the size of the final image and make the bounding boxes invalid
Crossing out/circling/ underlining text	2	This defect will obscure the lettering and make it impossible to use OCR on that part of the document
Shadow Borders from scanning	3	Shadow borders will expand the margins and make the configured bounding boxes select the incorrect region
Scanned at below 300 dpi resolution	1	Low resolution will make the text blurry and very difficult to OCR

ADDITIONAL USE CASES

From a business perspective, there is unlimited potential in CASE for HMDA purposes due to the comprehensiveness of the dataset. The following are examples of how HMDA data can be further segmented to manage other compliance-related needs, as well as to create and/or to expand business opportunities across the enterprise:

- Fair Lending/UDAAP
- TRID
- Fraud
- Financial Crime
    - KYC
    - EDD

- Mortgage QC
- Expanding existing customer relationships
- Deposits,
- Capital Markets,
- Private Wealth, etc.

- Developing new customer relationships
    - Filling gaps in lending patterns,
    - Capitalizing on untapped/ underserved markets

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ABOUT CAPCO

Capco is a global technology and management consultancy dedicated to the financial services industry. Our professionals combine innovative thinking with unrivalled industry knowledge to offer our clients consulting expertise, complex technology and package integration, transformation delivery, and managed services, to move their organizations forward.

Through our collaborative and efficient approach, we help our clients successfully innovate, increase revenue, manage risk and regulatory change, reduce costs, and enhance controls. We specialize primarily in banking, capital markets, wealth and asset management and insurance. We also have an energy consulting practice in the US. We serve our clients from offices in leading financial centers across the Americas, Europe, and Asia Pacific.

To learn more, visit our web site at www.capco.com, or follow us on **Twitter**, **Facebook**, **YouTube**, **LinkedIn** and **Instagram**.

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