

# Adjustments in regulatory reporting

Our perspective

December 2022

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# Looking through the regulator's lens

# 1

Post the 2008 crisis, the Basel committee introduced new regulations with a focus on improving banks' ability to deal with financial stress, strengthen transparency and increase the regulatory supervision. Due to these increased regulations, banks have emerged stronger and have been comparatively stable during the economic downturn brought about by COVID-19<sup>1</sup>.

However, the struggle to strengthen banks and ensure their stability during future crisis continues to be one of the priorities of the regulators globally. As part of this journey, regulators in the UK, the EU, the US, and APAC have been asking financial service firms to demonstrate how they deliver regulatory reports and have been examining their governance and controls to assess the quality of their returns.

The focus of these examinations revolves around the below parameters:

- ▶ Data lineage
- ▶ Significant manual intervention and outdated IT infrastructure
- ▶ End User Computing (EUC)
- ▶ Reconciliation checks
- ▶ Effective controls
- ▶ Technical interpretations and model appropriateness

This document covers our analysis of manual interventions and resultant EUCs and the associated challenges faced by Global banks and their capability centers in India.



1. Source: [Early lessons from the Covid-19 pandemic on the Basel reforms \(bis.org\)](https://www.bis.org/press/pr190901.htm)

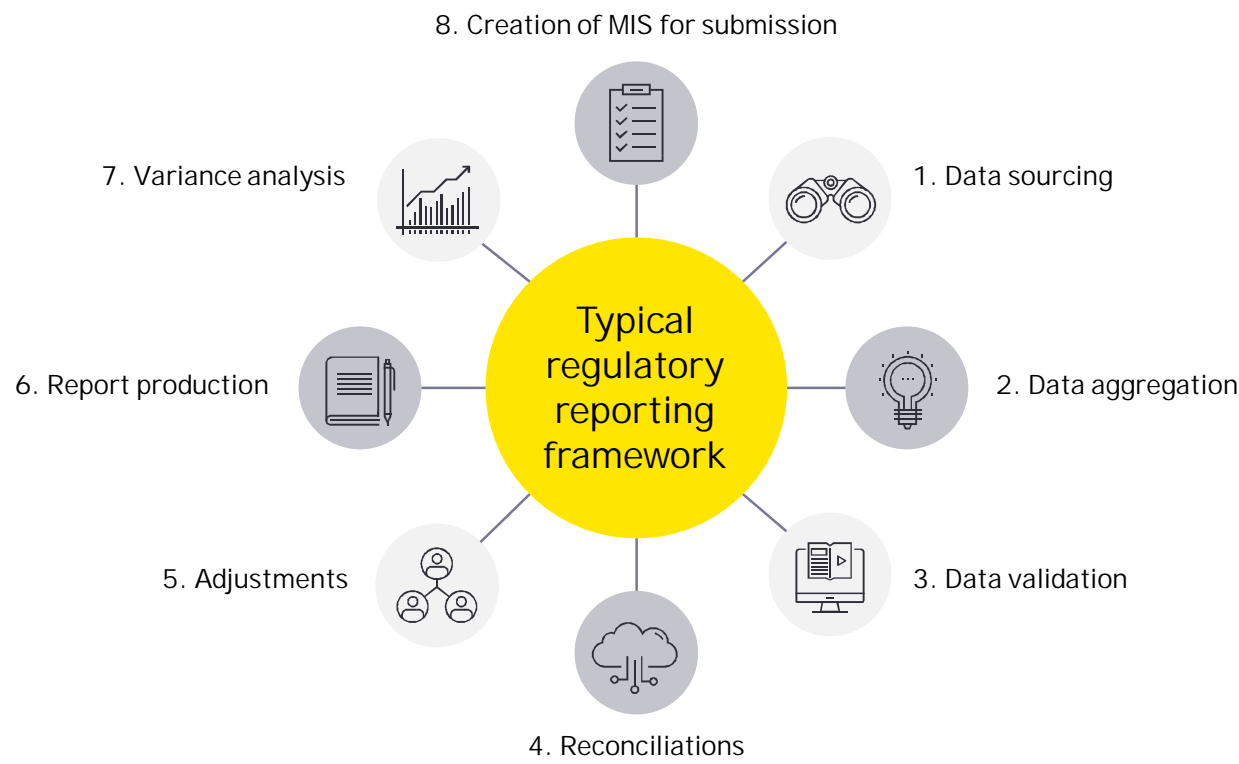
# Regulatory reporting framework and key challenges



Most of the global banks have established a regulatory reporting architecture through their GCCs (Global Capability Centers) to produce and submit relevant data to regulatory bodies and demonstrate their compliance with the necessary regulations like capital adequacy, liquidity and solvency and financial disclosures.

