# Why Banks, Payment Providers and Insurers Should Digitize Their Risk Management.. - Vamsi Chemitiganti

## Introduction

"*When models turn on, brains turn off.*" – Dr. Til Schuermann, Formerly Research Officer in the Banking Studies function at the Federal Reserve Bank of New York.Currently Partner at Oliver Wyman & Company.

*There exist two primary reasons for Enterprises such as Banks, Insurers, Payment Providers and FinTechs to pursue best in class Risk Management Processes and Platforms. The first need is compliance driven by various regulatory reporting mandates such as the Basel Reporting Requirements, the FRTB, the Dodd-Frank Act, Solvency II, CCAR and CAT/MiFiD II in the United States & the EU. The second reason is the need to drive top-line sales growth leveraging using Digital technology. This post advocates the implementation of Digital Technology on Risk Management across both the areas.*


*Image Credit – Digital Enterprise*

## Recapping the Goals of Regulatory Reform..

There are many kinds of Risk, ranging from the three keystone kinds – Credit, Market and Operational to the Basel-II.5/III accords, FRTB, Dodd Frank etc. The best enterprises not only manage Risk well but they also turn it into a source of competitive advantage. Leading banks have recognized this and according to McKinsey forecasts, while risk-operational processes such as credit administration today account for the majority of the some (50 percent) of the Risk function's staff, and analytics just 15 percent, by 2025 those figures will be around 25 percent and 40 percent respectively. [1]

Whatever be the kind of Risk, certain themes are common from a regulatory intention standpoint-

1. Limiting risks that may cause wider harm to the economy by restricting certain activities such as preventing banks with retail operations from engaging in proprietary trading activities

2. Requiring that banks increase the amount of and quality of capital held on reserve to back their assets and by requiring higher liquidity positions
3. Ensuring that banks put in place appropriate governance standards ensuring that boards and management interact not just internally but also with regulators and their clients
4. Upgrading governance standards, enabling a fundamental change in bank governance and the way boards interact with both management and regulators. These ambitions were expressed in various new post-crisis rules and approaches.
5. Tackle the “too big to fail” challenge for highly complex businesses spanning multiple geographies, product lines and multifaceted customer segments. Accurate risk reporting ensures adequate capital conservation buffers.

Beyond the standard models used for Risk regulatory reporting, Banks & FinTechs are pushing the uses of risk modeling to new areas such as retail lending, SME lending. Since the crisis of 2008, new entrants have begun offering alternatives to traditional financial services in areas such as payments, mortgage loans, cryptocurrency, crowdfunding, alternative lending, and Investment management. The innovative use of Risk analytics lies at the core of the FinTechs success.

