

changes in the cost of goods in a



Revenue growth divisions

Division	GHU	FER	RTG
TYU division	254	274	154
FRT division	754	273	825
GHU	144	364	954
FER	874	657	125
RTG	784	145	124
WFE	784	954	241
RTG	784	954	241



Share of the income of participants by quarter

Division	GHU	FER	RTG
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New Age in Data Governance

The financial services sector has embraced data governance but largely in relationship to regulatory compliance. Now companies within the industry need to take the next step, bringing business leadership to the governance table so they can increase their ability to leverage data assets for enterprise advantage.

A decade ago, gaps in data quality and completeness may have affected the ability of the financial services industry to respond faster and more effectively to the financial crisis. The sector grew more serious about data management to comply with new regulations that were a consequence of that upheaval. Most firms followed the Data Governance 1.0 approach to do so, largely leaving it to IT to catalog data elements to support search and discovery without any real grasp of their meaning, relationships or value to the organization.

Consider these findings from the 2016 [Global Risk Data and Technology Benchmarking Survey](#), set in the context of banks' alignment with the BCBS 239 risk data aggregation and risk reporting standard. Top challenges to improving data quality at the enterprise level include a lack of sufficient business buy-in on and senior management attention to the value of data transformation, according to McKinsey and the Institute of International Finance. And less than 40% of the surveyed banks have created a business case to quantify the value of their data program.

While financial firms began to establish the role of chief data officers in the early 2010s, they mostly housed the position in IT or operations and focused it on driving compliance in response to stepped-up regulation, according to a Bloomberg L.P. [report](#). Even now, it says, many CDOs in these institutions “believe that internal stakeholders don’t understand how data governance and its supporting infrastructure offer business value.”

Everyone from executives on down will need to rethink their data duties and assume different levels of accountability in financial organizations that seek to grow beyond the Data Governance 1.0 stage. The fact is that shortcomings in data meaning, quality, availability and access have a major effect on all facets of a financial services company – not just risk and regulatory compliance. It’s difficult to base big corporate decisions on data that can’t be traced back to a reliable source, for example. Planning change is challenging, too, if the impact of data on people, processes and systems is not properly understood.

So it’s critical for line-of-business leaders and C-level executives to understand they need to take a leading role in data governance efforts. Not only does proper data governance have an impact on reducing productivity losses that go hand-in-hand with data problems, but being able to understand and trust what data means within business context is key to maximizing Big Data-driven analytics efforts to capitalize on revenue opportunities, solve customer issues, identify fraud and accelerate decisions that impact the organization’s strategic positioning. That’s critical to traditional financial organizations in an age when FinTech startups continue to shake up the sector.

Indeed, a BCG [study](#) revealed that better data analytics practices can help financial institutions realize up to \$30 billion in value as a result of higher revenues, cost savings, improved customer service and better decision-making. However, the industry doesn’t do a particularly good job generating value and actionable insights from data analytics, it revealed.

A New Age in Data Governance *(continued)*

There's another benefit to high-ranking executives and business teams becoming more actively involved in data governance: they can help prime their organizations to support the arrival of even more intense data regulations – primarily the General Data Protection Regulation (GDPR). It goes into effect in May 2018 to give European citizens maximum control over their personal information. GDPR will significantly change the way financial institutions, which process a huge amount of confidential and sensitive personal data every day, store and use that data and report any breaches to it.

Consequences are expected should risks to this data go unrecognized – as they might without proper understanding of the rules that apply to it – resulting in institutional non-compliance. More than a quarter of IT and risk professional respondents to a [poll](#) carried out by VansonBourne believe the banking industry is likely to be made an example of if an organization in the sector breaches GDPR.

Fortunately, the defining principles of Data Governance 2.0 should help address these and other pressing issues. This more mature stage of data governance is marked by the idea that everyone within the organization collaborates in the process, spreading responsibilities across more individuals and driving ranking business leaders to inform and enable the effort's return on investment – from limiting data exposures to driving data opportunities, including growing revenue.

Business heads and their teams, after all, are the ones who have the knowledge about the data – what it is, what it means, who and what processes use it and why, and what rules and policies should apply to it. Without their perspective and participation in data governance, a financial firm's ability to intelligently lock down risks and enable growth will be seriously compromised.