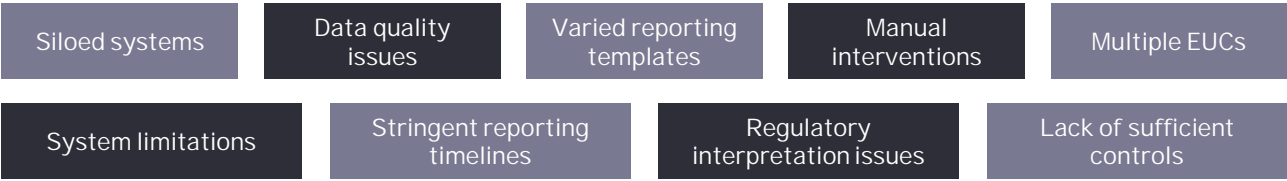
While banks use different legacy systems, the overall processes and reporting architecture are similar across the industry. The GCCs of global banks gather and process necessary information based on instructions from their onshore counterparts to generate regulatory reports.

Below is a snapshot of the typical regulatory framework adopted by global banks:



Although the above reporting framework appears seamless, banks have been facing the below challenges which ultimately affect the completeness, timeliness and accuracy of the regulatory reports generated by them.

## Key challenges



The system limitations result in banks posting numerous recurring and ad hoc adjustments and performing data validation, modifications, calculations in spreadsheets to support the outputs for regulatory reports. The risk posed by such manual interventions is one of the major concerns that Regulators have been highlighting during their examinations and reviews, especially in instances that lack sufficient oversight and documentation.

Banks would require finding strategic fixes to address manual interventions in their current operating models. However, in the meantime, they need to focus on establishing sufficient controls over their manual adjustments and working files (EUCs) to mitigate the risk of misstatement and address the regulator's expectations.





# Governance framework for End User Computing (EUC)

## 3

The requirement from regulators is changing frequently, and it is not possible for banks to instantly meet their expectations. It takes years for them to come up with a comprehensive strategic solution with proper documentation and testing. As a result, for meeting the regulatory requirements, banks are creating high-end EUCs, which will help in analyzing data, performing reconciliations, posting adjustments, and generating reports on a daily basis.

### 3.1 What is an EUC?

EUC is any tool developed or owned by a business or function in which individuals can create working applications without bringing in the core IT functions with the purpose of supporting recurring financial, regulatory reporting, and operational processes.

EUCs are typically supported by:

- a. Spreadsheet
- b. Database
- c. Queries and scripts like SQL, VBA, power query, etc.

Microsoft Excel is the most commonly used EUC in all organizations because of its availability and flexibility.

### 3.2 Perils of reliance on EUCs

Initially, EUCs provided significant benefit to the organizations as users could easily and efficiently alter the data as per changing Regulatory and Industry Policy. However, with the increase in regulatory changes coupled with volume and complexity of transactions, the use of EUCs was plagued with numerous challenges. Such challenges typically occur due to poor or absent end user controls implemented over these spreadsheets.

The consequences of poor spreadsheet control and management can result in:

- a. Misstated reports
- b. Loss of time due to manual process
- c. Increased cost of operations
- d. Increased cost of auditing and compliance
- e. Regulatory fines and penalties
- f. Reputational loss

### 3.3 Risk assessment over EUCs

With multiple data sources, modification and calculations, complex formulas, and interlinked spreadsheets, there is always a risk for error and misstatement in EUCs. It is important that banks should assess the risk EUCs pose and classify them into categories (like high, medium, and low risk EUCs) to implement appropriate controls and governance around them.

To identify the overall level of risk an EUC poses, all spreadsheets need to be examined for three types of risk:

- ▶ **Inherent risk:** It is defined as natural risk level in a process that has not been controlled or mitigated to achieve an entity's objective. This means that the risk that an EUC poses before application of any controls is its Inherent Risk. For example, if an EUC is not password protected, then it can be edited by an unauthorized user as it lacks security. This is an inherent risk to the accuracy of the model and the final output generated by the said EUC.

