7 steps to maximizing the value of your data

Improve your organization's ability to extract value out of data using this seven-step data maturity model.

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Introduction

The data within your organization holds great opportunity. Opportunity to generate more revenue, develop new products and services, improve customer service, outcompete your competitors and uplevel your business. But to make the most of it, you must evolve and mature your organization's data-related capabilities, data literacy and data culture.

Applying a pragmatic data maturity model to your IT investments will increase your ability to maximize the value of your data and ensure you chart a course that will show meaningful return on investment to your organization at each stage of your journey.

What is data maturity?

Data maturity measures an organization's level and effectiveness of using their data to drive decision-making.

Approaches to assessing an organization's data maturity typically include a set of stages or capability levels that span the spectrum from low to high data utilization within an organization. A structured approach to data maturity assessment, often called a data maturity model, can help an organization to identify their current maturity and the criteria or steps needed to advance their maturity.

When beginning a data intelligence or data governance initiative specifically, having a proven approach to data maturity can be a great asset. It can help you in identifying your current capabilities and provide a roadmap of where to focus your investments and resourcing to achieve quick and progressive ROI as you work to maximize the value of your data.

The erwin by Quest approach to data maturity

For more than 30 years, erwin by Quest has helped leading organizations around the world to advance their data maturity and get more value out of their enterprise data. As technology has advanced and enterprise data landscapes have grown more complex, so has the need for a clear roadmap to guide data initiatives and support software and resource investments. A rapidly evolving AI era is also driving data leaders to more aggressively pursue data maturity advancement in order to capitalize on new opportunities and minimize associated risks. The erwin by Quest 7 step data maturity model guides organizations on how best to progressively maximize the value from their data to achieve the biggest business impact leveraging the capabilities of erwin data intelligence and data modeling software.

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Maximize your data value with erwin
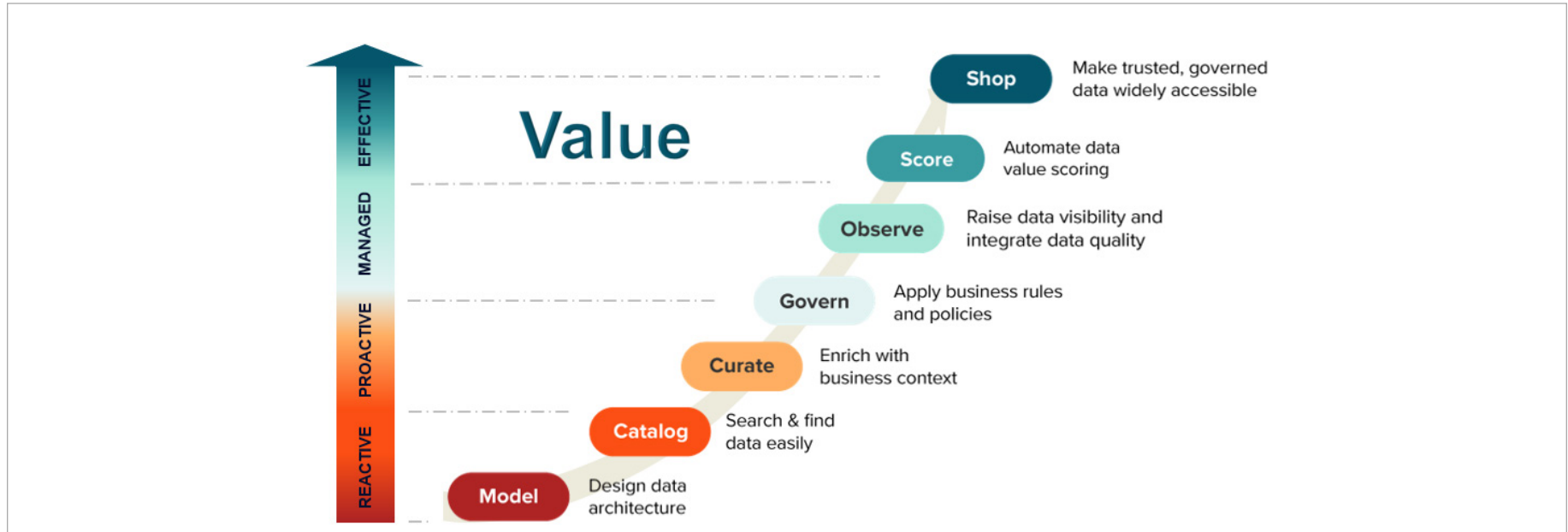