With their engagement, sustainable payback will be achieved and the case for continuing commitment by the financial institution to data governance will be easier to justify.





Data Governance Must Be a Strategic Initiative

A data governance strategy is the foundation upon which to build a muscular data-driven organization.

Appropriately implemented – with business data stakeholders driving alignment between data governance and strategic enterprise goals and IT handling the technical mechanics of data management – the door opens to trusting data and using it effectively. Data definitions will be reconciled and understood across business divisions, knowledge base quality will be guaranteed, and security and compliance will not be sacrificed even as information accessibility expands. The company will set itself up to be agile in supporting change without creating legal, reputational or financial risk.

There's urgency to reaching that point, as organizations increasingly become the sum of their data. Still, data generally has not been accorded the same thorough treatment that is given to “live” strategic assets, such as physical plant equipment or tools, which are relentlessly tracked and scrupulously maintained to keep the business running at peak performance. An issue with manufacturing assets that stalls production can have significant repercussions on a company's ability to meet deadlines and make money, of course, and that impact may be more immediately obvious than a mismatch between metrics for the same KPIs as reported by sales and marketing teams. But the truth is that the latter is an equally critical issue, as it may affect the organization's ability to decide where to target investments or make other necessary changes that support strategic goals.

Data Governance Must Be a Strategic Initiative *(continued)*

Continuing to consider data governance as an IT-driven solution absent business context – addressed primarily from the perspective of different isolated tools, such as data integration, data modeling or business intelligence/analytics solutions – will become even more problematic in the face of:

A demand for big data and analytics-driven growth.

Enterprises want to bet the farm on their data in pursuit of new business options, possibilities and transformation. For that bet to be a good one, they must be able to trust that the data is solid for use in providing a comprehensive view of market conditions, customer demographics, buyer needs and preferences and more; otherwise, the insights generated and the new products and services introduced may be a bust. When the enterprise can reliably leverage the full power of big data, however, big things can happen.

A need for digital trust in business dealings between organizations or between businesses and consumers.

Continuing plagues of external hacks and internal breaches or data misconduct mean that enterprises increasingly will be pressured to demonstrate that they are a trusted data partner. Neither consumers nor B2B clients want to be in a position where the data they share with a business winds up being stolen or abused. Businesses that can't reliably define, classify, track and audit private data and enforce protections around it will take a hit, as was the case with a well-known financial services provider whose staff appropriated customers' information to open credit cards in their name without their knowledge. That firm faced more than a dozen investigations, inquiries and lawsuits and saw its credit card applications and checking account openings plummet in the aftermath of the revelations.

Upcoming personal data removal mandates with stronger individual privacy protections.

The EU's General Data Protection Regulation (GDPR) gives individuals the right to have their personal data erased and to prevent it being processed under a variety of conditions, including when it is no longer necessary in relation to the purpose for which it was collected or processed. But a recent [study](#) finds that only 19% percent of organizations are "extremely confident" they can fulfill customers' 'right to be forgotten' requests. This is no small problem, with penalties ranging up to 4% of annual turnover for companies that hold personal data without a grasp on information privacy and security and the appropriate processes to support them.

< 35

Percentage of companies that currently use information to identify new business opportunities and predict future trends and behavior

Source: [BI-Survey.com](https://www.bi-survey.com)

< 50

Percentage of companies that agree that information is highly valued for decision-making or treated as an asset in their organization today

Data Governance 2.0 Joins Business and IT

As Data Governance 2.0 takes the stage, business personnel must take a leadership role, working with IT to discover, understand, govern and socialize data.

It only makes sense for the business to have a greater hand in collaborating with IT to control data at these levels, considering that it has the knowledge about the meaning and purpose of the information, is responsible for the regulatory challenges that are associated with it, and utilizes the enterprise knowledge base to adapt to fast-changing markets and client demands.

In other words, the business is critically involved in both offense and defense for the enterprise, owning the benefits and the problems that could come from the presence or lack of data trust and a strong data governance strategy that enables that trust. If critical decisions are to be made on the basis of business intelligence reports, but those reports are based on incorrect data, those decisions can hurt the enterprise growth strategy. If there is no way to understand what is considered sensitive information and what roles are engaged in performing particular processes using that information, there is no way to conduct effective audits to ensure that rules around that data in today's increasingly self-service environments are being followed.