Inherent risk rating can be assessed by quantifying the impact in the below four scenarios:

- a. The financial impact in the following cases – EUC failing, being breached or unavailable when needed. (For example, fines imposed on account of an EUC failing)
  - b. Regulatory impact in cases where information is not available in the EUC when required and processing of the EUC fails. (For example, any misstatement in capital or liquidity reports submitted to regulators)
  - c. Reputational impact in cases where the information in processing of EUC has been disclosed to an unauthorized individual. (For example, if client sensitive information like counterparty details were not encrypted in an EUC and the same was shared incorrectly, this could result in misuse of such information by unauthorized individuals resulting in a reputation loss for the bank)
  - d. The adverse impact on relevant stakeholders (e.g., CFOs, Asset Liability committee-ALCO, CRO, Treasury, Regulatory governance committees) in cases where data held within the EUC is incomplete, inaccurate or has been modified in an unexpected manner.
- ▶ **Residual risk:** It is defined as the level of risk remaining once the inherent risk is mitigated through the application of key controls. Based on the quality of controls over EUCs, banks can assess how much of their inherent risk has been mitigated and the remaining risk can be represented as the residual risk of that EUC. For example, if an EUC is password protected, it is still possible that the password is shared with an unauthorized individual who makes changes that could result in misstatement and errors. In this case, since the inherent risk was mitigated through password protection, the residual risk remains. For all EUCs whose residual risk is identified as high, the following steps could be undertaken:
    - a. Banks need to have a Residual Risk Management Policy
    - b. Such EUCs need to be highlighted to the senior management for making them aware of the potential risk of misstatement
    - c. The risk in these EUCs needs to be either mitigated or accepted
    - d. The management needs to continue to track the residual risk of such EUCs until mitigation
  - ▶ **Complexity risk:** It refers to the risk present due to underlying complexities in the processes, which may further pose a threat in case of system breaches and process failure. Complexity risk is majorly defined based on the below questions:
    - a. Does the EUC contain scripts, macros and complex functions that need to be documented in case the EUC needs to be reproduced?
    - b. Does the EUC require multiple manually created user inputs that need to be documented in case the EUC needs to be reproduced?

If the answer to any of the above-mentioned questions is "Yes" then the EUC can be tagged as "COMPLEX".

Once inherent, residual and complexity risk has been assessed for each EUC, a joint risk impact is calculated and EUCs can be typically classified as high, medium and low risk EUCs.

### 3.4 Implementation of essential controls on EUCs

Although EUCs undergo a risk assessment, it is imperative to have effective controls being designed in the EUCs to avoid any misstatement or errors.

Enumerated below are some of the key controls that banks may consider implementing in all EUCs irrespective of their classification:

1

#### Change log

Components: : Date, details of change, Individual making the change (Author and authorizer).

Description: A change control methodology needs to be maintained with above components that will help to quickly understand significant changes made between two versions of an EUC.

4

#### Application control

Components: Formula, scripts and macro

Description: Data processing, formulae and macros need to be password protected to reduce any unwanted changes in the EUC. A different password should be used for these components and the same should be made available only to a few senior team members.

2

#### Version control

Components: EUC Path

Description: The most current version of EUC needs to be made available for users. The link of the current version saved in the secured drive should be available in the EUC file for easy accessibility. This will help in avoiding the risk of an incorrect spreadsheet in production.

5

#### Documentation

Components: Standard Operating Procedure (SOP), Data flows

Description: Teams need to maintain a detailed document on the end-to-end process being performed within an EUC. This document can be used for reference in case of change in the ownership. The documents need to be reviewed by the EUC owner and updated periodically.

3

#### Access control

Components: Read only OR Modify

Description: This control should be managed by the EUC owner only. The EUC owner should have the right to grant and remove the access of an EUC for an individual. A good access control will help to reduce the risk of unwanted access to EUCs.