Step 1: Model

Raising your maturity level starts with data modeling. Most larger organizations have been doing data modeling for decades, however data modeling today is experiencing a resurgence as more business stakeholders beyond IT are starting to recognize the insights data modeling can provide into your organization's business perspective towards data and its data architecture.

Data modeling is where you leverage standards, best practices and your institutional knowledge to design your "to be" state. Whether you are planning a modernization effort, a migration project or some other major IT initiative, the physical and logical data model is the holy grail for your planned environment.

> **Data modeling plays a crucial role in data intelligence strategies by structuring data, enabling governance, facilitating integration and supporting the design of data products. One in four organizations are planning to integrate data modeling in their data intelligence initiatives in the coming 12-24 months.**

The State of Data Intelligence, *October 2024*
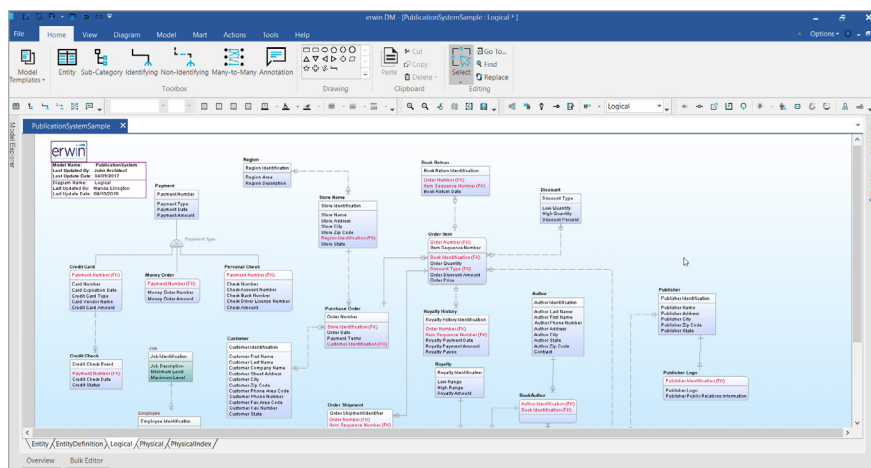
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Model your "to be" state with erwin Data Modeler by Quest and sync with erwin Data Intelligence by Quest to ensure consistent governance and jumpstart data intelligence.

Understand the use cases for data modeling

Data modeling use cases include identifying your critical data, identifying the Personally Identifiable Information (PII) rules around your critical data, understanding where you have foreign key relationships and more. Data models also serve as foundational blueprints for delivering data products.

Leverage data modeling within data intelligence

Use the information developed in data modeling to jumpstart a data intelligence and governance program. Take advantage of data models, mappings, naming standards and model-driven sensitive data classifications developed within data modeling efforts to more quickly advance metadata enrichment and glossary development within your data intelligence software. Then continue to automatically synchronize your business glossary between data modeling and data intelligence environments to ensure data modelers, architects, stewards and analysts are all working from the same current roadmap.

Step 2: Catalog

The second step is cataloging the data assets across your organization, which is storing all the metadata about your entire physical inventory of data within one central metadata repository. This is your 'Dewey Decimal System' of sorts for classifying your data. Your data catalog will serve as your launch pad for finding, understanding, governing and actively using the data that is across your organization.