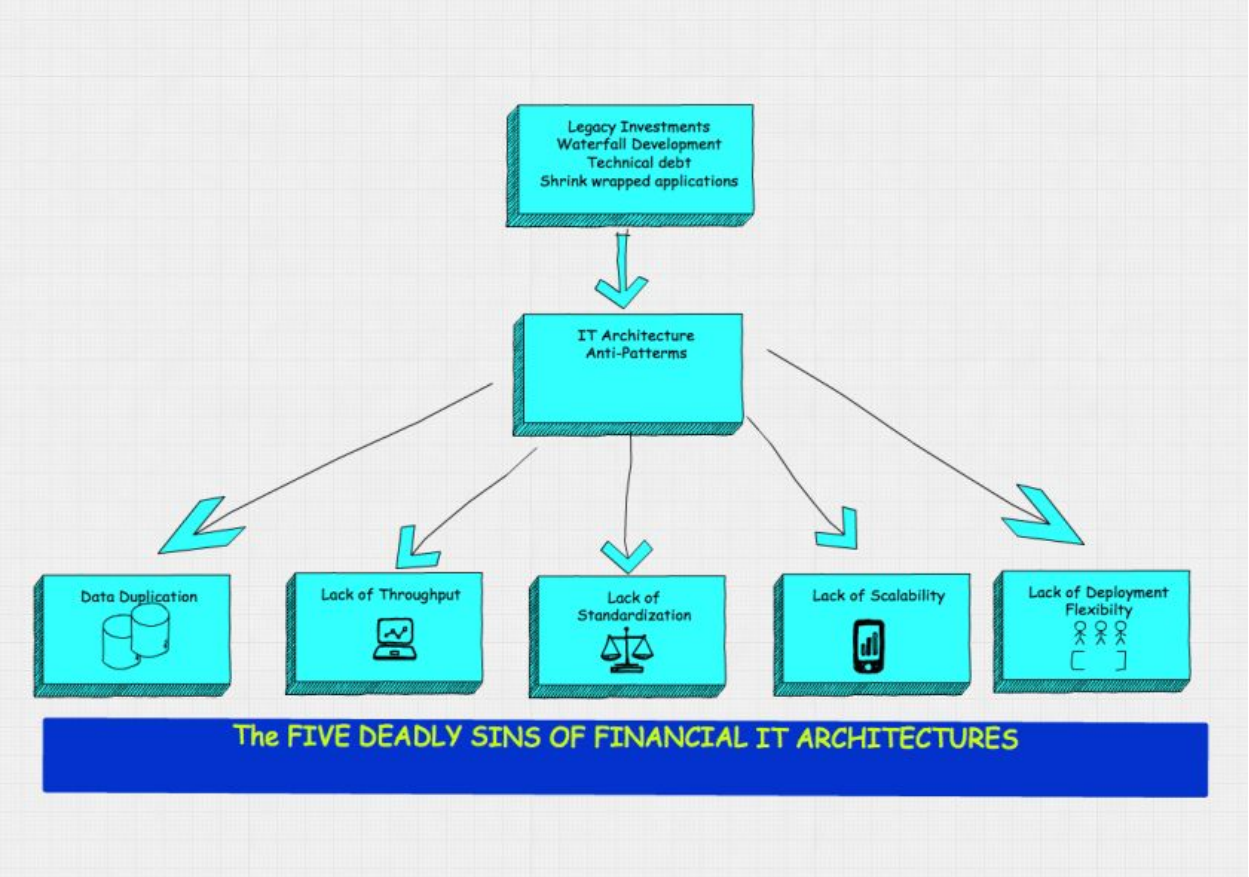
Across these areas, risk models are being leveraged in diverse areas such as marketing analytics to gain customers, defend against competition etc. For instance, realtime analytic tools are also being used to improve the credit granting processes. The intention is to gain increased acceptance by pre-approving qualified customers quickly without the manual intervention that can cause weeks of delays. Again, according to McKinsey, the goals of

leading Banks are to approve up to 90 percent of consumer loans in seconds, generate efficiencies of 50 percent leading to revenue increases of 5 to 10 percent. Thus, leading institutions are using Risk Analytics to rethink their business models and to expand their product portfolios. [2]

Over the last two years, this blog has extensively covered areas such as cyber security, fraud detection, anti money laundering (AML) etc from a data analytics standpoint. The industry has treated Risk as yet another defensive function but over the next 10 years, it is expected that the Risk function will be an integral part of all of these above areas thus driving business revenue growth & detecting financial fraud, crimes. There is no doubt that Risk is a true cross cutting concern across a range of business functions & not just the traditional Credit, Market, Liquidity and Operational silos. Risk strategy needs to be a priority at the highest levels of an organization.

## The Challenges with Current Industry Risk Architectures..

Almost an year ago, we discussed these technology issues in the below blogpost. To recap – most industry players have a mishmash of organically developed & shrink wrapped IT systems. These platforms run critical Core Banking Applications to Trade Lifecycle to Securities Settlement to Financial Reporting etc.  Each of these systems operates in an application, workflow, data silo with it's own view of the enterprise. These are all kept in sync largely via data replication & stove piped process integration. Further siloed risk functions ensure that different risk reporting applications are developed using duplicative technology paradigms causing massive IT spend. Further, the preponderance of complex vendor supplied systems ensures lengthy release cycles and complex data center deployment requirements.




*Industry Risk Architectures Suffer From Five Limitations*

## A Roadmap for Digitization of Risk Architectures..

The end state or how a Digital Risk function will look like will vary for every institution embarking on this journey. There are six foundational elements we can still point out a few guideposts based on the .

### #1 Automate Back & Mid Office Processes Across Risk and Compliance –

As discussed, Many business processes across the front, mid and back office involve risk management. These processes range from risk data aggregation, customer on boarding, loan approvals, regulatory compliance (AML,KYC, CRS

& FATCA), enterprise financial reporting & Cyber Security.It is critical to move all and any manual steps from these business functions to a highly automated model. Doing so will not only reduce operational costs in a huge way but also demonstrate substantial auditability capabilities to regulatory authorities.