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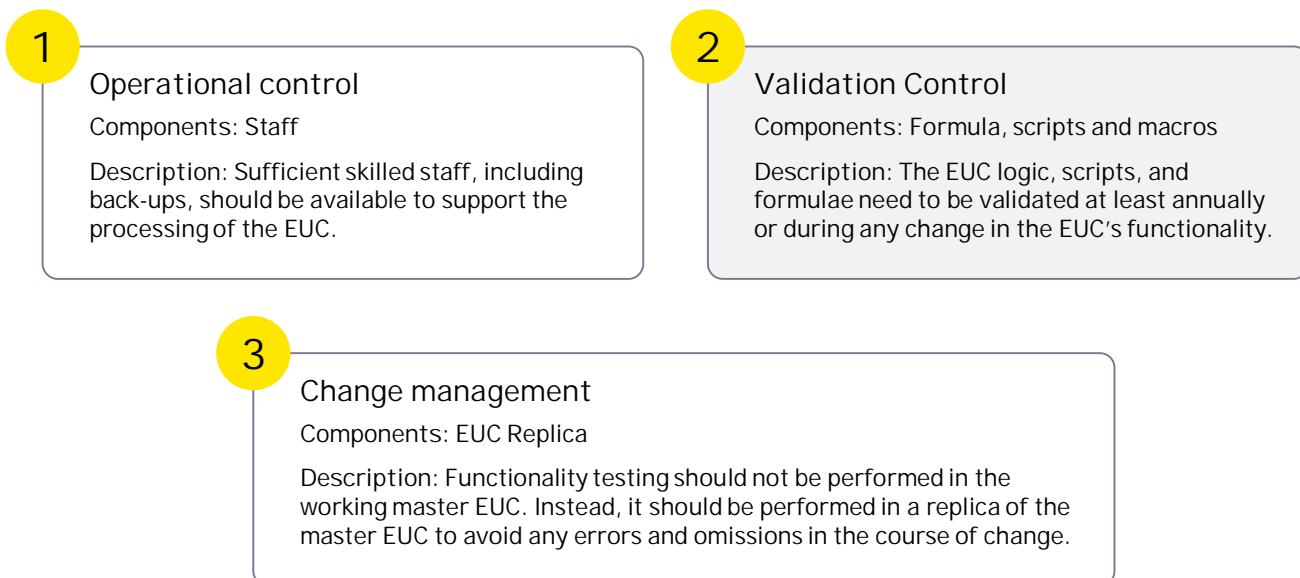
#### Backup and recovery

Components: EUC files

Description: EUC owner should ensure that a master copy of all EUCs is stored in a secured network share drive with same controls as the backup. Individuals should also ensure that backups are tested, and confirmations are obtained from the testing team.

Though above are the bare minimum controls that banks may incorporate in an EUC, it is essential to consider few additional controls for high-risk EUCs.

