

OCEANS OF DATA: RECOGNIZING THE PERILS IN CORPORATE BANKING DATA TRANSFORMATION

The Challenges Developing and Implementing a Data Strategy

Colin Kerr

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EXECUTIVE SUMMARY

Data is the fabric of transaction banking. It is woven into every facet of client experience, banking operations, and servicing. For several years banks have been on a journey to create more value from the data they have, but in many cases this has not met expectations. Perhaps it is because data is such a pervasive part of the business that deriving the anticipated step change in value is so elusive.

This is not for lack of priority or investment at the enterprise level. Since the financial crisis of 2008, banks—particularly the global systemically important banks (GSIBs)—have at an enterprise level invested billions of dollars on enterprise data management (EDM) initiatives. These initiatives alone will not advance a line of business data strategy for insights and growth; however they can provide a solid framework and improved data quality.

Recent Celent research into corporate bank technology spending identifies that advanced data analytics, AI/ML, and data management are now among the top priorities for investment. Celent’s view is that these investments are intended to support a broad range of initiatives to improve operations, develop deeper insights, and form the foundation of next generation products.

In the line of business, the common default definition of “data initiatives” is to provide better quality reporting, in a timelier manner, and with better visualizations—in other words, a Business Intelligence (BI) and analytics capability. That should be a high-priority initiative, but it is only one lens through which to view data. Celent believes that a more expansive view of data assets is required to support the next generation of more “intelligent” corporate banking products and services.

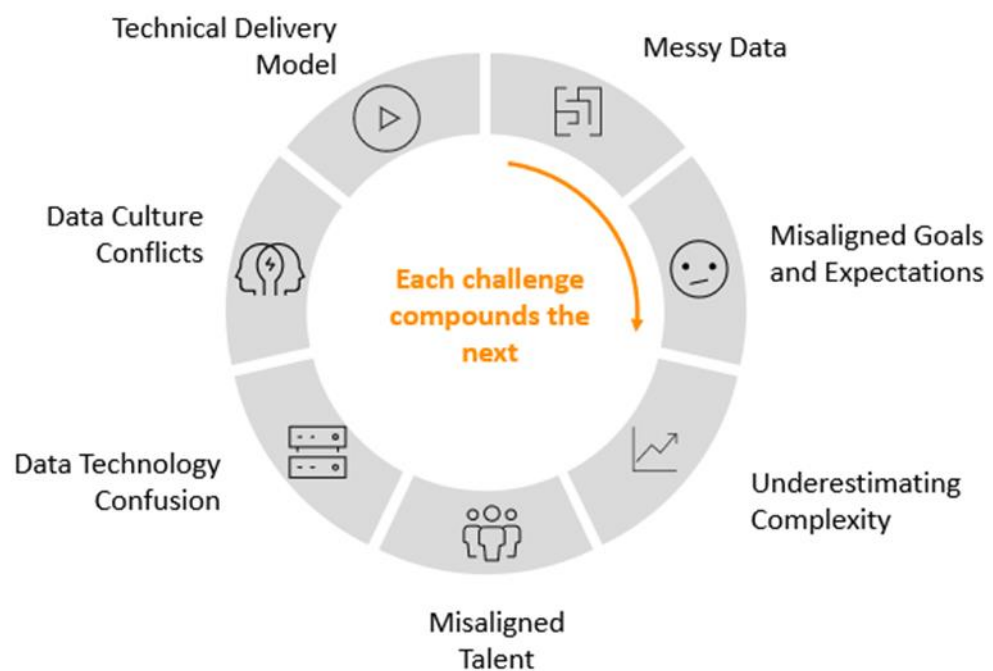
The nature of data available to the corporate banking business is also changing. Leading banks are increasingly looking outside the traditional transactional data sets as the data ecosystem expands. These new data value chains connect traditional transactional and financial data with behavioral and relational data and socio-economic data. Open banking and open finance implicitly require a connected data strategy and a highly available data capability at scale. As data capabilities mature, leading banks are extending the value chain to completely new data sources, types, and providers.

Developing and implementing a comprehensive line of business data strategy is challenging. If data is the fabric of corporate banking, that same data asset is used for operational execution, regulatory reporting, insights, and for the creation of new

solutions. This asset must be controlled and structured, yet also accessible and malleable. Acknowledging these different perspectives, needs, priorities, and *qualities* of the same data asset is a first step in forming a data road map. Unfortunately, competitive tension between these drivers can slow banks from delivering an effective data value program. If the characteristics are viewed independently, or developed without regard to the other needs, execution of a data strategy will stumble.

Oliver Wyman and Celent research has identified seven key factors that inhibit successful execution of a growth strategy. Some of these are technical, but most stem from organizational and cultural challenges in business and technology. These are summarized in Figure 1.

Figure 1: The Data Rut: Challenges That Impede Progress



Source: Celent

With oceans of data available, corporate and transaction banks have a significant opportunity to leverage the expanding data assets they own and can access. For many corporate banking units, the historical lack of business investment in data means that charting the course to achieve this transformation is fraught with obstacles that can jeopardize the voyage.

As corporate banking firms build their business data strategies, bankers must understand the perils and respond to the challenges that can impede progress.

This is the first report in a series of two reports.

INTRODUCTION

Overall, banking is one of the most data-intensive industries—corporate and transaction banking included. Data is essential to daily operations and reliable functioning of the bank. After all, banks don't create physical goods and services. Nothing is manufactured. There is no physical supply chain required to distribute product, and no inventory of physical product to be shipped or sold.

With the growth in digitized products and services, new digital experiences that reduce the need for corporate clients to visit financial centers, and the advent of new banking ecosystems, banks are becoming larger creators and consumers of data. The growing need for advanced analytics and AI/ML-based solutions further heightens the data race. The good news is that the increases in manageable and accessible data can feed advanced analytics engines and AI/ML initiatives to fuel growth and innovation. However, this will create challenges for organizations that do not have an effective business data strategy and execution capability.

Data is often viewed as a by-product of banking operations and historically was only valued for reconciliation and reporting. This is traditionally the case for internal scenarios (for example, operational and regulatory reports to ensure payments processed completely), or for external client-facing scenarios (such as information reporting solutions that allow clients to view and download balance and transaction data). This is a growth-limiting view of the value of data, which increasingly is the platform for innovation and growth, not merely insights.

This report highlights the importance of data as an asset in corporate banking and describes some of the common cultural and technical challenges facing data strategy and data monetization initiatives. A subsequent report will suggest tangible next steps to overcome these challenges and highlight key considerations for a corporate banking line of business data strategy to support analytics and product innovation.



Data is the fabric of transaction banking. It is woven into every facet of client experience, banking operations, and servicing.

