The Digital Nexus in Banking

Regulators and Customers Can Be Demanding, but Technology Can Help Keep Them Happy
## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>The New World of Banking</td>
</tr>
<tr>
<td>4</td>
<td>Compliance First</td>
</tr>
<tr>
<td>17</td>
<td>Capitalizing on the Value of Bank Data: Customer 360 View</td>
</tr>
<tr>
<td>24</td>
<td>Acknowledgments</td>
</tr>
</tbody>
</table>
The New World Of Banking

The banking industry is being pressured by two new forces simultaneously: an increasingly stringent regulatory environment that requires new levels of data governance, and a shift to digital business processes that introduces new, nimble competitors and empowers customers in new ways.

To stand up to these forces, banks are reliant on rapidly evolving technologies as they seek to transform many of their basic operational models. In fact, digital transformation has been identified as a top strategic priority over the next three years for 53% of financial institutions.\(^1\) To transform successfully, banks need innovative, technology-based solutions that will keep them compliant, increase efficiency and lead to predictable, desirable business outcomes. But the key to long-term success lies in how banks are able to manage vast and growing volumes of data. Fortunately, many financial services leaders understand what’s at stake and, for 56% of financial executives, increasing data and analytics capabilities is a top investment priority over the next two years.\(^2\)

With the constant flow of new technologies, including mobile banking, blockchain, machine learning, artificial intelligence (AI) and customer 360 solutions, transformation is continual: a journey rather than a destination. The good news is that new, improved, simple and efficient solutions have emerged that can be used to accomplish goals and fulfill the requirements of transformation.

This e-book is intended to provide information and insights on how banking executives involved in digital transformation can successfully navigate in this new and quickly evolving landscape.

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2. Ibid.
Compliance First

Regulatory compliance mandates how banks operate. Regulations enacted over the last decade have largely focused on consumer protection, fraud prevention and changing risk profiles by requiring oversight of the culture of risk-taking and preventing market abuse. And the sheer number of reporting requirements and their scope of influence can be daunting. Many international banks must understand and control data from more than 100 different sources to satisfy numerous regulatory obligations simultaneously.

To compound the problem, modern regulations require accurate and timely reporting that is based on access to structured and unstructured data. Many regulations also have extra-territorial reach and implications that affect global organizations that may not even be based in the regulators’ jurisdictions.
Dodd-Frank affects all federal financial regulatory agencies and almost every part of the U.S. financial services industry.

GDPR (General Data Protection Regulation) is the EU’s attempt to strengthen and unify data protection.

Basel III (Third Basel Accord) is a global regulatory framework on bank capital adequacy, stress testing and market liquidity risk.

FATCA (Foreign Account Tax Compliance Act) is a United States federal law requiring U.S. persons to file yearly reports on their non-U.S. financial accounts.

CRS (Common Reporting Standard) is a global reporting standard for the automatic exchange of information (AEoi).

EMIR (European Market Infrastructure Regulation) regulates over-the-counter derivatives.

MiFID I/II and MiFIR (Markets in Financial Instruments Directives and Markets in Financial Instruments Regulation) provide regulation for investment services across the European Economic Area.

55% of financial executives say they will increase their spending on compliance in 2017.

3 SourceMedia Research.
In the wake of the global financial crisis, banks have been deluged with new and far-reaching regulatory requirements. In some instances, sweeping regulations come into effect within months of each other. Such is the case with MiFID II/MiFIR and GDPR, which took into effect in the first half of 2018. To comply with new regulations and accommodate several regulations at once, banks need to be able to store, monitor, access and analyze unprecedented volumes of data, from different sources and in different formats, in order to produce highly detailed reports.

70% of banking executives are not completely ready for data-driven strategies for the governance, security, privacy and protection of digital assets.  

“Data is the core reason banks need digital transformation,” says Dan Knight, CTO Americas – Financial Services, Hitachi Vantara. According to Knight, banks often receive information from hundreds or even thousands of different sources, underscoring the need for adaptable and proven data storage and analytics capabilities to support compliance efforts.

