BARC Eckerson Group

Data Warehouse and Data Vault Adoption Trends

Modeling, Modernization, and Automation

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Abstract

This survey report examines data warehouse and data vault adoption trends in modern analytics environments, including architecture types, priorities, and automation. It recommends that companies double down on fundamentals such as data quality, adopt commercial automation tools, and learn more about the data vault. Best-in-class companies set an example for others to follow.

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Executive Summary

Industry hype and buzzwords notwithstanding, the data warehouse retains a commanding position in today's analytics environment. Most companies still entrust their mission-critical analytical data to a data warehouse, often cloud-based, although most data warehouse users also have alternatives such as the data lake and lakehouse. While most continue to struggle with data quality issues and cumbersome manual processes, best-in-class companies are making improvements with commercial automation tools.

The data vault has strong adherents among best-in-class companies, even though its usage lags the alternative approaches of third-normal-form and star schema. Compared with laggards, a higher portion of best-in-class companies adopt the data vault, embrace its standards, and intend to expand their use of it. They plan to expand their use of this modeling technique and methodology.

Eckerson Group wrote this report in collaboration with BARC by studying the results of a global survey of 238 data & analytics practitioners and leaders. BARC conducted the survey in December 2022 and January 2023, drawing respondents from companies of various sizes and across various industries. Lessons about data modeling, modernization, and automation include the following:

- ***Focus on fundamentals**. Companies place the highest priority on data quality, ease of use, analytics performance, and data governance.*
- ***Automate with commercial tools**. Implement commercial automation tools rather than homegrown scripts because they help improve data quality and standardize and reuse tasks.*
- ***Get smarter about the data vault**. Study how best-in-class adopters selected the data vault, trained their teams on the 2.0 solution, and plan to expand its footprint.*

Introduction

It's not easy to design and manage modern analytics environments. To support new data, users, and use cases, companies modernize the traditional data warehouse by adapting them to new approaches such as the data lake, lakehouse, data fabric, and data mesh. By studying adoption trends in these areas, we can distill guiding principles for data practitioners and leaders to follow.

A growing number of companies adopt cloud platforms, data warehouse automation tools, and/or the data vault solution to support analytics projects in these evolving environments. This helps them load all their data, track history, and meet changing business requirements in a scalable, predictable, and flexible way. This report examines adoption trends in data warehouse modernization, automation tools, and data modeling techniques, with a special focus on the data vault. It explores survey results about implementation trends, drivers, inhibitors, and best practices for the modern enterprise.

Definitions

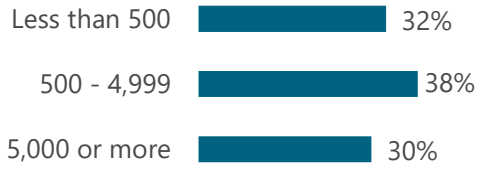
- **Data warehouse**: The data warehouse is a central data repository that stores data in a predefined model for business intelligence. Analysts and managers use the data warehouse to gain a business view of data that support their decision making.
- **Data vault**: The data vault is an approach to data modeling, architecture, and methodology that adds to elements of Ralph Kimball's star schema model and Bill Inmon's third-normal form framework. Dan Linstedt and his team at Lockheed Martin created the data vault as a hybrid approach that stores all data, tracks history, and accommodates changing schemas and data containers.
- **Data vault 2.0 solution**: The data vault 2.0 solution incorporates people, process, and technology. It includes prescriptive methodologies and reference architectures for technologies such as the data warehouse, data lake, data lakehouse, virtualization, data fabric, and data mesh. The 2.0 methodology was founded on SEI's Capability Maturity Model and derives from Six Sigma, total quality management, disciplined agile delivery, and lean.
- **Data lake**: The data lake is a repository that stores structured, semi-structured and unstructured data in its native format. Data lakes originated as on-premises repositories running on Apached Hadoop, then evolved to run in the cloud as object stores.
- **Data lakehouse**: The data lakehouse combines elements of a data lake and a data warehouse in a hybrid repository. It applies SQL queries to cloud object stores to support business intelligence, data science, and self-service analytics.
- **Data fabric**: The data fabric unifies data integration, preparation, cataloging, security, and discovery into a cohesive and automated process. It uses metadata, machine learning, and automation to combine data across formats and locations.

Data mesh: The data mesh is a distributed data architecture in which business units own, manage, and publish data as a product for others to consume. Analysts and other data consumers use a self-service platform in a federated governance model.

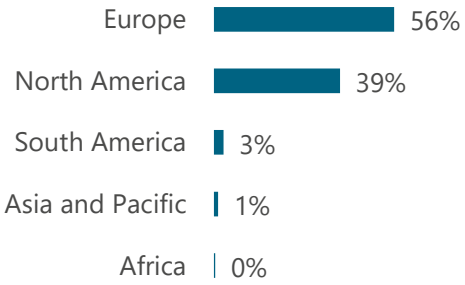
Survey and Demographics

Eckerson Group wrote this report in collaboration with BARC by studying the results of a global survey of 238 data & analytics practitioners and leaders. BARC conducted the survey in December 2022 and January 2023, drawing respondents from companies of various sizes and across various sectors. About a third (32%) have fewer than 500 employees, 38% have 500 to 4,999 employees, and 30% have 5,000 or more employees. European companies comprise 56% of respondents, North American companies comprise 39%, and the rest come from South America, Asia Pacific, and Africa.