## #2 Design Risk Architectures to handle Real time Data Feeds –

A critical component of Digital Risk is the need to incorporate real time data feeds across Risk applications. While Risk algorithms have traditionally dealt with historical data, new regulations such as FRTB explicitly call for various time horizons. These imply that Banks to run a full spectrum of analytics across many buckets on data seeded from real time interactions. While the focus has been on the overall quality and auditability of data, the real time requirement is critical as one moves from front office applications such as customer on boarding, loan qualifications & pre-approvals to key areas such as market, credit and liquidity risks. Why is this critical? We have discussed the need for real time decision making insights for business leaders. Understanding risk exposures and performing root cause analysis in real time is a huge business capability for any Digital Enterprise.

## #3 Experiment with Advanced Analytics and Machine Learning –

In response to real time risk reporting, the analytics themselves will be begin to get considerably more complex. This technology complexity will only be made more difficult with multiple teams working on all of these areas. This calls out for standardization of the calculations themselves across the firm. This also implies that from an analytics standpoint, a large number of scenarios on a large volume of data. For Risk to become truly a digital

practice, the innovative uses of Data Science across areas such as customer segmentation, fraud detection, social graph analysis must all make their way into risk management. Insurance companies and Banks are already deploying self learning algorithms in applications that deal with credit underwriting, employee surveillance and fraud detection. Wealth Managers are deploying these in automated investment advisory.  Thus, machine learning will support critical risk influenced areas such as Loan Underwriting, Credit Analytics, Single view of risk etc. All of these areas will need to leverage predictive modeling leading to better business decisions across the board.

### #4 Technology Led Cross Organization Collaboration –

McKinsey predicts [1] that in the coming five to ten years, different regulatory ratios such as capital, funding, leverage, total loss-absorbing capacity etc will drive  the composition of the balance sheet to support profitability. Thus the risk function will work with finance and strategy functions to help optimize the enterprise balance sheet across various economic scenarios and then provide executives with strategic choices (e.g. increase or shrink a loan portfolio, for example), and likely regulatory impacts across these scenarios. Leveraging analytical optimization tools, an improvement on return on equity (ROE) by anywhere between 50 and 400 basis points has been forecasted.