Thanks to recent technology innovations, RegTech enables the analysis of data from multiple sources and facilitates its integration into regulatory monitoring and reporting processes. This becomes a valuable resource for every line of business of any organization that must comply with various regulations.

RegTech to the Rescue

RegTech, or Regulatory Technology, refers to the use of technology to address the overall regulatory challenge. RegTech minimizes the cost burdens, reducing the risk of noncompliance, and automating processes and procedures within an organization. RegTech solutions can help facilitate embedding of regulatory compliance across lines of business, making it easier for organizations to become compliant as a whole.
Data growth is persistent and unyielding. As incredible as it sounds, unstructured data (instant messages, photos, books, journals, documents, metadata, health records, audio, video, analog data, images, files and unstructured text, such as the body of an email message or web page, for example) is growing at the phenomenal rate of 62% per year and is showing no sign of slowing. This growth presents a new set of challenges for banks, especially when considering the ever-increasing compliance and data retention regulations and requirements. Such mandates may include the call for auditing, monitoring and reporting of activities based on a wide range of data types. According to Deloitte, with regulatory bodies enforcing self-reporting requirements on electronic and voice communications, and many organizations retaining in excess of a billion communication messages per year, financial services companies are seeing records and archives systems driven to capacity, and emerging e-discovery challenges and costs rising as a result.

Help Protect Your Bank With a Better Compliance Strategy

Data Security and Compliance: Archives, Repositories, Platforms

62% is the annual growth rate of unstructured data.
The complexity and variety of data can be challenging for any organization, let alone for banks, especially as regulators’ demands for detailed reporting and auditing continue to grow. The importance of information technology is stressed by the U.S. Commodity Futures Trading Commission (CFTC): “As the markets and trading strategies continue to evolve, staff will make use of newly available technologies to blend data from different data sources, such as futures and swaps position data, trade execution data and order data, and develop new methods to analyze trading within and across products and markets.”

To keep up with regulatory demands, banks need to regularly evaluate their technologies. However, 70% of banks do not have full access to data anytime, anywhere; 71% are not completely ready with a means to aggregate diverse data sets for analytics; and 70% do not have full ability to translate insights from data into business outcomes.

70% of banking executives say they do not have access to data anytime, anywhere.

71% of banking executives say they are not completely ready with aggregation of diverse data sets for analytics.

70% of banking executives say they do not have full ability to translate insights from data into business outcomes.

7 CFTC, Strategic Plan 2014-2018.
9 ibid.
10 ibid.
There are consequences to falling behind in complying with governance requirements and monitoring communications (see sidebar at right).

To satisfy regulatory requirements, banks need to continually monitor and assess upgrading their capabilities for handling data. Specifically, they need to be able to collect, tag and analyze data from multiple sources — and do it fast. Banks need to do this across their entire organization, including human resources, marketing, finance, and other departments, as well as across their extended ecosystem to capture every phone conversation, instant message (IM), email and video.

Data and Communications Governance

Global and regional banks face multiple, concurrent and complex regulations that stress current systems. Staying compliant requires collection, search and analysis of telephone, email, SMS and voice recordings, including communications conducted outside of banks’ firewalls. Compliance or discovery reports need to adhere to strict deadlines.

[Working with Hitachi], not only have we switched smoothly to a modern storage environment, but we have also revolutionized the business model in the field of storage in one go and prepared our institution to deal with any eventualities when it comes to data growth.

Mathias Kreft
Head of IT
DZ Bank (Germany)
Help Protect Your Bank With Better Fraud Detection and Prevention

Banks have been and will continue to be targets for people trying to deceive them and exploit perceived weaknesses in traditional IT systems. Banks are obviously motivated to protect themselves from fraud because it helps them avoid penalties and loss of funds, but it also helps reduce customer vulnerability and exposure to reputational damage. In some instances, bank employees can even be held personally responsible for the fraudulent actions of others, which can also be a motivator.

Lack of fraud protection can also present an opportunity cost. Banks that are unsure of their monitoring technologies may become more hesitant in selecting clients, which could limit their growth.