CORPORATE BANKING DATA LANDSCAPE

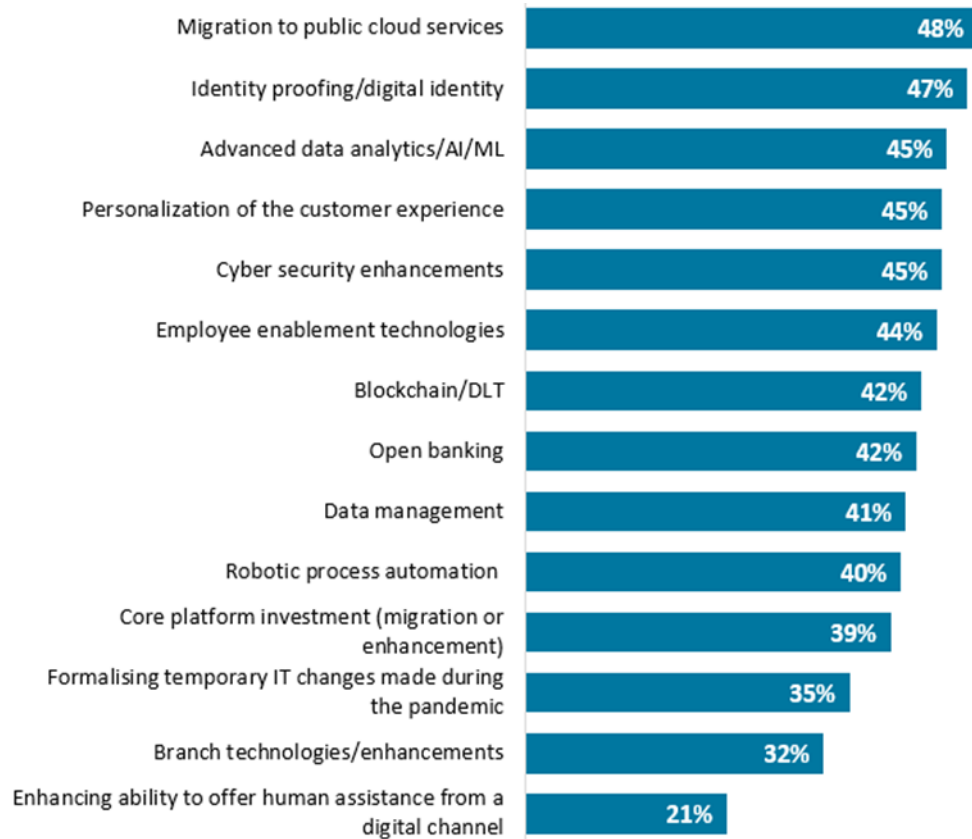
It is not difficult to find a leader who thinks data is an asset to their corporate banking line of business that can be used for competitive advantage. What can be more challenging is gaining consensus on a strategy that helps the organization realize the economic potential while protecting this key asset.

Current Data Investment Priorities

Traditionally one of the most data-intensive industries, corporate banking lines of business have typically been slower than retail banking counterparts to capitalize on the information revolution powered by cloud platforms and the techniques enabled by the Internet of Things (IoT). With such a high rate of change in data technologies and capabilities, traditionally conservative corporate and transaction banking risk missing the boat to make the most of the data available. That said, “data” as a theme features strongly in corporate banking technology spending priorities for 2022.

Figure 2 and Figure 3 show data from [IT Strategy and Priorities in Corporate Banking, 2022: Accelerating Away from the Pandemic](#) (June 2022), highlighting spending priorities for product management and technology in corporate banks.

Figure 2: Corporate Banking: What’s the Technology Priority for 2022?



Base: All Corporate Banking respondents (sample: 182)

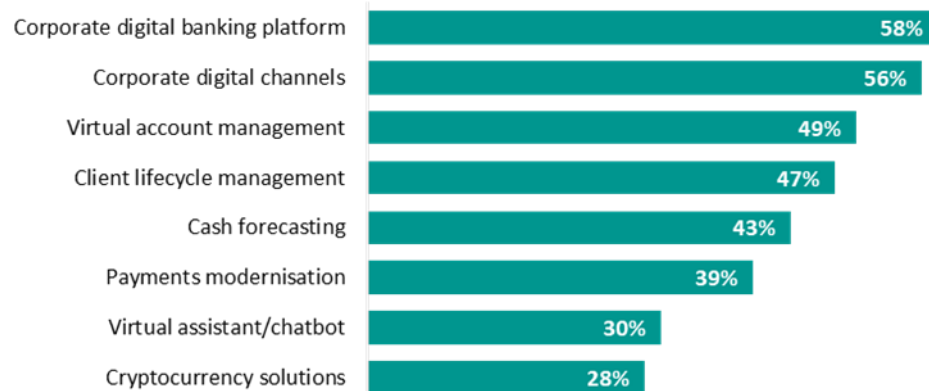
Question: *In which of the following areas are you focusing your technology investments in 2022?*

Source: Celent Banking IT Strategy Survey 2021/2022

Increasingly, banks recognize the value of advanced analytics but are also turning to new data sources and AI/ML to drive new innovations in servicing, experience, and solutions for corporate clients.

When reviewing the technology priorities in Figure 2, several data topics are explicitly mentioned: advanced data analytics, AI/ML, and data management. Additional investment in data is implicit in enabling personalization, robotic process automation (RPA), and core platform modernization. At face value, technology teams are committed to invest significantly in data.

The product investment priorities in Figure 3 do not explicitly indicate any data-driven initiatives, but significant data work is implicit in these major business priorities. This may take the form of enhancing structured data as part of a platform modernization or embedding AI and ML capabilities across products and services.

Figure 3: Corporate Banking: What's the Product Investment Priority for 2022?

Base: All Corporate Banking respondents (sample: 182)

Question: *Which of the following are your leading investment priorities in 2022 from a product perspective?*

Source: Celent Banking IT Strategy Survey 2021/2022

Traditional treasury product management roles may not think of data and analytics as within their purview. The analytics strategy is often driven by a dedicated data team in the line of business or designated as a technology issue. But as the data platform is increasingly used as the foundation for innovation for new products and services, including the use of advanced analytics and AI, Celent sees an increased role for product managers in driving the data agenda.

Alignment of Enterprise Data Management

Since the financial crisis of 2008, banks (particularly the GSIBs) have at an enterprise level invested billions of dollars on EDM initiatives. Driven by regulatory demands for higher quality and more complete credit, liquidity, and payments reporting to national regulators, these banks have developed standards for data capture, transport, and use to improve data quality, completeness, and consistency.

From a corporate banking perspective, business engagement has primarily been driven by the need to address regulatory gaps (notably recovery and resolution planning (RRP), Comprehensive Capital Analysis and Review (CCAR), and liquidity coverage ratio (LCR) requirements). The benefits of this investment are reflected not only in better regulatory reporting, but also more positive stress test results. This continues to be important as the capital requirements for major banks will increase over the next two years. Simply put, banks that cannot demonstrate data quality and controls to the regulators hinder their stress test examinations.

Enterprise Data Management

A discipline for effectively managing, improving, and attesting to the quality of data captured, transported, and used by internal applications and exchanged with third parties. EDM is typically implemented as a governance framework through a series of policies and standards designed to promote data quality, traceability, and controls.

The Enterprise Data Management Council is a global organization created to elevate the practice of data management as a business and operational priority. Membership is multi-industry and includes many financial institutions. Celent's parent company, Oliver Wyman, is a member. The EDM Council conducts bi-annual research into the maturity of data management capabilities. The most recent study from 2020 found that across all industries:

- 80% of Chief Data Officers (CDOs) have enterprise responsibility
- 76% of data management programs report to the C-Suite (typically technology)
- 52% of CDO responsibilities include data analytics

Interestingly, the EDM Council finds that the financial services industry leads the pack in maturity, with the outcomes of the financial crisis being the catalyst.¹

Celent believes that despite the impressive efforts to improve data management and governance for the enterprise, there is still an immense opportunity to extract more value from data assets in the lines of business, particularly commercial and transaction banking.