Harvesting and ingesting metadata into your data catalog from across your data landscape is greatly accelerated using automation or data connectors. Metadata from data-at-rest in the data sources and systems you use, as well data-in-motion as data is transformed and moved from system to system, can be harnessed through data connectors and automatically ingested and refreshed within your data catalog to provide always current enterprise-wide data visibility. Data connectors can also provide forward-engineering capabilities to activate metadata, speed data pipeline development and more.
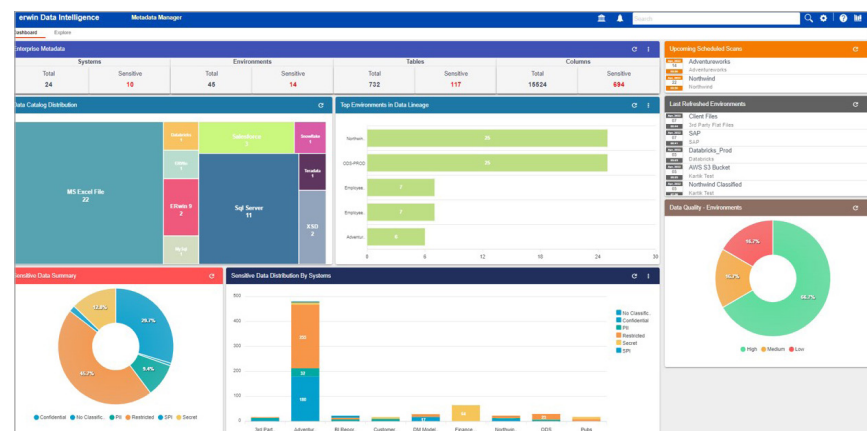
Provide enterprise data visibility to understand your available data, where it's located and how it flows throughout the organization with erwin Data Intelligence.

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Tag critical data for governance

Once inside your data catalog, you can begin to enrich the metadata collected to give it more meaning. Your data catalog is where you can tag and rationalize your Critical Data Elements (CDEs) and Personally Identifiable Information (PII) and compare it to your logical and physical data to govern usage.

Enable data forensics

Once your inventory and catalog are in place, you will start to see things you may not have seen prior. You may spot data bloat and data that is redundant across systems. You might find 'dark data' which is data you collect during regular business activities that you fail to use after collection. You may also find other unused data that doesn't have a valid business purpose for existing in your databases. All of these conditions can increase the costs of housing your data on-premises and/or in the cloud. Having this centralized and increased visibility of your data landscape puts your organization into a better position to better manage your data infrastructure.

Step 3: Curate

After inventorying and cataloging your data, the next step is to curate it. Curating your data means enriching your data with business and organizational context. The value of your data really comes alive once it is curated and contextualized as it becomes tied back to business value.

Capturing your organization's unique business terms, rules and policies and then tying those to the physical data assets across your organization ensures that all data users within your organization are able to view and discuss data and its associated business metrics looking through the same lens. A common business glossary and the capabilities to easily manage the data stewardship associated with curation is essential to being able to raise data literacy throughout your organization.

