Banking on Success:
Process Mining and Problem Solving for Financial Institutions

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1.   A challenging environment for financial institutions

In recent years, the banking and finance sectors have undergone huge changes in the way they operate, both globally and locally. Under pressure from new digital players and fintechs, banks and other institutions also face the challenges that come with being one of the most heavily-regulated industries in the world. In addition, they must still deal with the long tail of the global financial crisis, including the necessary costs and infrastructure required by anti-money laundering and 'Know Your Customer' (KYC) rules.

At the same time, digitization continues to have a huge impact, not to mention the biggest driver of all – the customer. Changing customer expectations and demands have led banks and other institutions to reimagine the products and services they offer, in order to integrate them into the everyday lives of their customers. It goes without saying that to meet this goal, the customer must be the central focus, not the product.

Even so, the total number of enquiries and complaints against financial service institutions has increased for the last several years, despite additional investment in customer service processes. Data from the UK's Financial Ombudsman Service revealed they were contacted 1,680,394 times in 2018/19, which represents a 13% increase from 2017/18 (with 1,456,396 complaints and enquiries), and a 17% increase from 2016/17 (1,394,379).

More and more, nothing less than the complete integration of analogue and digital channels, coupled with a consistently available presence in the customer's daily life, is seen as the least a company can do to maintain customer loyalty. This is equally the case for corporate and investment banking, where traditional broad-based approaches are now pivoting towards more 'bespoke' services.

Indeed, Deloitte suggests that sooner rather than later, most successful bankers might not be generalists: "Instead, they will likely specialize in specific industries, solutions, or client segments to add value and insights through unique hard and soft skills that AI cannot yet replicate."

To manage these trends, banks must know their customers and clients, and be able to make the right offer at the right time. This means they need to know how their customers and clients interact with their business, and to do this requires a solid understanding of the way their business processes actually work. Business process management, and in particular process mining, is the key to understanding processes, then being able to redesign them in a customer-focused way and in response to changing circumstances.

2.   Tackling challenges with process mining

2.1.   Internal and external compliance and auditing

Imagine being able to take a massive, disruptive set of laws and define exactly how it affects every operational decision made within an organization, including unforeseen interactions between seemingly unrelated processes and business areas. At the same time, consider the time saved by replacing pages of compliance documentation and spreadsheets with simple, accessible processes and workflows.

Process-driven compliance means regulations and requirements can be translated directly into operational decisions for employees to use in their day-to-day work. Instead of trying to interpret long lists of potentially complex regulations and "if/then" scenarios, staff can simply input data into the appropriate process, and the correct and compliant output is automatically generated, based on the criteria set by their organization.

Not only does this remove the risk of inconsistent application of regulations, but also allows employees to complete their tasks significantly faster and more accurately. At the same time, management can take an overarching view of their business processes, and see exactly where specific processes, or even individual process steps, need to be altered in order to avoid costly compliance violations.

The scenario above is not fiction – it can become a reality for any organization. Auditors, risk management departments, or compliance staff can use the power of process mining to visualize and analyze end-to-end processes across an entire business, harnessing a company's existing internal data to improve compliance-related decision making.

How Process Mining Helps

The true value of process mining when it comes to conformance checking is in identifying non-compliant behavior within an organization's process landscape. Identifying instances where the specific rules or requirements associated with particular processes are broken or missed means compliance violations can be detected without delay, and the appropriate action taken rapidly.

Process mining can also be used to generate data on critical risk and compliance metrics, like the number of times a particular process has been flagged as non-compliant. In this way, process mining ensures organizations are always up-to-date with the latest insights into the way their processes are actually working, and thus can react quickly to any rising issue.

Process mining provides banks with a seamless view of a transaction from beginning to end, thus enabling management to monitor the way the process unfolds. At points where a compliance response is required (for example, a red flag on suspicious circumstances surrounding the amounts and frequency of deposits at certain ATMs), this can be generated automatically, ensuring compliance requirements are met within the necessary timeframes.

In short, by better understanding the system processes that can be viewed through process mining, with the manual steps that inevitably take place in the real-world execution of processes, performance issues can be better traced to misalignments between manual and automated steps, and corrected accordingly.

Case Study

The UK's Competition and Market Authority (CMA) recently instructed two well-known banks to put in place new internal processes to prevent data breaches, after the organizations sent out thousands of customer reminders containing incorrect information. The banks have also been ordered to appoint an independent body to audit their Payment Protection Insurance (PPI).