To avoid the many negative aspects of fraud, banks have implemented modern e-discovery platforms, including anti-money-laundering and know-your-customer capabilities, which enable them to effectively leverage data and expand fraud protection capabilities. A modern platform can make it easy for banks to cost-effectively and defensibly add evidence and solve challenges across the e-discovery life cycle. This approach can translate to a competitive advantage by increasing efficiency and bolstering reputation. Banks realize the advantages and have been steadily investing in these systems for the better part of a decade. In fact, trade surveillance technology budgets have expanded at an average annual rate of 12% since 2010.12

With Hitachi, achieving the level of regulatory compliance that matches your business operating model becomes predictable, sustainable and agile enough to address current and new requirements. Managing, governing, auditing and reporting become less onerous with features that allow you to dictate the right kind of data to make available in the most appropriate format for the right people and at the right time. Regardless of whether the recipient of the data is a customer, employee, branch or regulator, it is possible to control the degree to which data is mobilized or made portable with Hitachi solutions.

For instance, Wirecard, a German financial services and payment company, uses Hitachi Vantara’s Pentaho platform solutions to ensure adherence to strict financial regulations and meet business service level agreements (SLAs). A robust, end-to-end platform, Pentaho combines business intelligence tools, including interactive charts and dashboard, and big data expertise, to deliver secure access to large, complex datasets on demand. With round-the-clock access to electronic payments data and regulatory compliance services, Wirecard’s 11,000+ customers can focus more time on business outcomes, rather than credit card fraud.

Pentaho offers comprehensive extraction, transformation, loading, blending and analytics capabilities for batch-level and near real-time data processing. These capabilities are made accessible by user-friendly interfaces and are integrated into business applications and experiences. This approach makes it possible for organizational leaders to have a “dialogue with data” that does not require the IT organization to act as an intermediary in every case.
Compliance Technology Maturity Checklist

The speed at which data producers, consumers and regulatory requirements are growing can make any organization question its technology and ability to address the complexities of compliance. Consider the following questions, answering “yes” or “no” for your organization:

CAN you supply regulators with all of the data they require, and provide it by the deadlines mandated and in the right format, while at the same time being certain about its accuracy and lineage?

DO you have easy access to all relevant data from multiple sources, regardless of data structure or format, that can be produced to address a compliance audit, early case assessment, and/or regulatory inquiry?

DO you have the ability to process electronic discovery and litigation holds on relevant data and determine the information custodian?

DO you have the ability to clearly define and describe the system boundaries that control the access, mobility and portability of data?

DO you have cryptographic safeguards in place to preserve confidentiality and integrity of data at rest and during transmission?

HAVE you substantially increased the efficiency and accuracy of handling compliance, eliminated most manual tasks, and increased the amount of data that can be handled by one person?

If you answer “no” to any of these questions, it may be time to rethink your compliance technology strategy.
At Hitachi, our goal is to make every bit of an organization’s data available, insightful and actionable. We help the IT organization transition into a business and data partner, not a necessary business resource.

Benefits of Managing Data With Hitachi Technology

**OPTIMIZE RESOURCE UTILIZATION.** With Hitachi Content Platform acting as the centralized data hub for your organization, fewer administrative resources are required to manage larger and more complex data repositories. Compare this with traditional IT systems, which are limited in scale and require specialized knowledge and skills to manage.

**AGGREGATE AND SCALE YOUR DATA UNDERSTANDING.** Hitachi Content Intelligence meets the data exploration, discovery and analysis needs of the enterprise with repository aggregators, centralized workflow rules and extensible visualization tools for data-driven decision-making. Hitachi Content Intelligence meets the convenience and productivity needs of the knowledge worker with a self-service natural language search interface, without compromising the control and security requirements of the enterprise.