Company size (n=238)

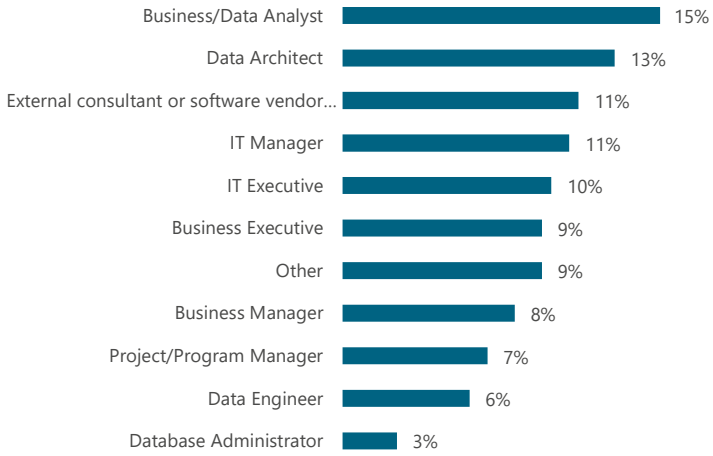


Region (n=237)

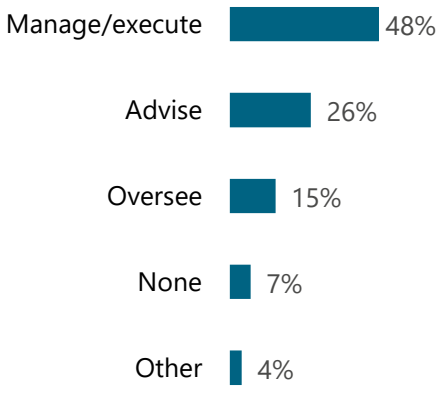


Respondent job titles break out by role as follows: business/data analyst (15%); data architect (13%); external consultant or software vendor (answering about a specific customer project) (11%); IT manager (11%); IT executive (10%); business executive (9%); other (9%); business manager (8%); project/program manager (7%); data engineer (6%); and database administrator (3%). These respondents play major roles with data modeling techniques, architecture, and methodologies. About half of them (48%) manage or execute such activities, 26% advise them, and 15% oversee them.

Job title (n=238)

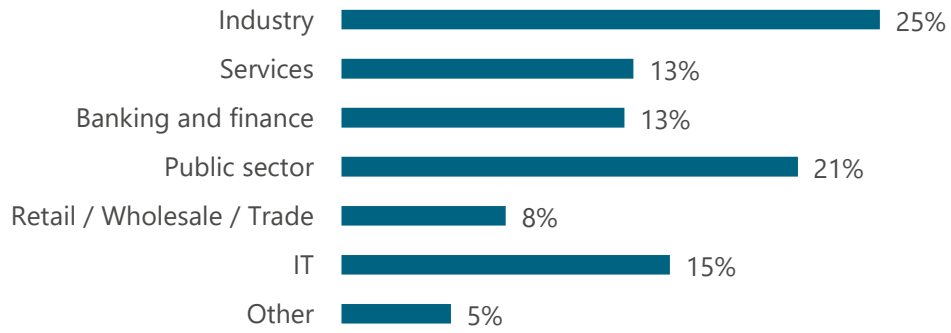


Role in data modeling (n=236)



Respondents come from a range of sectors. One fourth (25%) work in industry and 21% in the public sector, followed by IT (15%), services (13%), banking and finance (13%), retail/wholesale/trade (8%), and other (5%).

Industry (n=238)



Key Takeaways

Overall

- **Architecture.** Analytics environments include the data warehouse (79%), data lake (42%), and independent data marts (41%). The lakehouse, data fabric, and data mesh have 8-12% usage each. Most respondents (58%) also still analyze some operational data directly. Most companies (82%), especially larger companies, have multiple architectural types.
- **Priorities.** Companies plan to "improve data quality" (58%), "automate manual steps" (55%), and "update business logic" (44%). They also intend to "improve performance and availability," "migrate to the cloud," and "extend architecture" (41% each).
- **Automation.** Respondents say they automate most or all processes for "data integration" (69%), "platform monitoring" (58%), and "data quality monitoring" (38%).