A new directive has been established requiring organizations to send annual PPI reminders to customers clearly detailing the type of policy they have taken out, how much they have paid, and that they have the right to cancel their policy. (A PPI is a financial product created to cover expenses in the case of redundancy, illness, or death. In 2005, it was revealed that a large number of these policies were mis-sold.)

Just one incorrect PPI reminder can develop into widespread negative publicity, meaning it is crucial for banks and financial institutions to have their internal processes seamlessly connected and visualized. Strong communication amongst all internal business operations and departments is key, as is a clear overview of exactly how any automated notification system operates in practice, and where the possibility of incorrect information being distributed exists. Sounds like a job for process mining!

2.2. Organizational and process complexity

Banks and financial institutions can usually be fairly described as labyrinthine. Operations usually occur in multiple countries and legal jurisdictions with different regulations; different divisions (e.g. consumer banking vs. investments) have radically different goals and ways of working; and there will almost always be different legal entities operating within one business.

Within this complex operational environment, there will be hundreds of different processes occurring every day, some of which are themselves extremely complex, requiring specific actions, approvals from particular employees, or triggering additional processes. This is before even considering the ways these myriad internal processes interact with the world outside the organization, not to mention the interplay and interactions between processes themselves.

In short, the number and complexity of the processes handling daily tasks within already-complex financial institutions – large or small! – can very often be too much for one system to handle. This is especially true in less consumer-focused areas of banking and finance, where detailed, high-volume processes are the norm.

How Process Mining Helps

Process mining can uncover in-depth, actionable information about the way complex processes actually run, as well as how they interact with other processes within an organization's process landscape. In effect, process mining enables banks to view their disparate systems as a single seamless unit.

Taking a holistic view in this way means banks have the information they need to identify competitive advantages, then refine and/or standardize their processes as needed. As with any process, no matter how complex, process mining can also reveal possibilities for streamlining and simplifying.

Case Study

A leading Australian bank with specialist expertise in agribusiness, property, health, government, education and community lending, was facing internal confusion and frustration resulting from multiple BPM tools operating simultaneously.

With a serious need for centralized governance, process ownership, and auditable processes with end-to-end transparency, the bank worked with Signavio to establish a central governance team, migrate their current processes from multiple sources into a single platform, integrate these processes with existing risk management and ERP systems, then plan and execute a mass roll-out and information campaign within the organization.

Following this project, the bank was able to establish centrally-managed and standardized processes across the whole organization, update approval mechanisms by tying them directly to the organizational structure and identifying specific process owners. This information was then used to enable profile-driven access to confidential or sensitive information and processes, increasing the security of the company as a whole.

The bank was able to significantly improve its compliance framework, including the speed of detecting and responding to identified gaps in business processes. In addition, process mining initiatives help the bank assess how processes are executed over multiple iterations, making the compliance perspective an integral part of ongoing process monitoring, as well as the creation of new business processes.

2.3. Innovation and competition

In the banking and finance sector, innovation has usually come about through new products or services, new production processes, or new organizational structures. Research from Deutsches Bundesbank supports this, with the additional finding that banking and financial innovation is almost always rooted in technological advances, like improved processing power for IT systems or lower costs for data storage.

In today's global banking and finance environment, this innovation is often driven by fintech companies, with larger institutions likely to be more risk averse, and thus less innovative. At the same time, the relationships between banks and fintechs is evolving rapidly, with collaboration becoming if not common, at least more acceptable.

However, as financial experts have explained, these larger companies face a range of barriers to embracing innovation, or benefiting from collaboration with their more agile fintech counterparts. These barriers can include:

> too much legacy infrastructure preventing adaptability and change;

> no real sense of urgency, or a feeling of complacency;

> the desire to avoid disrupting existing revenue streams by introducing new products;

> a lack of internal innovation culture, and a focus on risk minimization;

> the mentality that, "Unless the regulator allows it, we won't do it," putting an outsize emphasis on governance; and

> a lack of ownership, with management not wanting to take risks with technology they don't always understand.

Since innovation is known to be a significant driver of success, these issues represent a serious challenge for banks and financial institutions as they seek to take full advantage of new technology, new markets, or changing global conditions.

How Process Mining Helps

Process mining helps banks and financial institutions remove the risk from innovation. By offering insights into the way existing processes operate, and highlighting opportunities for optimization, process mining can help organizations treat "innovation" not as a limited and disruptive event, but as an ongoing, long-term, holistic transformation. Using process mining essentially turns modernization and transformation initiatives from one-off projects into the new way of doing things.