**POWERFUL ANALYTICS AND BUSINESS INTELLIGENCE.** Hitachi Vantara’s Pentaho, a data integration and business analytics platform, creates and modifies regulatory rules in a workflow to ease the complexity of managing and processing regulatory reporting.
Your Digital Journey Starts With the Right Foundation

Modernize Your Infrastructure Today so You Can Lead the Innovation of Tomorrow

Hitachi offers solutions that help you increase agility and minimize disruptions. We modernize your infrastructure with integrated solutions capable of supporting traditional systems and transformative technology innovations. And, we introduce new analytics and intelligence capabilities necessary for you to remain compliant with current regulations and agile enough to adopt new regulations.
Capitalize on the Value of Bank Data: Customer 360 View

Technology applications in banks often start with RegTech, but they should not end there. RegTech is best utilized as a springboard for business growth, specifically for a data-driven approach to improve customer experience. For example, a global bank is building a data lake using Hitachi Vantara’s Pentaho platform to satisfy new regulations and reporting. In the future, the data lake can be the source repository to enable new customer products and solutions.

Customer experience has emerged as a significant factor contributing to growth. It is viewed as a more important part of corporate strategy (43%) than product (37%) or price (20%). This is an unprecedented opportunity for banks, which are among the biggest aggregators of customer data. A recent Forbes Insights and Hitachi survey reveals that banking executives are focused on becoming more customer-centric.

This approach means providing an omni-channel experience, or a seamless and consistent interaction between customers and their financial institutions across multiple channels. Today’s banking customer may use Kabbage to get initial loans for a business, Lending Tree to get personal loans, and PayPal or Apple Pay for transactions. This customer has expectations of mobility and access to information, transactions, and relevant offers and services from any device, anytime. The banking systems can meet these expectations on two conditions. They must have the channels to interact with customers, and they must understand the customers’ expectations.

Omni-channel is the opportunity to utilize data to serve and benefit the customer. It creates cross-sell and upsell opportunities. The banks already have all the data they need about each customer to provide such seamless and relevant service. But this data is disjointed, sitting in different silos across the bank. It is a classic case of the right hand not knowing what the left hand is doing. While the bank already has the info, the same customer is repeatedly asked for the same information, such as a social security number. At the same time, customers often get conflicting or irrelevant offers, even though banks have the information to flesh out a full picture about customers' life events, activity and purchases, as well as financial standing and needs.

Banks have a huge opportunity to “get intimate” with their customers. Based on data they are holding, they are able to have a 360 view of their customers. The solution to unlocking the power of this data is data management on a single platform.

45% of financial executives say that digital transformation in the next two years will happen in their relationships with customers. 56% of financial executives measure the progress of digital initiatives with customer acquisition metrics. 55% of financial executives measure the progress of digital initiatives with customer engagement metrics.
Banks need to balance how their customer experience is delivered to attract and maintain relationships with older customers, who may not be comfortable with some technologies. At the same time they, must appeal to millennial customers, who are digital natives (see graphic). Millennials expect banks to be as technologically savvy as other companies they deal with, such as Amazon or Uber, and to present similar, streamlined online experiences.

**Given these pressures, there is a serious need for banks to modernize their systems to improve customer experience. There are several key areas where a data-driven approach is especially beneficial for customer experience.**

It can provide a single view of a customer, so that the same banking customer is not bombarded with sometimes contradictory messaging from different silos within the bank, making them feel as if they were several different people. Insights from data can be used to better target customers. For example, they can offer student loan options to the customers attending college instead of to retirees. They can create customized product lines for specific customers.

Customer service that uses technology solutions becomes smooth and fast. Long waits on a phone call to a customer service representative can be cut. Customer service can simply integrate data about the customer who is on the line in real time, flagging the reason for the call and resolving the issue without making the customer wait in a queue to speak with a human.

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For interacting with ATM customers, there is a safer and faster way than punching in codes. For example, ITCARD, the second-largest shared ATM network in Poland, announced a contract with Hitachi Europe for a line of ATMs with finger vein readers at 1,730 Wincor Nixdorf and Diebold ATMs throughout Poland. Today 36 banks in Poland use finger vein authentication in their ATMs.