Although EDM programs to drive higher data quality have no doubt helped lines of business achieve cleaner and more usable data, EDM initiatives alone will not advance an LOB data strategy for insights and growth. In fact, in some ways opposing forces are in play. For example, although EDM and risk managers both see data as an asset, the overriding priority is to protect that asset and manage risk. A line of business understands this, but also looks to leverage the data assets to gain more business value through better insights and creation of new data and analytics-oriented services and solutions.

This report does not diminish the laudable efforts and investments to improve the quality of enterprise data, but seeks to identify areas and challenges for moving the needle forward, specifically in the corporate banking unit.

Surveying the Available Data—New Data Value Chains

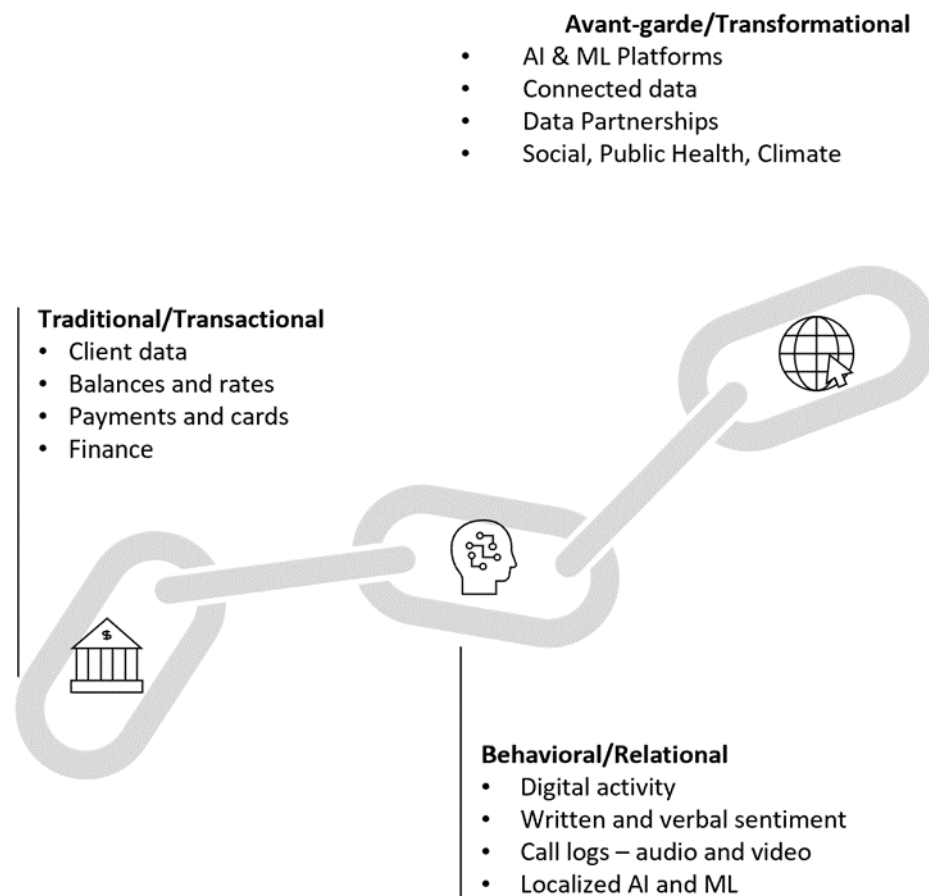
The nature of data available in the corporate banking business will vary somewhat based on the various business verticals, products, and the geographies in which the business operates. This data will primarily be structured, and generated internally, but increasingly third party and industry data sources come into play.

¹ EDM Council 2020 Global Benchmark Report, EDM Council, March 2020

For example, Moody’s Analytics has been driving this trend with the acquisitions of Reis and Catalyst, Inc. to bring deeper insights into commercial real estate

Figure 4 shows how the range of useful and accessible data is growing well beyond the traditional confines of the corporate banking business unit through the creation of new data value chains.

Figure 4: New Data Value Chains



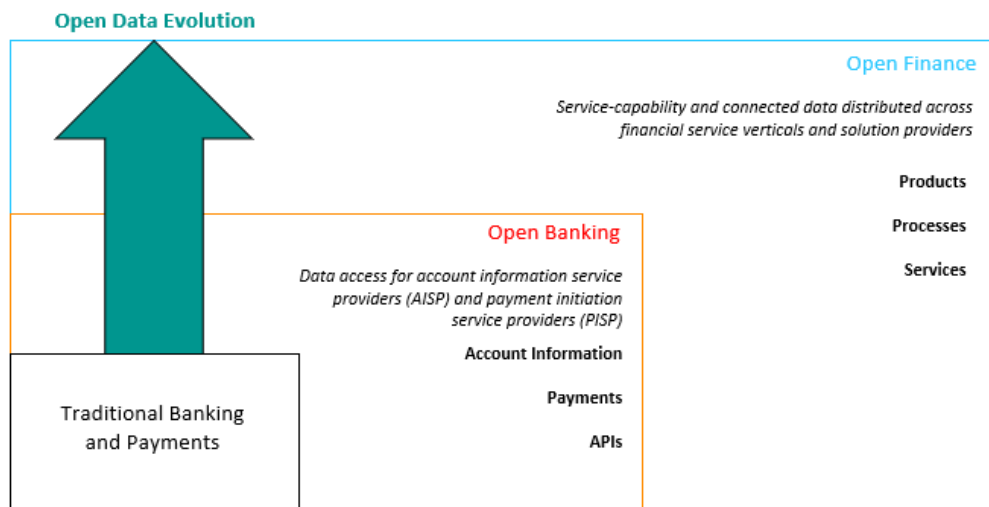
Source: Celent

As banks require new insights to find white space opportunities and to develop new solutions and services, they are increasingly looking outside the traditional transaction data sets. These new value chains connect traditional transactional and financial data with behavioral and relational data. As data capabilities mature, leading banks are extending the value chain to completely new data sources and providers.

- **Traditional Data**—the bread and butter of banking. Data created and used to “do banking.” This is a mix of static reference data, client data, and data created by the transaction processes for supporting the core products and revenue management. This includes CRM data, payments and deposit processing, commercial cards, trade, lending, etc.

- **Behavioral/Relational Data**—the nuance of how relationships and interactions are managed and measured. Information from mobile and web properties measures digital behavior. Information in service call transcripts or RFPs can be analyzed for sentiment. Use cases include driving digital adoption, support for chatbots, real-time personalization of the experience, and attrition analysis/predictions.
- **Transformational Data**—the exploration of innovative data sources to develop new dimensions of insights and analytics, but also to create completely new service offerings required to compete in an open banking ecosystem. Figure 5 shows a view of enabled data requirements to support open banking at scale.

Figure 5: Open Data Evolution



Source: WhiteSight, Oliver Wyman and Celent Analysis

Beyond the mandated use of APIs to access banking services, open banking and open finance implicitly requires a connected data strategy and highly available data capability at scale.