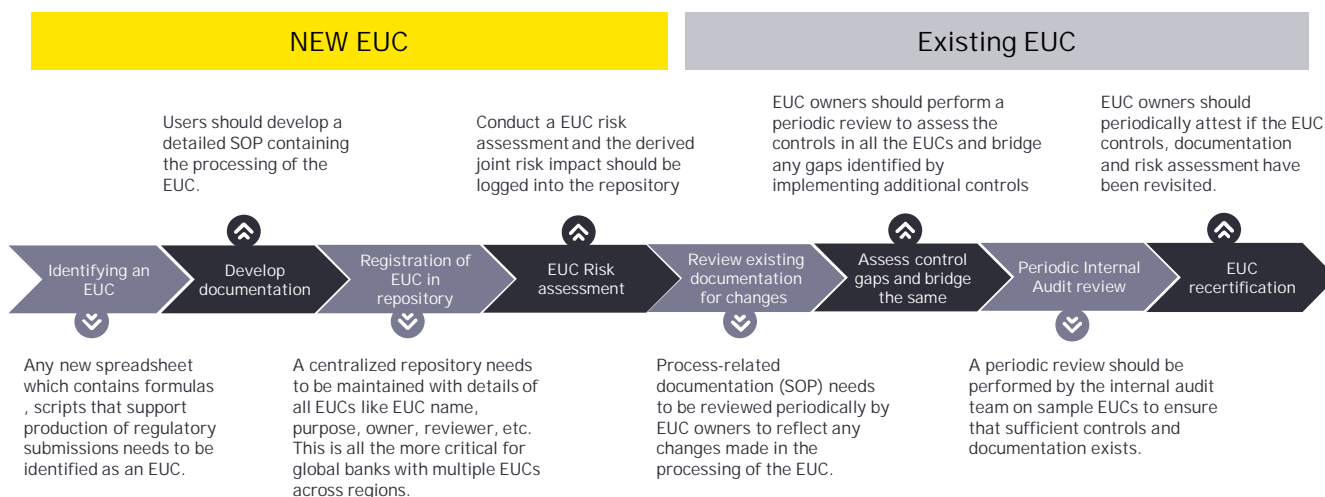




### 3.5 Typical target governance model:

It is extremely important that banks maintain a centralized repository of all the EUCs, along with their respective elements like risk assessment, classification, and proof of control implementation. This will ensure a seamless governance on the various regulatory processes that are dynamic in nature and provide senior management and regulators comfort over the quality of the regulatory reports.

Below process flow defines the end-to-end journey that banks may consider undertaking to maintain effective governance in their pool of EUCs.



# Governance framework for manual adjustments

## 4

From controls and governance perspective, it is critical to review the underlying rationale for an adjustment and identify common causes, as noted below. This will help banks to classify the adjustments into different buckets with an aim of developing a strategic or tactical solution that can limit or eliminate the manual intervention and risks that these adjustments bring along.

### 4.1 Identifying the root cause

Below are the common causes that may potentially lead to adjustments:

- ▶ **Data sourcing:** This is due to unavailability of information from the upstream system. Hence, information is sourced from alternate systems and in inconsistent formats over e-mails to manually adjust into the reporting templates.  
For example, calculations related to 24 months look back (with respect to the largest absolute net 30-day collateral flows realized during the preceding 24 months) are usually performed in spreadsheets and added separately.
- ▶ **Rule change:** Amendments to regulations can cause banks to reverse non-reportable balances or post adjustments to reflect supplementary information.
- ▶ **Data quality:** Manual adjustments are required due to poor quality of data available within upstream systems. These include adjustments to reference data like ratings, pricing, and other parameters of product information and adjustments to trade data resulting from reconciliations.
- ▶ **Feed timing:** Banks usually have a global footprint which causes feeds to be extracted for countries as per their respective time zones. Manual adjustments are posted to reflect any late entries recorded into the upstream systems.
- ▶ **Duplication:** Banks have multiple siloed systems and there is bound to be an overlap in the data sourced from them, necessitating a correction to the numbers reported to eliminate any double counting within the regulatory templates.

### 4.2 Implementation of essential controls on manual adjustments

One of the common thematic findings from the regulators highlights that banks tend to post many adjustments as patch work for their data sourcing and data quality issues. It is important for banks to have sufficient controls around these adjustments to be able to demonstrate completeness and accuracy of regulatory reports produced by them.

Below is the list of some common observations and suggestive controls that may help banks implement additional governance around the adjustments being posted for various regulatory reports.

Common observations	Suggestive controls
Lack of clarity on the rationale of adjustments	<ul style="list-style-type: none"> <li>▶ All adjustments need to be documented with a detailed description of :               <ul style="list-style-type: none"> <li>▶ Root cause analysis</li> <li>▶ Source systems involved</li> <li>▶ Frequency of the adjustment</li> <li>▶ Nature of the adjustment</li> <li>▶ EUCs being used for calculating the impact of adjustments</li> <li>▶ Proposed tactical or strategic fix for resolution</li> </ul> </li> </ul>
Insufficient controls over roll-over adjustments	<ul style="list-style-type: none"> <li>▶ If an adjustment is a roll-over adjustment, there should be clarity on when the roll-over is expected to stop. The end date of the roll-over needs to be incorporated into the documentation and in the EUC/ system being used to create or post the adjustment. This will ensure that a user is aware of this information and hence will perform necessary checks and controls to ensure the rollover is put to a stop on the requisite date. For example, banks usually trade in evergreen repo trades where the trade automatically renews unless one party gives a notice to terminate it. To reflect the extended maturity of such trades, the regulatory team may need to post a roll-over adjustment.</li> </ul>
Inadequate controls over the source data consumed for posting adjustments	<ul style="list-style-type: none"> <li>▶ Any queries being used for extracting data that is used for posting adjustments need to be reviewed and signed off periodically.</li> <li>▶ Where any data is being received from other teams (for example operations team) the reporting teams may need to consider:               <ul style="list-style-type: none"> <li>▶ The other team understands the data sourcing requirements and how this data is consumed by the Regulatory reporting teams to avoid making any mistakes in the exchange of the required data.</li> <li>▶ A periodic confirmation needs to be obtained from the other teams regarding the source, quality, and completeness of such data to ensure that the adjustments are being posted using a trusted data source.</li> </ul> </li> </ul>
Lack of controls over ad hoc adjustments	<ul style="list-style-type: none"> <li>▶ Any ad hoc adjustment, which may be posted due to an unexpected one-off issue with the systems or data feed, need to be adequately documented and approved in accordance with the firm's materiality framework.</li> </ul>