A data-driven approach to customer service creates efficiencies. Processing every in-person call with a customer is more expensive than a digital interaction. It is also much cheaper to sign on new customers using digital solutions.

Currently banks have disparate business systems, complex data relationships, and a reactive client engagement model. Modernizing technology allows banks to gather, combine and analyze real-time customer information from all customer touchpoints and live customer data, and thus form deeper and more accurate profiles. It also enables the making of productive and profitable decisions on the fly, adjusting marketing campaigns depending on buying patterns or preferred channels, or refining customer segmentation. These activities decrease customer churn while increasing cross-selling and upselling, as well as improving service.
Customer Experience Technology Maturity Checklist

The speed at which the amount of customer-produced data is growing can make any organization question its technology and ability to best utilize it for improving customer experience. Consider the following questions, answering “yes” or “no” for your organization:

- **Are** you able to integrate diverse data sources and extend the 360-degree view to external and internal customer-related data?
- **Do** key customer metrics reside in a single location, and are they accessible to business users?
- **Are** your customer data integration systems compatible with evolving big data technologies?
- **Do** you possess reporting capabilities for sharing customer-related data across teams?
- **Are** your customer data analytics tools easily embeddable into operational software and applications?
- **Do** you have cryptographic safeguards in place to preserve confidentiality and integrity of data at rest and during transmission?
- **Have** you substantially increased the efficiency of handling compliance, eliminated most manual tasks, and increased the amount of data that can be handled by one person?

If you answer “no” to any of these questions, it may be time to rethink your compliance technology strategy.
Benefits of Improving Customer Relationships With Hitachi Technology

**USE DATA TO UNDERSTAND YOUR CUSTOMER.** Hitachi can provide a single platform for the entire data pipeline, real-time data hubs, and distributed reporting capabilities for sharing information across teams. “Smart data center analytics” enable customer 360 solutions, with their capabilities for cloud, virtualization, internet of things (IoT) and data-tiering.

**VISUAL AND BLENDED.** Hitachi business analytics solutions come with visual tools, such as compelling, intuitive and customizable dashboards, and offer complete customer views, thanks to supplementing and blending structured and unstructured data sources.

**IMPROVED CUSTOMER INTERACTIONS.** Hitachi solutions allow the connection of real-time data feeds to an analytics and customer engagement engine. This provides the ability to create digital interactions that create maximum value for the customer.

**DATA-DRIVEN MARKETERS.** Thanks to Hitachi’s intuitive web interface solutions, marketers or customer service departments can quickly and easily implement insights from the data to improve customer experience. They can also monitor and evaluate campaign and promotion offers, all without daily help from the IT department.

**COST-EFFECTIVE AND REVENUE-GENERATING.** The focus of Hitachi’s customer 360 solution is to maximize customer experience, loyalty and conversion rates cost-effectively.

Hitachi has created a flexible and all-encompassing customer 360 approach that considers any number of potential outcomes using behavioral analysis and scenario extrapolation. This is the way to get a true end-to-end, personalized view of every customer. And, while the gains can be big, this is not an undertaking that needs to be conducted all at once.

WE CAN DO THIS WITH YOU ONE STEP AT A TIME.
LEARN MORE
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Fred Oh  
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CTO, Financial  
Services, EMEA

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Senior Product  
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Hitachi Vantara

Data is your greatest asset, if you know how to use it. The key to new revenue streams, better customer experiences, and lower costs of doing business is there in your data, waiting to be discovered. It reveals your path to innovation and new ways for you and the world to work. Hitachi Vantara elevates your innovation advantage by merging operational and informational experience to offer you a data partner with unprecedented range and depth in data management. We are analytics, industrial expertise, technology and outcomes rolled into one great solution provider. We listen. We understand. We work with you.

Hitachi Vantara

Corporate Headquarters  
2845 Lafayette Street  
Santa Clara, CA 95050-2639 USA

www.HitachiVantara.com  |  community.HitachiVantara.com

Contact Information  
USA: 1-800-446-0744  
Global: 1-868-547-4526

HitachiVantara.com/contact

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