Illustrate your data and its associated assets with a mind map

A valuable output of the curation process is a mind map providing a visual representation of an asset and its association with other business and technical assets. For example, for the business term "Customer", a mind map could provide in one view all related business policies, processes, rules, AI models, datasets, systems files and more where the Customer term is related. A mind map can also show you the sensitivity of assets, associated data quality and be further supported with access to data lineage for further technical detail. Mind maps make the curation of your data come to life in an easy to consume way for all data users – whether they are in IT, working in data governance teams or as analysts and other data stakeholders across the business.
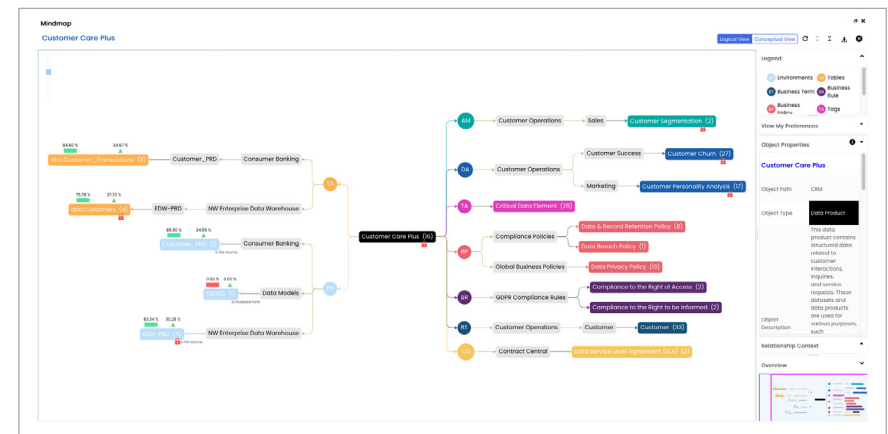
Make it easy for all data users - no matter their level of technical expertise - to see and understand data asset relationships, explore data lineage, gauge data quality and more with erwin Data Intelligence.
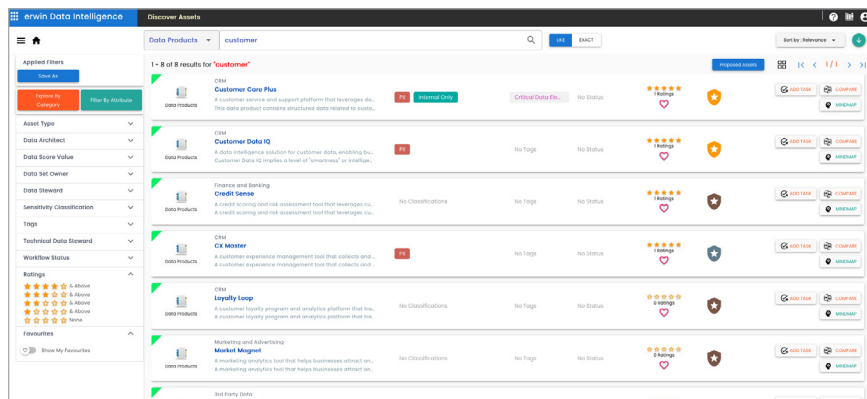
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Step 4: Govern

A strong data catalog rounded out with business context puts organizations into the best position to more fully tackle data and AI governance, bolster regulatory compliance, fuel data collaboration and raise data visibility and literacy across the organization.

Taking advantage of strong data stewardship tools and employing customized governance workflows to build and maintain your data intelligence and governance effort ensures the repeatable processes and transparency needed to successfully implement data governance.

Visibility into governance aids such as mind maps along with productivity enhancers such as AI usage to auto-match and bulk classify data assets help governance teams to efficiently advance compliance and provide explainable and controlled data to the rest of your organization.

Fueling organizational data literacy

Data governance is no longer a defense only effort. It extends as well to making it simpler for data users of all technical expertise levels to easily find, understand and collaborate on data assets. Enabling self-service to discover assets, review governance guidance and literacy aids, share knowledge through asset ratings and reviews, and chat and collaborate on tasks with others all moves your governance and intelligence efforts forward to help you rise in data maturity.

Govern your data and extend data literacy throughout your organization with erwin Data Intelligence.

Step 5: Observe

Now with the fundamentals in place, your organization is in the perfect position to observe and act to improve. By proactively monitoring your key data pipelines and pruning and more tightly managing data where and when needed, you can achieve better operational efficiency and costs. You can also be smarter when making data infrastructure changes and improvements and ensure you are audit ready for compliance efforts. Lastly, automating and integrating data quality at this time can help you improve the quality and ongoing reliability of data for decision makers, as well ensure data readiness for AI use.

Trace data sources and flows with data lineage

Data lineage is a key driver for many organizations investing in data intelligence. The ability to automatically generate end-to-end lineage between repositories and see data flows from source systems to reporting layers, including all transformations and business logic enables you to understand where data originates, how it is transformed and how it moves through your organization. It can bring together technical and business attributes and governance, spotlight sensitive data and other data classifications, make it simple to visualize data quality and help you gauge the AI readiness of your data pipelines.

Use data lineage and impact analysis to plan modernization efforts

You can also use data lineage to more quickly identify which data should be integrated and migrated when working on modernization projects. Lineage provides a full-view of upstream and downstream dependencies - with all of the drill-down detail you may need at the system, environment, table and column levels of data. Added impact analysis capabilities can also save teams hours of time in assessing the impact of a pending change.

