BANKING

Operational Risk in Banking

Analytics, control and resiliency with Process Mining

SUMMARY

- The pressure on operational risk professionals is growing due to volatile markets and the underlying complexity of fragmented processes and legacy applications.
- Risk management professionals can use process mining to analyze process performance and conformance, providing a much richer insight into the control environment.

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Why Process Mining Now?

Operational risk management has come a long way since the Basel II Accord in 2004 required capital to be set aside for operational risk. But there's still a long way to go. According to BCG, financial penalties for non-compliance have totaled almost $400bn since the Global Financial Crisis of 2008 . And it's not just regulators who are unhappy with the banks. McKinsey & Company found that the number of complaints filed against US banks has grown almost fourfold since 2012.

The reality is that despite decades of automation and a major investment in operational risk management frameworks, personnel and capabilities, the challenges operational risk professionals face are now significantly greater. The competitive environment is more dynamic, prompting new business models and new products. Regulatory oversight is overwhelming and increasing in intensity. External threats have also grown from cybersecurity to global pandemics.

Each of the above transformational topics will be covered in a separate paper, where the foundation role of operational excellence will become more apparent as each topic is explored in-depth. See Apromore.com to find these additional resources.

The need for data, analytics, transparency and insight into a bank's processes has never been greater. Without process insight, any operational risk professional is flying blind. That's where process mining comes in.

Why Process Mining Now?

"Design processes so that they cannot fail, check that they don't, but be ready to respond when they do." As a job description, it sounds simple enough, but the underlying complexity in large, mature banks, suffering fragmented processes patched together by a potpourri of legacy applications, supported by an ever-diminishing pool of expertise, cannot be overstated.

Preparing for a meeting with a regulator and struggling to find anyone in the business who can answer detailed questions about process flow, why specific transactions follow path A, while others, with seemingly similar characteristics, follow paths B, C, D…Z is a challenge known to many risk professionals.

Why are there so many variants?

Where are the key failure points?

While we may have resources evenly distributed across centers at a functional level, can all transaction types be supported in all centers?

Should we be less worried about duplicating a single $100m transaction relative to duplicating hundreds or thousands of transactions with a face value of less than $10,000?

What is our underlying exposure?

What happens if one of our offshore centers goes down?

Can we still meet the cut-off?

Does our risk categorization allow for key person risk?

How has the change in our operating environment impacted our risk profile?

Are the front-line teams really testing their business continuity plans (BCP) or are they gaming the system?

Is system access provisioned in line with policy?

Where are our single points of failure?

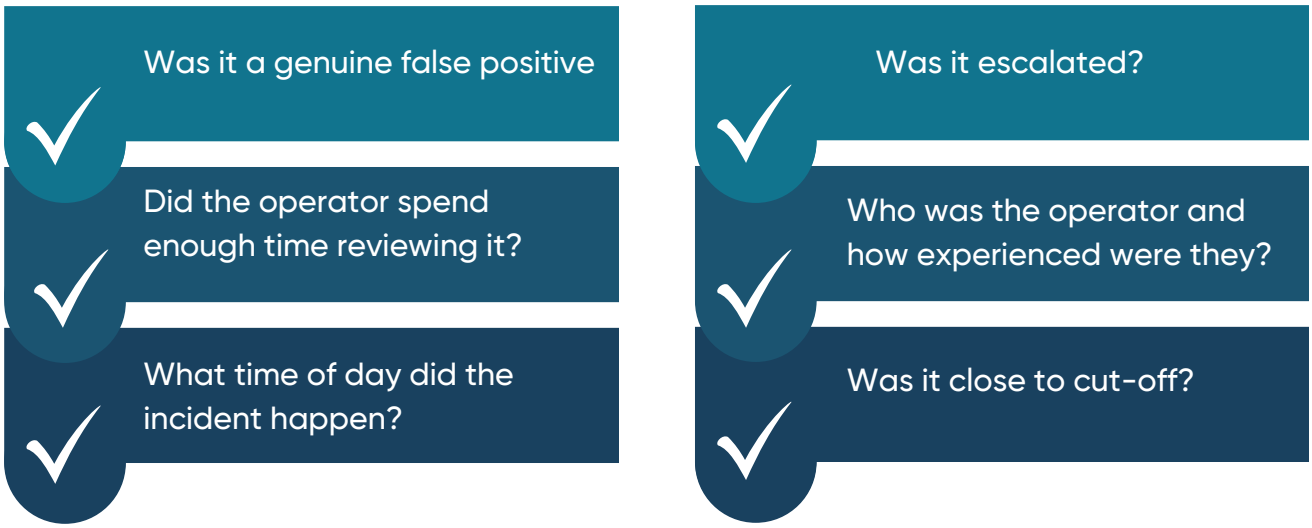
Challenging business and process owners with these types of questions underpins the role of the risk professional. Helping business owners identify and assess risks, ensuring they have the right controls in place and that they are operating effectively, within risk appetite is where they spend most of their time. While the activities have risk-associated labels, there's little difference in the objectives between those of the risk professional and those of the quality and operational excellence agenda – consistent delivery of outcomes that match expectations.