### 4.3 Parity in adjustments between regulatory reports:

Banks with a global footprint are required to produce regulatory reports for various regulators. For example, globally systemically important banks are required to report LCR numbers to UK PRA, EBA, US FED, etc. While the nature of the requirements is similar, some reports may require additional disclosures as compared to others. One such example is additional disclosure on monetization in the PRA110 report, where banks are required to represent how the High-quality liquid assets (HQLA) will be liquidated over a period of five years.

It is necessary to ensure that there is a parity in the adjustments that are being posted for these similar types of reports. Currently, banks face the below challenges while performing a cross report reconciliation:

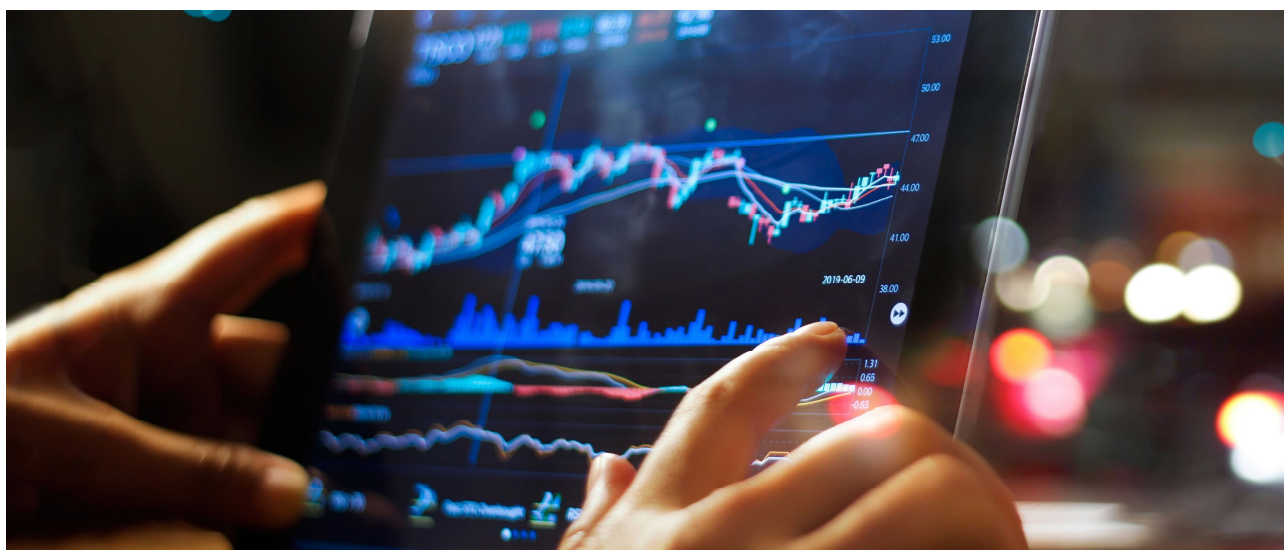
- ▶ Adjustment parameters vary across reports due to difference in the structure of templates for various Regulators For example, HQLA is reflected in the counterbalancing capacity section of the PRA110 report however the same is represented in FR202a (US FED) under the Inflow-Assets section.
- ▶ Unstructured and inconsistent adjustment description (for example, naming convention) across similar type of regulatory reports, since operationally different teams post these adjustments
- ▶ Difficulty in tallying the value of adjustment posted across two or more Regulatory templates. For example, adjustments posted in EBA LCR pertaining to a 30-day horizon need to tally with adjustments posted in PRA110 for the same horizon.

To address the above challenges, banks may consider following the below operational framework as an approach for ensuring completeness and accuracy of adjustments across reports.