As a practical example, process mining can help banks visualize the complete development history of a given product or service, showing who made each key decision and when, as well as any changes to the process that have occurred along the way. This results in a faster and more reliable product development process, as well as greater opportunities for collaboration between different business areas to identify and adjust for risks before they occur.

Process mining can help provide the information managers and employees need to track and understand product lifecycle processes that take anywhere from days to months to years, ensuring better decisions, faster, and enabling a competitive advantage without so much as thinking about writing a line of code.

2.4. Change management

Following naturally from innovation and competitive pressures, change is a constant for the financial services sector. With that comes the necessity of change management. As an organization responds to new internal or external circumstances, decisions need to be made, employees need to be informed, and process models need to be updated with new information.

Organizations with a deep knowledge of the way their business actually works, and a strong internal process culture, are able to handle constant change more effectively. Not only are they well-placed to make decisions more quickly, but the continual process optimization that characterizes process-driven organizations means their business processes are likely to be more robust and adaptable.

How Process Mining Helps

Process mining supports organizations to make better, more transparent, and data-driven decisions about how processes are executed. This can dramatically reduce the time taken to respond to change when it inevitably occurs.

Process mining helps organizations to understand not only how their processes are designed, but also how they execute and flow in reality. Users can then take the information generated by process mining and use it as the basis for analysis, to run effective change management projects, optimize resources, and lower costs.

Case Study

Using process mining, a German financial institution was able to significantly improve the way they evaluated their business processes. Previously reliant on large documentation manuals, process mining enabled the company to take a 360-degree perspective on how their processes actually worked at a granular level, by getting answers to questions like:

How many control actions are there in each process, and how many are actually used?

How many of the repeated actions were actually needed?

How often were specific people or organizational units involved in particular processes? Could these interactions be reduced or removed?

With access to this level of detailed evaluation, the company was then able to understand their processes on a more fundamental level, and make a range of necessary improvements.

2.5. Customer expectations

Customer expectations on banks and other institutions continue to increase. A recent Accenture consumer study showed that customers now expect holistic and flexible financial products. To take one example, instead of a simple fixed-rate home loan, consumers are much more interested in a 'home-buying service', which would include a loan, but also additional features like advice on searching for a new home, home and contents insurance, and support on navigating legal procedures.

When dealing with this sort of expectation, simply focusing on saving time and resources in order to become more efficient is an outdated way of looking at customer experience. Instead, banks and financial institutions need to align with customer experience by looking at their business processes through the eyes of the customer. The overriding question should be, "How do these processes help delight the customer?"

The best way to answer this question is to focus on the customer journey. An organization can derive customer insights from the different touch points a customer has with that organization's processes, then respond accordingly.

As one example, customer journey mapping is essential for effective complaint handling. Establishing processes to log and capture all complaints, classify them, and then address their root causes gives all employees full visibility of each issue. Everyone in an organization can then access the information they need to offer a solution to the customer and fulfil any associated regulatory or reporting obligations. Over time, this customer journey mapping data builds into a positive cycle, where data is used to continuously improve customer satisfaction and speed up resolution.

How Process Mining Helps

Customer journey mapping is most effective when it is linked to the underlying processes within an organization. Process mining is the technology that forms this link, automatically uncovering the details of when, where, and how customers interact with specific processes.

Via process mining, organizations can understand customer behavior, and connect their processes to predict interactions across future customer journeys. With a customer-centric view of business processes, banks and financial institutions can benefit from 'outside-in' customer perspectives, connected to the very processes that deliver customer experiences.

3. How Signavio helps with process mining

The Signavio Business Transformation Suite helps businesses model and document operational decisions, create a common source of truth for employees and management across an entire organization, increase accountability and transparency within individual business processes, clarify the way processes should work, and identify instances of non-compliant processes.

By harnessing the hidden value inside a process landscape, and continuously monitoring end-to-end processes, organizations gain operational insights into potential risks, as well as improvement opportunities, too. The Suite is the only solution which seamlessly combines the ability to model, analyze, optimize, and execute your processes, all in a single platform.

As a component within the Suite, Signavio Process Intelligence automatically mines process data from the different IT systems operating within a business, known as the application landscape. In this way, Signavio Process Intelligence provides for continuous monitoring of end-to-end processes, and a fact-driven approach to process management.

The powerful combination of process discovery, process analysis, and conformance checking supports a collaborative approach to process improvement, giving organizations game-changing insights into the way their business works. This focus on process allows for rapid evaluation and improvement of process inefficiencies, helping banks and financial institutions save money and time, uncover compliance issues, and face the challenges of a complex and ever-changing world.

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