Data Governance 2.0 Joins Business and IT (continued)

Think of it this way: The right data of the right quality, regardless of where it is stored or what format it is stored in, must be available for use only by the right people for the right purpose. To support that, a collaborative Data Governance 2.0 strategy must encompass defined business and IT requirements.

→ **Business requirements:** Business functions take on the tasks of defining the business glossary of terms and reference data across departments – building standards for the terms containing the approved owner, meaning, business rules and use of a term like ‘customer reference number.’ They specify additional references including the roles, processes, systems and data flows that are involved with it and to which the term must adhere.

→ **IT requirements:** IT functions reconcile business units’ standards for terms to a single state in a periodic table of data elements and then map them to physical data assets (databases, files, documents and so on). This data dictionary serves as the one-stop-shop for the “atomic level” of a data element, which may exist across various systems, reports and data models that are used to create new applications. It leverages provided business knowledge to determine master data sets, discover the impact of potential glossary changes across the enterprise, audit and score adherence to rules, discover risks, and appropriately and cost-effectively supply security to data flows. Linking these master data sets to their systems of record starts the journey of effective master data management.

→ **Business-IT requirements:** When it comes to the realm of data usage, IT will publish data to people/roles in ways that are meaningful to them, enumerating applications, processes, data flows, access request procedures, and quality assessments for data consumers to refer to and abide by. It becomes possible for users to directly follow linkages from the data that appear in their dashboards all along the chain and, in case of questions or discrepancies, work with business and IT counterparts to resolve any issues discovered. When planning change, the business now has a platform to describe data requirements to IT with less ambiguity, reducing the risk of failure.

**BUSINESS IS BOTH
DATA QUARTERBACK
AND LINEBACKER**

Business must take a leadership role in data governance to enable opportunities and mitigate risks.

Source: erwin



OFFENSE:

- Optimize Usage & Impact
- Enable Insights
- Assure Decision-Making

DEFENSE:

- Optimize Operations
- Enable Compliance
- Assure Security



CDO Takes the Lead

Clearly, a Data Governance 2.0 strategy does away with the idea that relying primarily on IT point solutions can accomplish the plan.

Software and IT departments on their own can never do that job. Rather, integrating the business perspective with the support of business executives requires driving a true cultural change in the organization.

That's ideally where the chief data officer (CDO) enters the picture. A recent [survey](#), in fact, shows that 82% of CIOs see a compelling case for most organizations to hire a CDO, and 88% believe that CDOs add value to the business' data management strategy.

As the point person to bring the idea of a data governance strategy to the table, potentially by chairing a data governance council, the CDO will be challenged to get buy-in from stakeholders who are the real data power in organizations, such as chief financial officers (CFOs) and chief marketing officers (CMOs) and legal teams. Not only do they own standards for critical data and analytics responsibilities, but they also influence whether budgets will be available to ensure the

continuance of Data Governance 2.0 initiatives beyond their first steps.

To that end, CDOs have to help C-level executives envision the return on opportunities that await their own teams and the enterprise at large from their participation in joining together business and IT bodies of knowledge. One scenario to play out for the CMO: Demonstrate how a Data Governance 2.0 strategy – which makes it easier to identify all data sources, ensure that all definitions are in line, and discover the lineage of data that appears in final metrics (as well as the business owner of that data who can provide subject matter expertise) – can drive better analytics for the key mission of transforming the customer experience.