Furthermore, in the era of ESG, examples of new data sources include climate, social, demographic, and public health data. Corporate banking can also learn from other industries where new data value chains are being created. For example, the insurtech ecosystem of property and casualty insurance now uses geospatial data and aerial imagery as input to underwriting and claims assessments. Similar use cases can be drawn for commercial lending underwriting. Typically, this data will be provided through third party partnerships and, critically, will require new consumption/integration models that are typically cloud-based.

Is Big Data Relevant in Corporate Banking Data Strategy?

Like Data Science, Big Data has become a mainstream term. It is often misunderstood and regularly misused. Even the major English language dictionaries have different definitions that have somewhat evolved through 2022.

Dictionary Definitions of Big Data, 2022

Merriam Webster: an accumulation of data that is too large and complex for processing by traditional database management tools.

The Oxford English Dictionary: extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions.

The Cambridge Dictionary: very large sets of data that are produced by people using the internet, and that can only be stored, understood, and used with the help of special tools and methods.

Without getting pedantic, the context is important when assessing the data available in corporate banking compared to the characteristics of Big Data and the tools and technology available.

First coined in the 1990s, at a deeper level the term Big Data referred to data possessing the characteristics of the “Three Vs” of volume, variety, and velocity. Although the definition has expanded (as have the technology capabilities to support Big Data), it is worth seeing how the Three Vs may apply in corporate banking.

Volume—the quantifiable amount/size of data, whether in characters, rows in databases, or size of data being stored. Transaction banking businesses typically have data volume that is significantly smaller than a consumer banking counterpart—if only because of the relative scale of clients, accounts, and transactions processed. To optimize processing speed and reliability of transaction processing, much of a bank’s transactional data is concise and well structured. Databases of traditional transaction data are likely to contain tens of billions of rows of data, but the size may only amount to tens of terabytes, even in major applications. However, corporate banking data volumes are growing due to increasing payment volumes, demand for more transaction data, and increased digitization of paper processes including the storage of images, audio, and video.

Variety—the diversity and complexity of data types, structures, and databases. Taking payments data as an example, although the basic elements required to process a payment are quite basic, it is still the case that most payment networks and applications designed to support these networks define and structure these data elements quite differently. The ISO 20022 value proposition is in part designed to significantly reduce that complexity through harmonization across countries and payment types. For example, unstructured data in the corporate banking business

typically takes the form of images (e.g., checks), documents (often e-signed), and audio recordings of customer service calls.

Velocity—the speed at which data moves or changes. Capital markets and consumer banking likely have higher data velocities than corporate banking, but with the move to “always-on” APIs, and an acceleration to real-time payments systems, the speed of business and velocity of data is accelerating.

By these definitions, most corporate banking data today may not strictly qualify as big data—particularly when compared to the vast volumes of structured and unstructured data being generated and managed on highly scalable cloud platforms for other industries, or even consumer banking businesses. However, the corporate banking lines of business, particularly those that operate in multiple global regions, have increasingly diverse (and complex) data available. It is messy, but this data is intrinsically valuable for the development of new insights, enhanced operations, data monetization, and to support the development of new business models, products, and services.

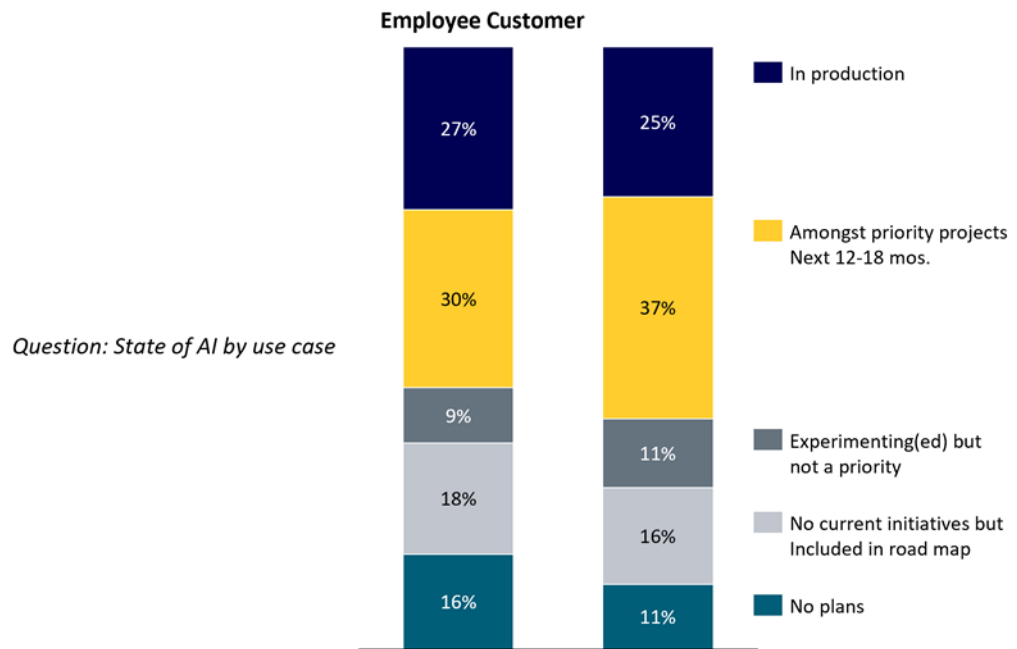
Talk of big data in business may be passé, but banks have opportunities (and face challenges) managing and extracting value from the traditional structured application data stored across the enterprise. Increasingly the conversation is moving toward trends in managing complex data for large-scale advanced analytics initiatives. As adoption of cloud-based data platforms and analytics capabilities increases, the potential for transaction banking to expand advanced analytics and ML use cases is growing. The new big data platforms and tools will allow this to scale at significant pace. In other words, the descriptor “Big Data” may not be relevant for corporate banking data, but the big data tools and platform capabilities are.

Adoption of AI and ML

Corporate bankers around the world are seeing AI and machine learning-enabled solutions come to fruition. [AI Driving Game Changing Differentiation: Insights from Celent Interviews and Surveys](#) (December 2021) identified that AI solutions are a strategic business priority and are being successfully adopted by pacesetter corporate banking groups.

This has clearly been a journey unfolding for some time as lead banks in this area have now deployed some AI solutions to production. However, at the time of the survey (2021) these use cases were primarily internal facing. Figure 6 shows the nature of AI use cases either deployed, in progress, or planned through 2023 by the surveyed banks.

Figure 6: Employee-facing Use Cases Lead, But Customer-facing Ones Are Ascending



Source: Celent AI in Action Survey, Digital Corporate Banking Executive Panel, April 2021 (n=19) and Celent interviews

The report finds that bankers initially used AI-based solutions to reduce costs and support a higher level of automation (e.g., the use of RPA in the loan origination process or payments repair).

Increasingly, banks see the next wave of AI solutions as a strategy for growth and differentiation. By providing a relationship team with more tailored insights, an analysis of new opportunities can help deepen the client relationship and save time doing offline, manual research. Although internal employee-facing use cases have seen the early action, customer-facing use cases are seen overtaking internal scenarios as the next strategic wave. Examples of this include the integration of chatbots into digital channels and self-service predictive insights made available to corporate clients through the digital portal.

86% of corporate banks stated that AI is very to extremely important to differentiating their value proposition

37% stated that client-facing AI is among priority projects over the next 12–18 months.