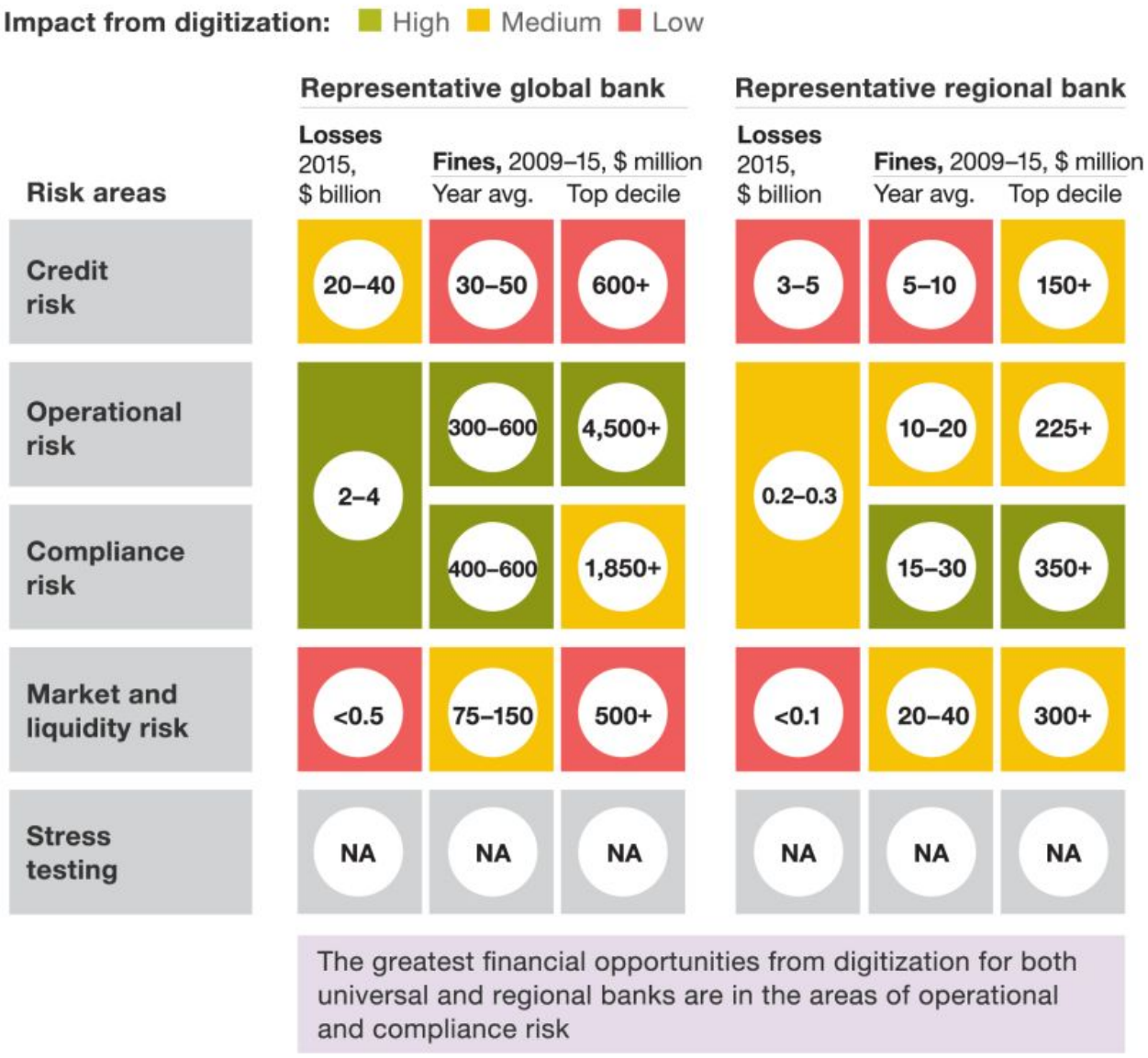
## The Value Drivers in Digitization of Risk Architectures..

McKinsey contends that the automation of credit processes and the digitization of the key steps in the credit value chain can yield cost savings of up to 50 percent. The benefits of digitizing credit risk go well beyond even

these improvements. Digitization can also protect bank revenue, potentially reducing leakage by 5 to 10 percent. [2]

To give an example, by putting in place real-time credit decision making in the front line, banks reduce the risk of losing creditworthy clients to competitors as a result of slow approval processes. Additionally, banks can generate credit leads by integrating into their suite of products new digital offerings from third parties and Fintech's, such as unsecured lending platforms for business. Finally, credit risk costs can be further reduced through the integration of new data sources and the application of advanced-analytics techniques. These improvements generate richer insights for better risk decisions and ensure more effective and forward-looking credit risk monitoring. The use of machine-learning techniques, for example, can help banks improve the predictability of credit early-warning systems by up to 25 percent [2].

## Digital risk management can significantly reduce losses and fines in core risk areas.




Note: Credit risk losses are gross charge-offs; operational and compliance risk losses do not include opportunity costs (such as unearned revenue due to operational risk events); the average total yearly fines are given for banks fined at least once in the period 2009–15.

Source: Bank holding company Y9C reporting forms; *Financial Times'* bank-fines data; McKinsey analysis

McKinsey&Company

## The Questions to Ask at the Start of Risk Transformation..

There are three questions at this phase every Enterprise needs to ask at the outset –

- What customer focused business capabilities can be enabled across the organization by incorporating an understanding of the various kinds of Risk ?
- What aspects of this Risk transformation can be enabled by digital technology? Where are the current organizational and technology gaps that inhibit innovation?
- How do we measure ROI and Business success across these projects before and after the introduction of ? How do we benchmark ourselves from a granular process standpoint against the leaders?

## Conclusion..

As the above makes it clear, traditional legacy based approaches to risk data management reporting do not lend themselves well to managing your business effectively. When things are going well it has become very difficult for executives and regulators to get a good handle on how the business is functioning. In the worst of times, the risk function can fail to function well as models do not perform effectively.  It is not enough to take an incremental approach to improving current analytics approaches. The need of the hour is to incorporate the state of the art data management and analytic approaches based on Big Data, Machine Learning and Artificial Intelligence.