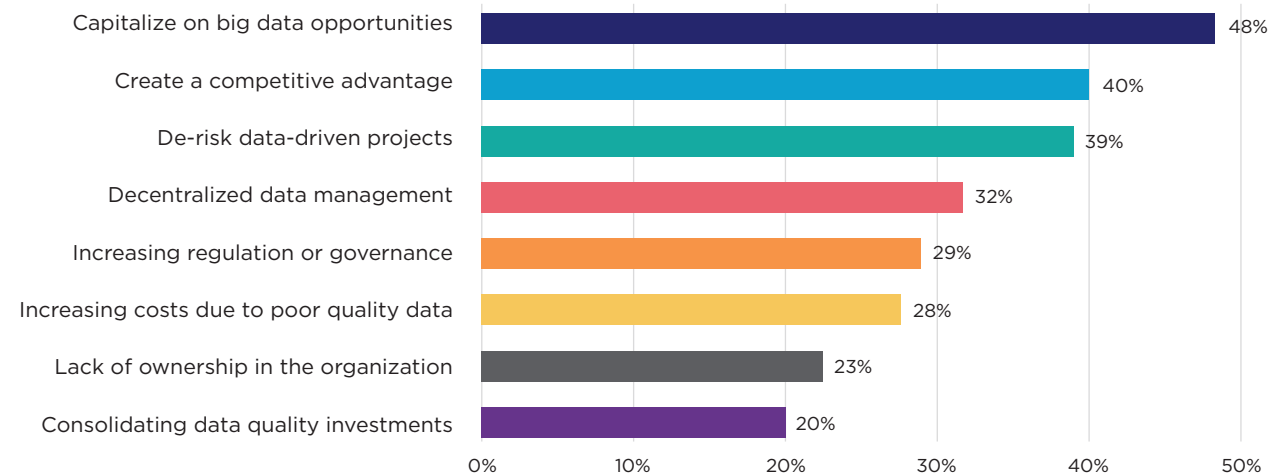


CDO Takes the Lead *(continued)*

THE VALUE OF A CDO TO THE ENTERPRISE

Getting more out of Big Data tops the list of reasons for bringing CDOs on board.

Chart 1
Primary motivations for hiring a CDO



Base: Those wanting a CDO (B2)

Source: [The Chief Data Officer: Powering Business Opportunities with Data](#), Experian

54 Percentage of surveyed organizations that had fully or partially implemented the Office of the Chief Data Officer (OCDO)

Source: [Survey Analysis: Second Gartner CDO Survey – The State of the Office of the CDO](#), Gartner

Building a Data Governance Hub

Once key business leaders understand and buy into the important role they play in a Data Governance 2.0 strategy, the work of building the infrastructure that will enable the workforce and processes to support actively governing data assets and their alignment to the business begins.

To narrate data, map it, make sure it's under control, and promote it to appropriate personnel requires a technology enabling-platform that covers the entire lifecycle of a data governance initiative, from initiation to implementation, and across all data consumer/contributor roles. Critical to such a platform are components including data modeling for describing and discovering entities (structured and unstructured) and attributes and their relationship to the business; business process modeling for visualizing system interactions and workflows; enterprise architecture for showing dependences between business capabilities,

applications, data and supporting infrastructure; and collaboration capabilities to support role-appropriate views, searches and commentary regarding data assets.

With these elements incorporated into a strategic enterprise Data Governance 2.0 initiative, any mission-critical data questions can be asked and answered to reduce risk and realize business goals. For example, it will be possible for business and IT to coordinate in determining which people, processes, systems and data stores, beyond those used by a single business unit, will be impacted by



Building a Data Governance Hub *(continued)*

making that department's proposed change from a 15- to 20-character customer reference number. In light of those findings, leaders then can consider if it's worth the expense and effort to do so, and if so, notify the affected entities of the changes. Or, a business might specify data quality measurements to execute on specific pieces of data to pinpoint whether the information is too risky to use as a source for key business decisions.

An enterprise that leverages such a rich Data Governance 2.0 ecosystem recognizes that data is as much – or even more – of an asset than physical inventory, equipment, factories or anything else, and is committed to treating it as such.



ASKED AND ANSWERED

Data Governance 2.0 solutions should guide responses to critical questions related to data, including the impact of changes, by providing a holistic view of the data in the business, where it lives, who and what systems are using it, and how to access and manage it.



erwin's Contribution to Data Governance

The solutions marketplace remains somewhat behind the curve when it comes to delivering platforms that are up to Data Governance 2.0 demands.

As research firm Forrester **recently noted** of data governance stewardship and discovery providers, disconnects remain when it comes to providing user interfaces that support all the domains touched by data governance requirements and for enabling integration across diverse solutions aiming to satisfy various aspects of governance needs, for example.

With erwin DG, enterprises have access to a complete environment that enables the entire Data Governance 2.0 lifecycle and experience for the business and IT. It unifies critical data governance domains, leveraging role-appropriate interfaces to bring together stakeholders and processes to support a culture committed to acknowledging data as the mission-critical asset that it is, and orchestrating the key mechanisms that are required to discover, fully understand, actively govern and effectively socialize and align data to the business.