To achieve AI success, banks have a critical dependency on the quantity, quality, consistency, and availability of the necessary data to reliably develop AI solutions. At this point in time, AI initiatives are typically localized through vertical solutions built on specific data sets rather than at any significant level of scale. Those solutions will continue to evolve and add value, but the overall

capability will be limited unless they are underpinned by mature, cohesive, integrated data platforms and capabilities.

Drivers of Data Strategy in Corporate Banking

Financial services institutions, with commercial banking being no exception, have traditionally had a high reliance on the creation and distribution of reports and insights for decision-making and to demonstrate compliance. For example, operations groups need to ensure processing completes successfully, and then generate an increasing heap of regulatory reports. Line of business leads in sales and product want to understand the current state of financials. Corporate treasury and enterprise risk functions that came under fire following the financial crisis of 2008/9 are required to demonstrate higher levels of data management and reporting in their Office of the Comptroller of the Currency (OCC) filings. As noted earlier, this has been the primary driver of EDM programs to drive better data quality and controls.

In the line of business, the common default definition of “data initiatives” is to provide better quality reporting, in a timelier manner, with better visualizations. In other words, a Business Intelligence (BI) initiative with self-service insights and visualization tools running on top of a high-quality data platform. That should be a high-priority initiative, but it is only one lens through which to view data. Celent believes that a more expansive view of data assets is required.

In addition to better business insights, operations groups also demand highly automated processing to improve straight-through processing (STP) rates. This requires richer, highly structured data to ensure processing scheme rules are adhered to and any ambiguity is minimized. As more payments are processed via new real-time schemes, any data quality issues cause increased transaction errors and repairs, all adding to the cost of operations and loss of client satisfaction.

Product management is looking for new ways to leverage data and innovate in new solutions. Recent Celent research, [Expectation versus Reality for Payments Data Monetisation: Identifying the Data Led Services Corporates Want](#) (June 2021), found that corporate clients are increasingly expecting their banking partners to deliver solutions developed to enhance data-oriented capabilities. Examples of this include

79% of banks say that demand among corporates for ‘data-led’ solutions is increasing.

cash flow forecasting, a tangible shift to advisory insights related to working capital, and payments data monetization initiatives. Furthermore, in the same research, 77% of the corporates that value analytics-driven tools to support their decision-making would pay to access this functionality

(self-service). This poses important questions for banks: When does the data and analytics strategy also become the product strategy? And what group should be setting the direction? The answer to the latter question will be a clear indicator that the data and product management teams must be in lockstep with a client-facing data strategy and road map.

Depending on the role of the executive, there’s a clear bifurcation of basic definitions of data value and related use-case categories between “data solutions” and “information solutions.” Both imperatives demand well-structured, high-quality data—and both perspectives must be included in an encompassing data strategy.

Data Solutions vs. Information Solutions

Data Solutions

Enriched raw data and enhanced connectivity to facilitate operational improvements. For example, end-to-end adoption of structured data from ISO 20022 should enable greater operational efficiency and consistency.

Information Solutions

A combination of solutions and insights based on advanced analytics. This includes BI and insights, but also analytics-based product innovations. For example, cash and liquidity forecasting, client advisory insights.

If data is the fabric of corporate banking, the same data asset is used for operational execution, regulatory reporting, insights, and for the creation of new solutions. This asset must be controlled and structured, yet also accessible and malleable. Acknowledging these different perspectives, needs, priorities, and *qualities* of the same data asset is a first step in forming a data road map. Unfortunately, competitive tension between these drivers can slow commercial banks from delivering an effective data program. If the characteristics are viewed independently, or developed without regard to the other needs, execution of a data strategy will stumble.

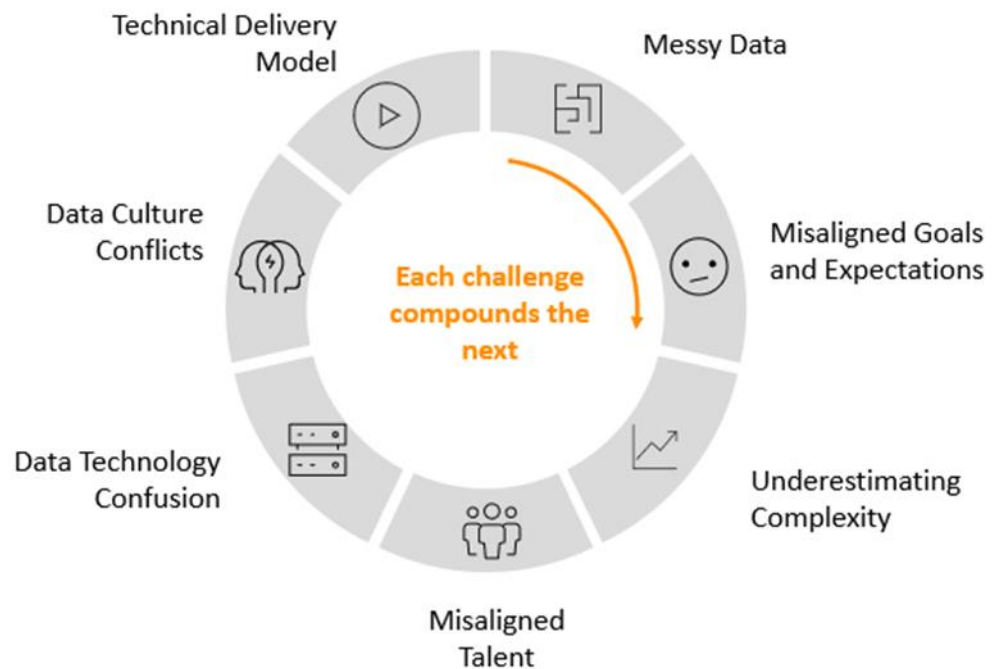
CHALLENGES IN DELIVERING THE VALUE OF DATA

Despite widespread recognition that data is a strategic asset for a corporate banking organization, many banks struggle to transform their use of data to make step-change progress in their business.

Impediments to Transformation

Oliver Wyman and Celent research has identified seven key factors that inhibit successful execution of a growth strategy based on the adoption of advanced analytics and data-led solutions for clients. Some of these are technical, but most stem from organizational and cultural challenges. Figure 7 shows the wheel of impediments and risks faced when developing and executing a business data strategy.

Figure 7: The Data Rut: Challenges That Impede Progress



Source: Celent

When multiple inhibitors and risks are present, each tends to compound the subsequent challenges, which makes it difficult for an organization to dig out from the rut.

Messy Data

Ask a bank to give insights into global corporate payment volumes, and it is typically a more difficult request than anticipated. If anything, with the advent of new payments systems around the world, corporate banking data is becoming messier. Years of individual systems being built, bought, or acquired have created a messy architecture of old and new applications and data stores. Moreover, the data management challenge is significantly greater for banks operating in multiple geographies compared to a single country or region.

Additionally, connecting data silos is difficult when they have completely different hierarchies and reference models. For example, a sales revenue hierarchy is often a different reference structure compared to an operational view of payments or deposits.

It is not unusual for multiple payments and deposit platforms to exist. Functionally they perform similar services, but each will have unique data specifications—and all this data needs to be normalized across systems and data silos before significant value on the data can be returned.