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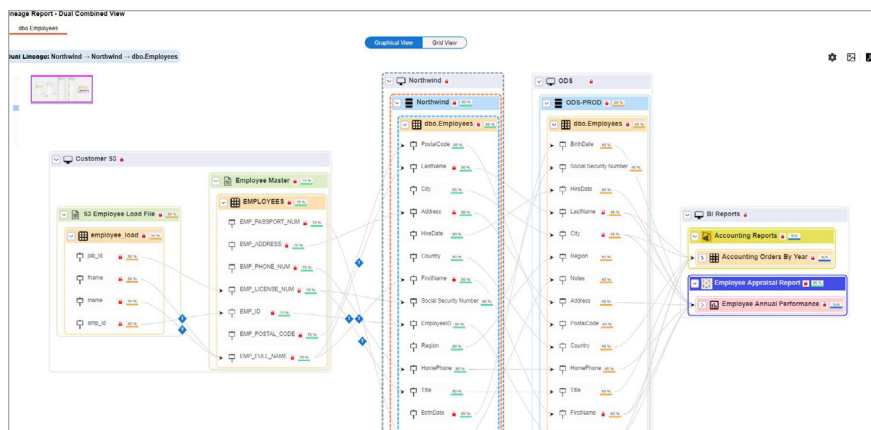
Observe your data lineage and take advantage of impact analysis capabilities to plan modernization efforts, monitor data quality aand assess data compliance and AI readiness with erwin Data Intelligence.

> ## "Gone are the days for lengthy investigations for impact analysis and data lineage. We know exactly where our data is and where it moves. We can reduce our risk of exposure by tagging our sensitive data and improve our data governance."

Senior architecture manager, healthcare and biotech organization sized at over $30 billion, erwin customer value eBook

Monitor the ongoing compliance of your data

With data lineage, you can easily assess if your data is compliant with your internal business policies and rules and the external regulations you need to meet and maintain. In one location, you can view the applicable business rules, policies and procedures that have been applied over time to the data and the integrated data elements coupled with each other as they're moving from system to system.

Expand data quality visibility and ensure data reliability

Data quality is integral to data and AI governance, and sound quality is essential to maximizing the value of your data. Data quality scoring raises data quality visibility and issues requiring attention, assists in downstream assessment of data value and data readiness for AI, and builds data trust throughout your organization.

With integrated and automated data profiling and data quality scoring leveraging the metadata you catalogued in step 1; you have an early gauge on data fitness and can take needed action early before data users are reliant on the data being provided for their analysis and decision-making. Ongoing data quality scoring and visibility through data lineage, mind maps and other data intelligence components provides governance teams and all data users, within and beyond the walls of IT, with a continuous gauge of data fitness and helps teams to collaborate around data remediation. Data quality remediation can translate into enormous cost savings, better customer service delivered and other business benefits.
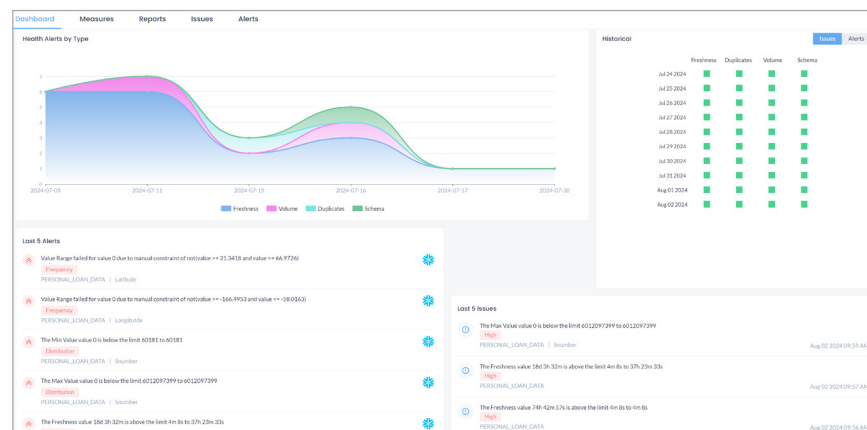
With integrated data quality capabilities to profile, score and continuously monitor critical data sources such as those supporting AI use, erwin Data Intelligence delivers far-reaching data quality visibility and the tools and automation to ensure data reliability.