The platform supports:

- Relational, unstructured, on-premise and cloud data.
- Business-friendly environment to build business glossaries with taxonomies of data standards.
- Unified capabilities to integrate business glossaries, data dictionaries and reference data, data quality metrics, business rules and data usage policies.
- Regulating data and managing data collaboration through assigned roles, business rules and responsibilities, and defined governance processes and workflows.
- Viewing data dashboards, KPIs and more via configurable role-based interfaces.
- Providing key integrations with enterprise architecture, business process modeling, and data modeling.
- A SaaS model for rapid deployment and low TCO.



erwin's Contribution to Data Governance *(continued)*

Because erwin DG integrates with erwin's data modeling, enterprise architecture and business process modeling applications, it provides even more comprehensive and effective data governance. That's because, together, they power data impact analysis, a simple and easy way for stakeholders to see all places where specific data resides to determine how changes will impact people, processes and systems before they are implemented.

By merging people and technology silos, enabling greater accessibility and speed-to-productivity, and reducing risks and costs associated with change management, erwin establishes a firm foundation to drive a 21st century data governance strategy that will empower and protect the data-driven enterprise and all its participants.

erwin SOLUTIONS THAT POWER DATA IMPACT ANALYSIS

 erwin Data Modeler

 erwin Enterprise Architecture

 erwin Business Process



Data Governance for All and All for Data Governance!

The roles that will benefit from a Data Governance 2.0 strategy and solution extend from C-level business executives to data stewards, HR leaders, VPs of risk, legal teams, operational leads – and so many more.

A data scientist, for example, may have a project to work out a correlation between customers' profiles, their total previous spend on the business' products, and imported demographic data in order to build a revenue profile for three new product investment opportunities. That person can turn to the business glossary that provides the meaning of data that exists in the organization, and which also makes it possible to determine whether using it will violate any rules related to it. From there, he or she then can formulate a request for the appropriate, unambiguous information.

Fulfilling that request will be easier for the business intelligence engineer who now will see how the data requirements map to physical assets, and which of the systems that use the data actually contains the master records upon which to perform an extract-transform-load operation and assemble a report for the data scientist. The quality and context of the data in the physical asset will be understood to help the engineer select the best data to meet the requirements.



Data Governance for All and All for Data Governance! *(continued)*

Here's a quick look at what some other positions stand to gain:

BUSINESS ANALYST →

Must write process descriptions and update process models that reflect how the business operates in accurate, unambiguous language and with respect to how the big picture impacts everything else downstream. Engages with Data Governance 2.0 to connect to core data standards from the glossary for creating or revising processes and to review detailed process flows and scenarios to envision overall impact of any changes.

DATA MODELER →

Must gather and translate business requirements into detailed, production-level technical specifications, and create robust data models. Uses Data Governance 2.0 solution to see summary of core data assets and how they connect to physical systems, and follows well-documented business rules to ensure appropriate standards are used throughout the process.

SECURITY ARCHITECT →

Must understand the security of data in the context of the systems and interfaces that expose it. Uses Data Governance 2.0 solution to track data from source to business meaning to assess where business-critical information is exposed to threats, prioritize protection efforts and reduce risk.

CHIEF FINANCIAL OFFICER →

Must understand and trust systems and data feeds that enable functions such as due diligence, budgeting and forecasting, and audit and taxation. Relies on Data Governance 2.0 solution to ensure that measurements/audits are put in place to assure that quality data is used to execute growth strategy and avoid non-compliance penalties.

CHIEF MARKETING OFFICER →

Must support end-to-end customer relationships in digital marketing efforts based upon knowledge of clients. Depends on Data Governance 2.0 to reconcile customer reference and product terms for accurate history and for use in analyzing likely next steps in service, upgrade or new purchase journeys.



erwin, Inc. provides the only unified software platform combining data governance, enterprise architecture, business process and data modeling. Delivered as a SaaS solution, these technologies work together to unlock data as a strategic asset so all enterprise stakeholders can discover, understand, govern and socialize data to mitigate risk, improve organizational performance and accelerate growth. For more than 30 years, erwin has been the most trusted name in data modeling and its software foundational to mission-critical data programs in government agencies, leading financial institutions, retailers and healthcare companies around the world.

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