Jurisdictional issues also come into play. Banks offering services in multiple regions and countries are faced with a hodge-podge of data regulations. Centralized location of data in home countries may be an architectural preference, but countries are increasingly regulating that some banking data must be stored only in a specific country. A recent example is the Reserve Bank of India (RBI) directive relating to storage of payments data outside India.



...the entire data relating to payment systems operated by them [system providers] is stored in a system only in India.”

Reserve bank of India
RBI Directive DPSS.CO.OD.No 2785/06.08.005/2017-18.²

Organizationally, the matrixed intersections of sales, operations, risk, finance, and product management groups can create challenges. This is not an organizational issue per se, but although data is a shared asset, stakeholders may have different definitions and interpretations. Each group has typically created enhanced data sets to develop their own versions of the truth based on their priorities. As an additional consequence, the analysis function is also often scattered. Although there may be

² [RBI Directive on Storage of Payments System Data](#), Reserve Bank of India, April 2018

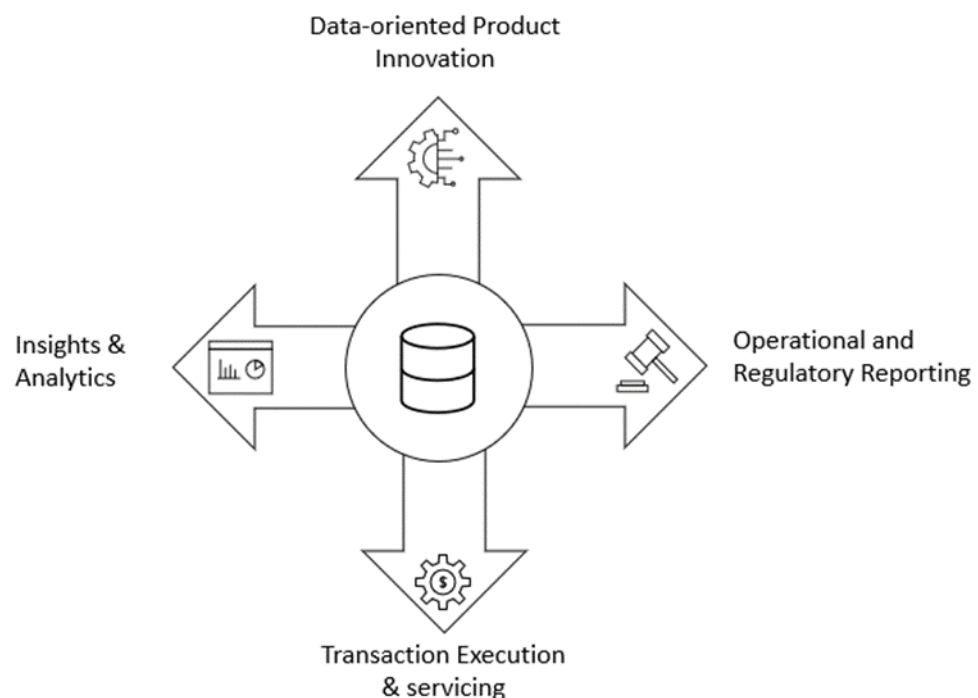
enterprise-wide standards on BI tools, multiple teams or shadow groups will typically build their own view off the localized data sets.

Misaligned Goals and Expectations

As high-margin businesses, corporate and transaction banking franchises have not historically faced the same pressures as their retail banking counterparts to find a differentiating edge through insights and analytics. As a result, some corporate bankers have relied on experience and instinct rather than the precision of analytics. This can be based on a history of making “good decisions” due either to a lack of data or mistrust in the data (a position that’s exacerbated by the messiness of data). In either case, the value of data projects may not be well understood, or such projects receive limited endorsement.

As the Drivers of Data Strategy in Corporate Banking section of this report identified, operations and product management leadership also will have different interpretations and views on what a data strategy needs to deliver. With so many different stakeholders, priorities, and definitions of success, it can be challenging for banks to develop a commonly understood and agreed point of view and business case for transforming data use. For example, Figure 8 illustrates the tension in requirements and priorities over the same data asset.

Figure 8: Banking Data: Competing Drivers and Priorities



Source: Celent

The tensions between the drivers and priorities in Figure 8 are understandable. They represent the different dimensions and perspectives through which the stakeholders and their corporate functions will view data, and the extent to which those roles and functions will entertain change.

The following characteristics indicate how the tug of war manifests itself.

1. Does the organizational culture trust data-driven insights versus decision-making based on instinct and experience?
2. There will likely be multiple competing views or interpretations on the value of data and purpose of data initiatives. For example, is this project for information and analytics or the development of new and better data to improve processing and operations?
3. Is this an *information* solution or a *data* solution strategy?
4. Is there agreement on the business case and ROI? Has the organization defined success? How it is measured? And who benefits?

If the value, purpose, and strategy are not understood or agreed, there will be a lack of clear goals, no definition of success, and limited understanding of execution challenges ahead. Furthermore, organizations that face this challenge will likely see underfunded data transformation projects that will often be the first to be deprioritized against the many other inevitably important investments and projects.

Underestimating Complexity

The rush to find new value in data and to pursue AI and ML-based solutions is an exciting prospect. Other industries, competitors, or even other divisions of the same bank may have rolled out new analytics capabilities which can lead to FOMO—fear of missing out.

Unfortunately, many corporate banking lines of business are often hampered by data sprawl and a historical lack of investment in data and BI platforms. Unsurprisingly, the gap has widened between laggards and leaders in this space, as each year without a strategic investment exacerbates the baseline challenges.

Again, messiness of data and the ad hoc analytics function hamper execution of the road map. If there is lack of agreement on scope and expectations, and/or investment is reallocated away on a regular basis, laggard banks will fall further behind the curve. The starting line slides further back, and the distance to the finish is further away as the challenges to get back on track become larger. In the time since the last data transformation business case was shelved, the current state of data will have become more complex, but the risk of overlooking the complexity to see the glittering prize increases. The challenges may take the form of the level of technical work required and/or the gap in resources and skills needed to execute.

Some symptoms exhibited by this challenge include:

- Lack of patience for the foundational work that is required to solve the data messiness.
- Looking too far ahead and expecting results too soon. The path to advanced analytics and predictive insights requires technical and business building blocks to be in place.
- Insufficient or unsuitably skilled resources assigned to data transformation programs.

Even if the goal is merely better BI and data visualizations, the capabilities of new BI and analytics tools don't natively fix underlying structural issues in data infrastructure. Therefore, it is not realistic to expect advanced analytics and AI at scale if a data strategy and underpinning modern data platforms and data management capabilities are not in place. This does not mean that advanced analytics or AI/ML initiatives cannot start and be successful, but they will typically be limited in scope and exist as specific point solutions with localized data.

Misaligned Talent

Every corporate banking group has wizard business and data analysts. Whether Microsoft Excel or PowerBI, Tableau, SAS, or science tools such as Python and R, these are priority skills for working with data. Typically, a business insights team exists within each line of business, but they may be dispersed based on function, such as finance, sales, and revenue management. These experts tend to be masters of the data in that functional domain.