This is why process mining is such a critical part of the toolkit for operational risk professionals. It can help to answer the above questions, at the same time improving alignment between the risk and the operations functions. Automated process discovery can identify all possible paths and the performance metrics associated with each path. Variant analysis can compare one path with another and clarify the differences between transactions that flow through one variant versus another or the error-rate of operational staff in one center versus another. Process performance analytics can identify the attributes that make exception cases – those most likely to cause breaches and operational losses – easier to identify, as well as visualizing where the control breaks are.

Incident Management, Investigations & Change

While there may be an intent to design processes that cannot fail, the reality is for most processes in large, within mature banks there continues to be some manual intervention. This increases the risk of operator errors and the underlying system complexity increases the risk of outages. Whether it's about duplicated or mistaken payments, mortgage settlement delays, missed SLAs, "fat-finger" errors, and other processing errors, they all have an impact on operational losses and, more importantly, on customer outcome.

Process mining can play a significant role in speeding up root cause analysis as each transaction is traced through the process prior to an incident. For example, in a sanctions screening process:



The ability to quickly extract this data, visualize the process, follow the specific transaction and check the relevant attributes ensure integrity, accuracy and speed in the investigation.

Having identified the root cause, the problem needs to be addressed, and this means introducing change into the process, which heightens risk. Whether it's fail-fix type change, continuous improvement or transformational change, the rate, scale and breadth of change impacting processes across the enterprise is extraordinary. Process mining's conformance checking capabilities can ensure that operational readiness checklists are followed.

Control Testing, Continuous Monitoring & Continuous Auditing

Armed with fact-based, data-driven process maps and models, all the typical techniques in a process improvement specialist's toolkit can be executed with greater precision and at pace.

One of the issues many banks struggle with is an over-reliance on detective controls and controls that, in some cases, lag behind the underlying transactions by many days e.g., reconciliation type controls. There can even be a lag in reporting breaches of preventative controls such as segregation of duties and four-eye checks. Too often, the 2nd or 3rd "pair of eyes" only gives the transaction a cursory check – particularly when a deadline or SLA is due. Online conformance checking enables both a continuous, real-time auditing capability for key controls, checking not only that the control has happened but that other attributes such as how long a resource took to complete a check or whether all steps in a credit check or AML (Anti Money Laundering) due diligence search have been performed in the right order, with the right data

This ability to continuously monitor detailed transactional attributes and associated controls allows both operational risk professionals and auditors to reduce their reliance on sampling (whole of population data is available) and focus their attention on investigating matters of concern.

What's more, enhancing process mining with AI/ML capabilities enables both operational risk and support resources to predict when breaches are about to occur and recommend what action should be taken to prevent the process from failing. Far better to prevent failure than to recover from it.

Risk Capital Calculation & Scenario Planning

A key part of any operational risk function is calculating the amount of operational risk capital to set aside. Doing this requires a review of internal and external loss data, scenario analysis and an understanding of the business and internal control environment to form a house view on the level of capital to be set aside.

Undertaking this analysis is time-consuming, expensive and, at the end of the day, largely subjective. Reviewing loss data from other banks may be interesting, but interpolating statistics from other banks may not always be relevant as no two banks have the same operating environment. Just because three banks have experienced significant AML issues doesn't mean that a fourth bank should assume it's next in line for a painful conversation with the regulator – it all depends on the processes, systems, people, practices and culture.