- ▶ Creation of a centralized database where adjustments for the similar reports could be recorded
- ▶ Creation of a processing tool that could be linked to the database to perform a reconciliation between the two sets of adjustments
- ▶ Generation of a detailed output report from the tool that will enable the user to identify any gaps in adjustments.

The following outcomes can be achieved by performing an adjustment reconciliation using the above-mentioned framework:

- ▶ The reviewer can identify any new adjustment or change in parameters of an existing adjustment that has been posted during report preparation for the current period in comparison to prior reporting periods
- ▶ The reviewer can validate any missing adjustment across similar reports
- ▶ The reviewer can validate if the adjustment amount across reports is appropriately reflected



# The way forward

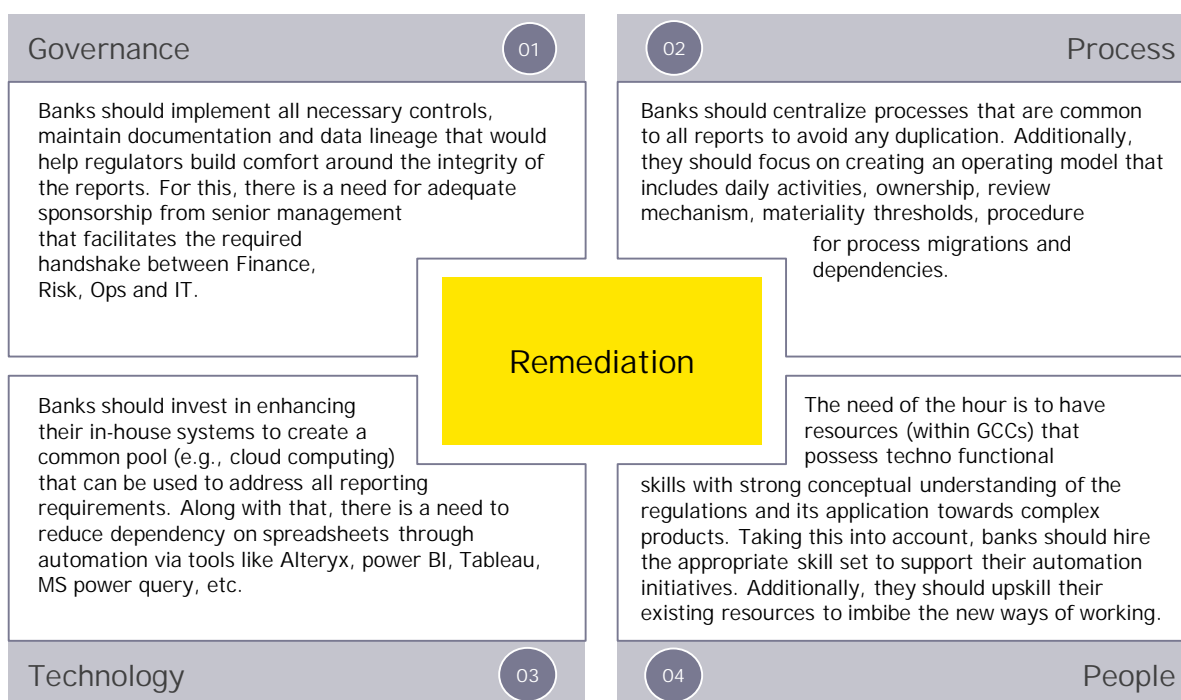
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Good governance is not just being reactive. Instead of just focusing on intermediary ad hoc solutions, the need of the hour is for banks to address the root cause of problems.

The integrity of Regulatory reporting is one of the key priorities of the regulators and it seems the assessment is bound to continue. It is important that the banks come up with remediation plans that are strategic and appropriately resourced to address the issues highlighted.

While banks are currently focusing on implementation of Basel 4 which is effective from January 2023, it is vital that banks also invest in remediation of existing Regulatory reports. This will not only help banks to improve their current structure, ways of working, controls and governance but also help them prepare for upcoming regulations, which may further add to the reporting complexities. The focus of this remediation needs to be structured from a long-term perspective with an emphasis on streamlining data architecture, automation through strategic solutions, and a formalized operating model with extensive controls and governance.

The strategic transformation by banks may consider on the below four pillars that will lay down the foundation of the required change:





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