As the data strategy expands beyond these traditional areas of analytics, new sets of data come into play. These may be from other data domains in the corporate bank (for example, payments, liquidity, and commercial card) or net new data sources. A significant challenge is finding the subject expertise with enough data domain knowledge to start bringing together more holistic views and insights of these expanded domains. For example, these business insight teams can likely analyze the costs and revenue from each product but are unlikely to have the functional knowledge of these products. This needs to be solved before an expanded analytics capability across the whole of corporate banking can be delivered. This challenge is related to issue of underestimating complexity. If the domain knowledge doesn't exist or the subject matter experts are distributed across different roles and functions, there is a significant risk that projects will not be correctly scoped and sized. Conversely, there may not be enough resources, nor enough with the needed skills, to execute on the data transformation road map.

Increasingly, banking lines of business are hiring more candidates with a blend of finance and STEM skills. There is a growing acknowledgment that the business leaders of tomorrow must have a higher level of technical awareness. As with other industries, many banks have ramped up hiring for data science roles to deliver on the promise of advanced analytics. In many cases this is a misplaced expectation as the data and platforms needed either do not exist, are not in a usable state, or are not

accessible to the line of business. In this situation, the cart is before the horse, and many people become disillusioned about the role and value of data science.

Furthermore, the resourcing and skills gap is likely not with analysts and probably not data scientists, but in two significant areas that are often overlooked.

Data Expertise Gap

Data Subject Matter Experts

SMEs with a working functional knowledge of the data used to execute product and transaction operations. Banks have been losing this (often undocumented) key knowledge from operations and technology.

Data Strategist/Architect

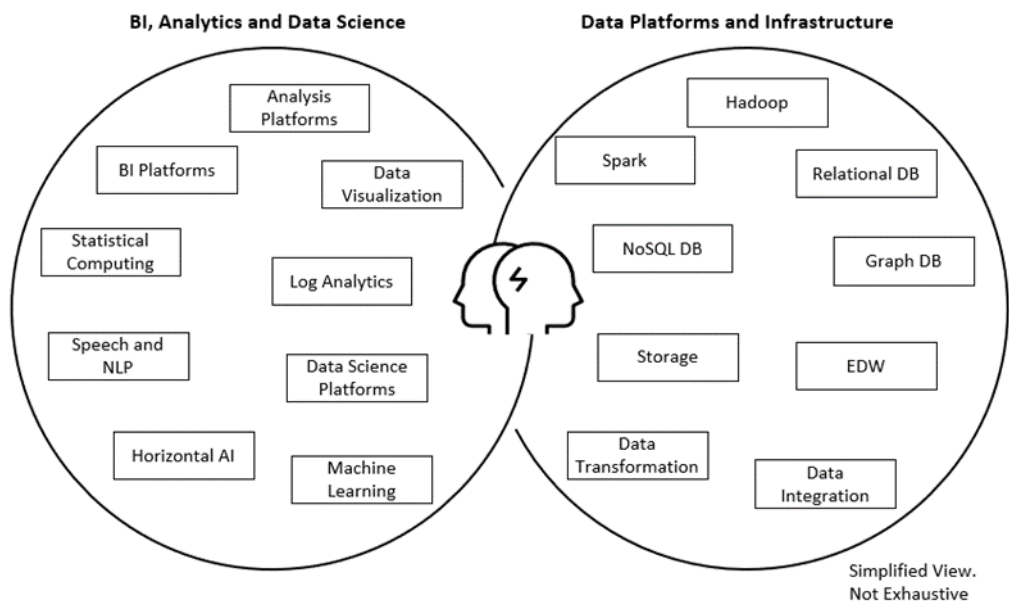
People who can set the vision and capabilities for data transformation, and partner with technology to develop a platform road map and scope the building blocks.

Data Technology Confusion

The last ten years have seen data platforms and business analytics user tools grow rapidly. There is a confusing array of large platform vendors, niche providers, and vertical data and analytics solutions. Not all tools are the same, nor designed for the same function or intended user role. For every solution in the market there is also significant overlap into different categories.

Figure 9 shows a simplified view of different data technology categories relevant to BI, analytics, and data platforms.

Figure 9: Data Technology Confusion



Simplified View.
Not Exhaustive

Source: Celent

Driven in large part by the Internet of Things (IoT) data revolution, traditional major platform providers like IBM, Oracle, Microsoft, Amazon AWS, and Google Cloud Platform have dramatically increased cloud compute, data management, and AI capabilities. Newer companies like Snowflake and MongoDB bring their own new data platform offerings. Data integration and transformation tools such as Alteryx, Trifacta, and Informatica may be used, depending on the use case and data workloads. For business users, data visualization and insights development capabilities are offered through solutions such as Microsoft PowerBI, Tableau, or ThoughtSpot, and for more advanced analytics, Data Robot and C3.ai provide business users with a data science platform.

Understandably, technology vendors are keen to position their products and services to line of business leaders who own and fund the data strategy. If the business leaders are experienced in corporate banking solutions rather than the needed data tools and capabilities, the vendor and the banker will likely be talking past each other. Knowledge about the role of tools and technologies based on the proposed and confirmed data strategy is essential. As with any construction project, having the right tools (and expertise) for the job can make the difference between succeeding and failing. Broader technology and security policies will come into play, but business leaders should not allow the data strategy to be determined solely by the capabilities of tools available in-house today.

Data Culture Conflicts

A corporate banking road map to leverage data more creatively may run into some blockers from policy, legal, and risk management.

As noted previously, EDM programs are typically enterprise funded and driven through the technology organization. There may be a disconnect between the end objectives of EDM (better data quality, controls, and regulatory reporting for corporate treasury and risk functions) compared to growing the business through innovative data use.

Interestingly, the EDMC Survey from 2020 also found that 80% of CDOs have responsibility for analytics, but it is unclear how that view reconciles with lines of business driving analytics strategy and owning the creation of data insights.

A rigid policy and architecture designed to support enterprise reporting needs may make it more difficult to use that data in localized insights and to support new advanced analytics business initiatives. This is commonly referred to as defensive versus offensive data strategies, and it is a conundrum to solve.



Today's Chief Data Officers (CDOs) are tasked with a significant set of unique challenges from developing leading analytics strategies to modernizing governance programs, and even as far as creating a

data-driven culture. In each of these ambitious tasks, they are trying to balance two conflicting postures. Firstly, taking a defensive position to focus on risk management, regulatory compliance, data privacy and security. Secondly, adopting an offensive stance which includes developing data products, machine learning-enabled services, and insights for increased revenue and customer satisfaction.

Dean Falkner, Partner - Head of Engineering, Oliver Wyman³

Conflicts can also occur between the data-driven aspirations of the corporate banking line of business and its legal and risk partners. National and regional data privacy and data use regulations are complex to consolidate at a global level. Although many data protection laws are designed to protect consumers rather than businesses, corporate banks understandably err on the side of caution when agreeing to data privacy, data use, and “need to know” requirements. This is especially true when banks operate outside their home country.

One specific risk item related to advanced analytics is model risk management (MRM). This function is considered as a second line of defense and is designed to govern and test models to ensure that “bad” models do not place unacceptable risk on the bank. Any ventures into predictive analytics and machine learning will need MRM engagement and approval. MRM is used extensively in capital and stress test models, but model management may be new ground for the corporate banking group—and so MRM is a new hurdle for corporate bankers to overcome. This is especially true for innovative data-driven products where models are exposed to clients and the MRM group only have limited experience with these use cases. It is a new risk dimension, and there will be some firsts to navigate when adapting to an MRM methodology developed to managing the risks presented by internal models.