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Identify data drift early in your enterprise data and AI models

With data observability or continuous data quality monitoring, you can see and better understand data patterns, and act early when data quality for critical data sources drifts beyond acceptable thresholds. Effective data observability tools automate data drift alerting, make it easy for teams to triage alerts and collaboratively tackle issues, and evolve your future quality monitoring based on the alert triage decisions made. Data observability is an essential component to ensure critical data reliability, such as the data that fuels your AI models. Detecting data drifts early puts you in a prime position to assess and redirect or retrain models with better data.

Step 6: Score

With better visibility and assessment of your data, you can now score data for future monetization and recommended usage. Data value scoring classifies data into gold, silver and bronze tiers to make high-value data easily recognizable. Automated data value scoring helps organizations to pragmatically produce and keep current a data value score that is well-supported. By using an algorithm that automatically classifies data based on your weighting of data value metrics such as data quality scoring, data governance completeness, previous user ratings or other value metrics, you can generate a data value score that can be widely referenced, understood and leveraged across your enterprise.

Step 7: Shop

High-value, governed data reaches its optimum organizational benefits when it is easily discoverable, understandable and accessible across your organization. Providing data users with consumer-friendly capabilities to shop, share and compare available, governed enterprise data is the accelerator to deriving the maximum value of your organizational data.

Data marketplaces support this need by providing one central location to go to for enterprise data and the supporting data literacy detail needed to select the best data for purpose. Data marketplaces also make it simple for

data users to gain access upon selection, while at the same time ensuring the governance is in place to adhere to your organization's governance policies and help GRC teams to be audit-ready when needed.

Aside from shopping for data, you can also think of a data marketplace as collective intelligence about your most coveted data assets, both internally developed and externally purchased data. By centralizing available data products and datasets in one location, you can prevent duplicate purchases, associate costs, and ensure data users gain quick access to governed data and know how to use it.

Speed high-value data discovery

Beyond offering consumer-friendly data sharing and discovery, data marketplaces can be strengthened with some of the key maturity achievements discussed previously to point users more quickly to high-value data. An example of this is automated data value scoring, based on the data quality scoring, supporting curation activity, and social ratings and reviews provided by other data users. Instant access to data lineage, mind maps and other data literacy aids developed at lower levels of maturity further support data users' ability to produce trusted data insights.
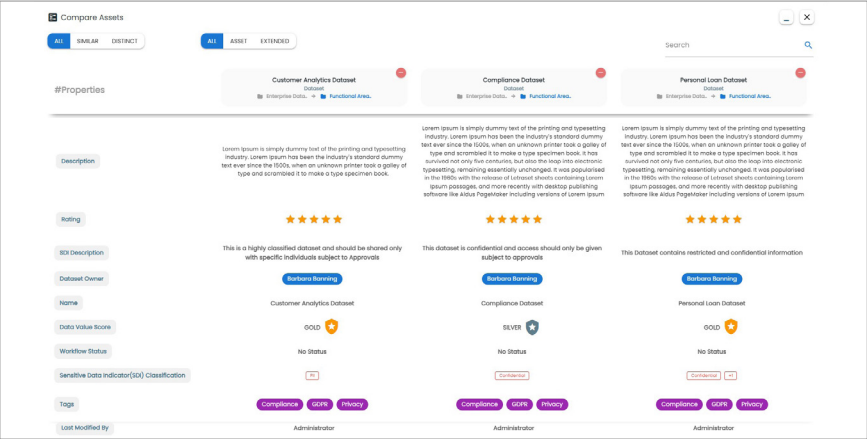
Provide a simple way for data users to compare assets as they shop for data products, datasets and AI models within erwin Data Marketplace.