The current approach tends to be a combination of desktop exercise and workshops with front-line teams. While there is some reliance on data, it tends to be aggregated and certainly not process-centric. The scenarios are based on expert opinion – usually a lot of conversation but not always a lot of facts. Trying to get accurate cost data for a process is a challenge in itself.

Process mining's ability to analyze process performance and conformance provides a much richer insight into the control environment that is unique to a specific institution. In addition, its simulation capability allows complex, real-world scenarios to be run that leverage rich, detailed data sets. Exploiting this fact base, coupled with the expertise and experience of risk and business professionals, generates a far deeper understanding and realistic assessment of the capital position.

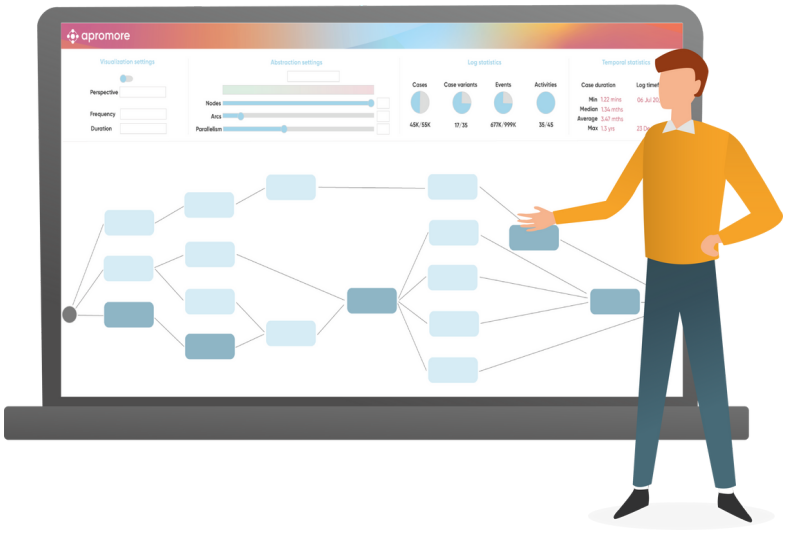
Reporting, Data and Analytics

Finally, reporting – both to the regulator and internally – consumes a significant amount of the operational risk professional's time. Gathering data to incorporate in the relevant reports is challenging. The sources are many, the breadth of reports and audiences is extremely wide and diverse, and stitching data together across multiple source systems without a common reference ID is frustrating and fraught with accuracy and integrity issues.

The data and analytics that are derived from process mining suffer none of these issues. Process mining reports what actually happened. Which resource spent how much time on which process variant, and what were the common attributes that led to the failure. Timely (in real-time if required), accurate and comprehensive feedback.

Conclusion

The pressure on operational risk professionals is growing. Expectations of the role they can play are changing. No longer are they restricted to identifying and implementing a framework and then reporting against it, they are expected to be trusted business advisers. But without the right tools, their potential to provide advice and create value will be seriously constrained. Process mining is one of those tools. The comprehensive suite of process mining techniques will support risk professionals across the full spectrum of services they provide. At a time when banks are investing heavily in risk transformation, process mining needs to be on the shopping list.



Want to know more? Ready to explore the potential of Process Mining?

The Apromore™ platform is an easy-to-use, fast-to-deploy AI-driven process mining solution that enables business and technology teams to quickly visualize and analyze their business processes, and simulate proposed changes prior to implementation in order to measure impact and risk.
The result of over a decade of extensive research and innovation from leading universities, the Apromore platform includes no-code features and a simple UI that continuously delivers new insights into operational performance and compliance.

For more information, visit https://apromore.com/product

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Nigel Adams is a thought leader in service operations excellence, with deep experience in the banking sector. He has nearly 25 years of experience focused on creating enterprise value from operational improvement, risk management and performance optimization. Nigel is known for driving performance and transformational change at pace while leading large, multi- award-winning teams in complex delivery networks. In addition to a consulting career at KPMG, he has brought his skills to bear for leading banks, including NAB and ANZ, focusing on global payments and cash operations, financial crime, and business performance.

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