Technical Delivery Model

Recent Celent research into payments data monetization finds that corporate banks view technology and infrastructure issues as blockers to monetizing data. ([Expectation versus Reality for Payments Data Monetisation: Identifying the Data Led Services Corporates Want](#)).

However, as with other hurdles in this section, this challenge is often less about technology itself and more about culture, organization, and alignment of roles.

31%
of banks see limitations in their technology and infrastructure as inhibiting data monetization projects.

³ [Three Strategies to Leverage Cloud Data Management](#), Oliver Wyman, March 2022

Lines of business and technology organizations are separated by a high metaphoric wall. As expected, there's typically a clear division of roles and responsibilities between business users and technology practitioners. At the risk of oversimplifying, in a traditional organization business users access data and use systems to run the business, whereas technology teams build and support those applications. Generally speaking, access to systems is far more restricted for business users than technologists.

After overlaying the data management and information security policies, it is easy to see that challenges arise as an increasingly technically skilled business team wants to explore, discover, and develop more advanced business insights. This requires access to production-quality data and to tools that facilitate data integration, data shaping, and ultimately development of the insights.

Typical symptoms of this challenge will include:

- Security policies may not permit business users to access the needed data sets or tools.
- Contention over roles and ownership of data functions in business versus technology.
- Restriction on movement of data or integration with external data sources or providers.
- Data platform and analytics tools restricted to those resources within the technology organization.
- Solution delivery of data insights is managed by technology as development projects.
- Technology engagement is funded and managed through traditional software development portfolio management and governance. This causes challenges when analytics use cases and priorities may shift suddenly based on business events.

The latter points on this list harken to the earlier observations on ensuring there is clarity about what solution is being created, and how it is built. Data analytics and software development have traditionally been distinctly separate disciplines.

Analysts and data scientists build and deliver insights, whereas developers build platforms and applications. This is an important distinction that can be overlooked in more traditional organizations, where hard lines are drawn between business and technical functions.

Software development does not start with data (the resulting application will often create data). Agile engineering organizations typically have a strong working relationship with clear alignment of roles and responsibilities for business and technology teams. Product managers define the vision, scope, and requirements, and technology develops the solution.

Conversely, data exploration, analytics and science do begin with the data—production-quality data—and access to the right tools to enable insight creation. The

business data team will be the insight creators and will be much more involved in the technical aspects of insights creation than a product manager. The balance of the business/technology partnership is important to get right for successful delivery of any analytics program.



PATH FORWARD

With oceans of data available, corporate and transaction banks have a significant opportunity to leverage the expanding data assets they own and can access. There are so many operational efficiencies, analytics use cases, and new intelligent product opportunities that executing on a strategy can be challenging. For many corporate banking units, the historical lack of business investment in data means that charting the course to achieve this transformation is fraught with obstacles that can jeopardize the voyage.

Define the Opportunity

With so much data available, and the increasing demand from corporate clients for more data-oriented solutions, there is no shortage of opportunities and reasons to invest in modern data platforms and analytics capabilities.

A data strategy needs to be thought of as being defensive to protect and improve the quality of core data assets—and this will typically be driven primarily by the EDM function through policy, standards, and an enterprise architectural response.

The business strategy (not specifically data strategy) needs to build the long-term view of data and acknowledge the gaps with the current state. As corporate banking line of businesses develop and execute an offensive data strategy (as outlined in the section titled Data Culture Conflicts), it may be helpful to consider the value of their data assets in the following ways:

- Richer and higher quality data for better operational integrity and stability.
- Better insights and analytics from which to understand and grow the business.
- A new wave of intelligent data and AI-enabled products and services for clients.

Delivering any of the above opportunities requires a comprehensive data strategy and underlying platform, and will take significant time and effort over multiple years. The good news is that corporate banks should benefit from the tailwinds of regulatory-driven EDM initiatives and investments at the enterprise level to improve data quality and controls. However, as covered in this report, there are significant cultural, organizational, and technical challenges that can impede progress and value creation.

Assess Potential Obstacles and Risks

For most corporate banking entities, transformation of the business through data is a major strategic undertaking that requires new thought patterns, expertise, and skills. It is no surprise that major risks and obstacles will need to be avoided or overcome. The challenges identified in Figure 7 (The Data Rut: Challenges Impede Progress) are connected. As the wheel spins, each impediment compounds or exacerbates one or more of the other challenges. Like a car wheel spinning in mud, the rut deepens, and the end goal becomes harder to achieve.

Banks struggling for traction and economic return on strategic data investments will likely experience one or many of the following risks and execution issues.

- Tussles over data ownership and responsibility across the data team, product managers, neighboring lines of business, and information technology.
- Low awareness or understanding of data management policies and legal use of data can impede the approval of initiatives and subsequent development and launch of solutions.
- Lack of stakeholder agreement or limited consideration of all the data strategy drivers often means that data models are designed for limited use cases, thereby boxing out other legitimate business needs. One priority solution often steps over other initiatives, with the “regulatory mandate” trump card being played regularly.
- Gridlock on “competing” initiatives that require access to the same data sets or resources but for a different purpose.
- Projects fail to deliver expected value. Projects will often be short-funded or deprioritized due to unclear goals, slow progress, and project overruns.
- Investments in tools that are not fit for purpose or lack needed capabilities because the wrong technology designs were deployed.
- Inability to hire and retain data expertise. Data SMEs will believe they have been overlooked in favor of data science and visualization experts. Conversely, if the data is not in place and available for data scientists to work with, they will spend most of their time acting as data engineers and analysts.

With data being the fabric of transaction banking, corporate banking franchises need to break out of the rut if they are to move successfully to the next level of data-centric initiatives.

A future Celent report will suggest ideas and best practices for advancing a successful data transformation program in the line of business.

LEVERAGING CELENT'S EXPERTISE

If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

Support for Financial Institutions

Typical projects we support include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes and requirements. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

Support for Vendors

We provide services that help you refine your product and service offerings.

Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials—including your website and any collateral.

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For more information please contact info@celent.com or:

Colin Kerr

ckerr@celent.com

Americas

USA

99 High Street, 32nd Floor
Boston, MA 02110-2320

[+1.617.424.3200](tel:+16174243200)

USA

1166 Avenue of the Americas
New York, NY 10036

[+1.212.345.8000](tel:+12123458000)

USA

Four Embarcadero Center
Suite 1100
San Francisco, CA 94111

[+1.415.743.7800](tel:+14157437800)

EMEA

Switzerland

Tessinerplatz 5
Zurich 8027

[+41.44.5533.333](tel:+41445533333)

France

1 Rue Euler
Paris 75008

[+33 1 45 02 30 00](tel:+33145023000)

Italy

Galleria San Babila 4B
Milan 20122

[+39.02.305.771](tel:+3902305771)

Asia-Pacific

Japan

Midtown Tower 16F
9-7-1, Akasaka
Minato-ku, Tokyo 107-6216

[+81.3.6871.7008](tel:+81368717008)

Hong Kong

Unit 04, 9th Floor
Central Plaza
18 Harbour Road
Wanchai

[+852 2301 7500](tel:+85223017500)

Singapore

138 Market Street
#07-01 CapitaGreen
Singapore 048946

[+65 6510 9700](tel:+6565109700)