Streamline governed data sharing and data collaboration

Governance capabilities and workflows achieved in early maturity stages combined with consumer-like shopping cart experiences and asset comparison capabilities across data domains and lines of business streamline data requests and fulfillment. Easily accessible collaborative tools such as integrated chat and task management further bring stewards, owners and consumers together around high-value, trusted data.

Tackle AI governance, data readiness and reliability

AI use is exploding across organizations of all sizes, in all industries, and so is the risk associated with AI and discussions of regulations. Data marketplaces can additionally be used to help you gain a foothold in the curation, publishing and governance of the AI models you employ and the datasets you use to train your algorithms. Connecting the policies and business rules around your models will provide guardrails for your organization and better prepare you for AI regulation. Data modeling, data lineage and other capabilities adopted in previous steps can all be leveraged to ready data for AI purposes, and data observability can help ensure data in use remains reliable.
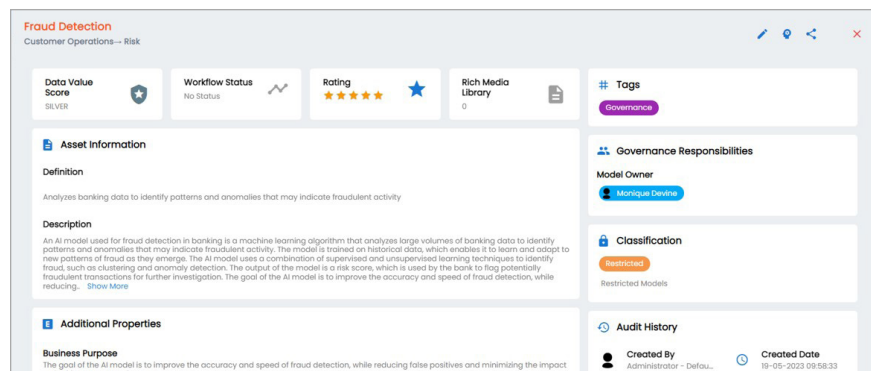
Take an active approach to AI governance and be ready for future regulation compliance by governing your AI models within erwin Data Marketplace.

The expected outcomes of data maturity

While the erwin by Quest 7 step maturity model discussed can be followed linearly, step-by-step, many companies find pragmatic maturity gains when combining steps, potentially out-of-sequence, towards achieving a specific use case. For example, an organization that may want to focus on delivering data-as-a-product, might model the data needed, catalog and map the data, generate the code and share the new product using a data marketplace. In this case, the journey from Model to Shop is greatly accelerated, providing quick ROI and organizational enthusiasm to tackle other maturity efforts. The best path to data maturity is the one that aligns your unique organizational needs and priorities with the practical roadmap and tools to help you achieve it.

A focused effort towards your organization's data maturity will drive big business benefits. Here are a few examples of the business value generated by erwin by Quest clients who have been focused on maximizing the business impact of their data:

- 30% savings on external data management costs
- 50% reduction in data discovery time
- 2 million Euros in business impact saved in first 24 months
- 95% of production code generated and standardized with "zero touch"
- 70% reduction in ongoing data movement development costs

Summary

Data is most valuable when organizations commit to achieving the data maturity needed to leverage the opportunity their data presents. Adopting and molding a data maturity model to the aspirations and goals of your unique organization is the first step to establishing a roadmap to success. Aligning the software you choose to invest in, with the data maturity level you choose to rise up to, is critical to unlock your full potential.

Learn more about how erwin Data Modeler and erwin Data Intelligence can help at www.erwin.com. *Request a demo today*.

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About Quest

Quest creates software solutions that make the benefits of new technology real in an increasingly complex IT landscape. From database and systems management, to Active Directory and Microsoft 365 migration and management, and cybersecurity resilience, Quest helps customers solve their next IT challenge now. Around the globe, more than 130,000 companies and 95% of the Fortune 500 count on Quest to deliver proactive management and monitoring for the next enterprise initiative, find the next solution for complex Microsoft challenges and stay ahead of the next threat. Quest Software. Where next meets now. For more information, visit www.quest.com.

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