Data Vault

- **Standards.** About one third (31%) of adopters say their "overall implementation" "fully" aligns with solution standards (for architecture, methodology, and modeling), and 60% say it "partially" aligns. A lack of training contributes to this gap: only 65% of data vault adopters say they have been trained on the data vault 2.0 solution.
- **Business drivers.** Respondents cite "accelerated data delivery" (45%), "team skills/preference" (41%), and "advice of consultant" (40%) as their primary business reasons for adopting the data vault.
- **Technical drivers.** Respondents cite "extensibility" (53%), "scalability (data volume and velocity)" (40%), "flexible architecture" (35%), "simpler data management" (33%), "unified data model" (32%), and "data quality" (27%) as their primary technical reasons for adopting the data vault.
- **Drawbacks.** Half of data vault adopters (48%) cite "skills and training requirements" as a primary drawback, followed by "implementation complexity" (35%) and "query performance" (32%). Other responses include "design complexity" (29%) and "multiple versions of data" (29%).

Best-in-Class Companies vs. Laggards

- **Automation tools.** Nearly two thirds of best-in-class companies (62%) say their automation is "fully" or "mostly" based on commercial tools rather than homegrown scripts. This compares with 24% usage for laggards.
- **Future plans.** A higher portion of laggards plan to improve in the areas of automation, data quality, performance, and availability when compared with best-in-class companies. They view data quality as one of their "biggest challenges."
- **Data vault.** Best-in-class companies adopt the data vault and take data vault 2.0 solution training in much higher numbers than the laggards. More of them (91%) also plan to increase the role of the data vault in their environments when compared with laggards (60%).

Recommendations

Consider these recommendations to derive more business value from your analytics environment:

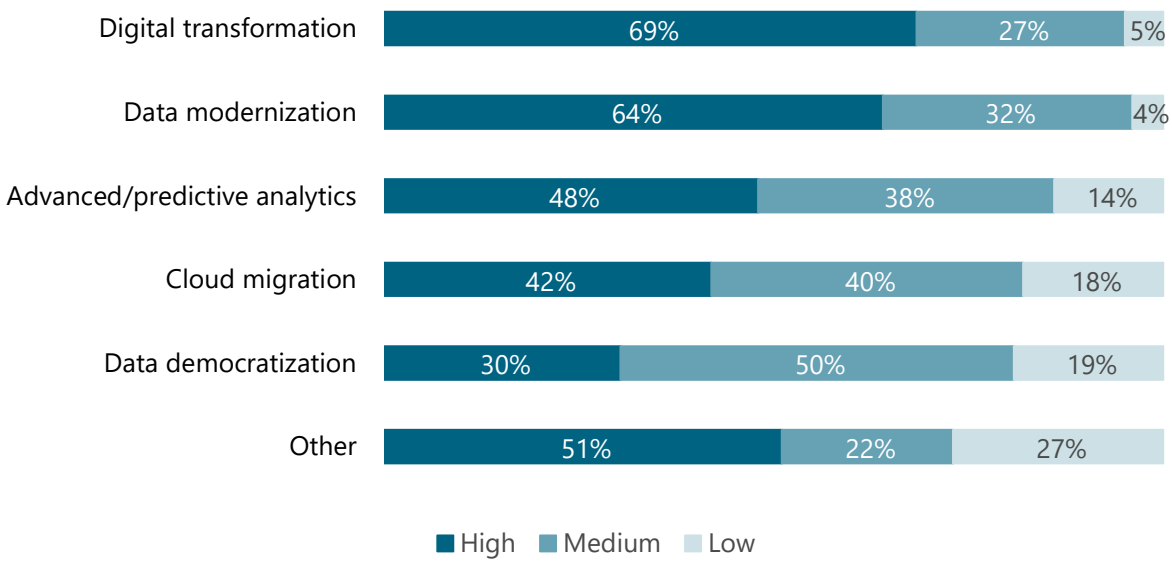
- **Focus on fundamentals.** Companies place the highest priority on ease of use, analytics performance, and data governance. Let these priorities guide your decisions about how to create analytics value amidst economic uncertainty.
- **Double down on data quality.** Inaccurate, duplicative, and delayed data still plagues most analytics environments. Reduce your silos and implement commercial tools to monitor data quality. Even data laggards now take this seriously.
- **Automate with commercial tools.** Best-in-class companies use commercial automation tools that help them standardize, streamline, and repeat data management tasks. Follow their lead and evaluate tools to integrate data, optimize platforms, and improve data quality.
- **Assess the costs and benefits of the data vault.** Many data practitioners and leaders say they don't know enough about the data vault technique and methodology. They should learn why the data vault is expanding within environments that adopted it.
- **Learn from the data vault leaders.** The data vault has committed users that value its ability to speed data delivery and grow with the business. Study how best-in-class adopters selected the data vault, trained their teams on the 2.0 solution, and automated its processes with commercial tools.

Pain, Priorities, and Automation

To understand this community of data practitioners and leaders, we first asked them to identify the strategic initiatives that guide their activities. Digital transformation tops the list, with 69% of respondents giving it "high" importance and 27% "medium" importance, followed by data modernization (64% high and 32% medium) and advanced/predictive analytics (48% high and 38% medium). Many respondents also place a high importance on cloud migration and data democratization.

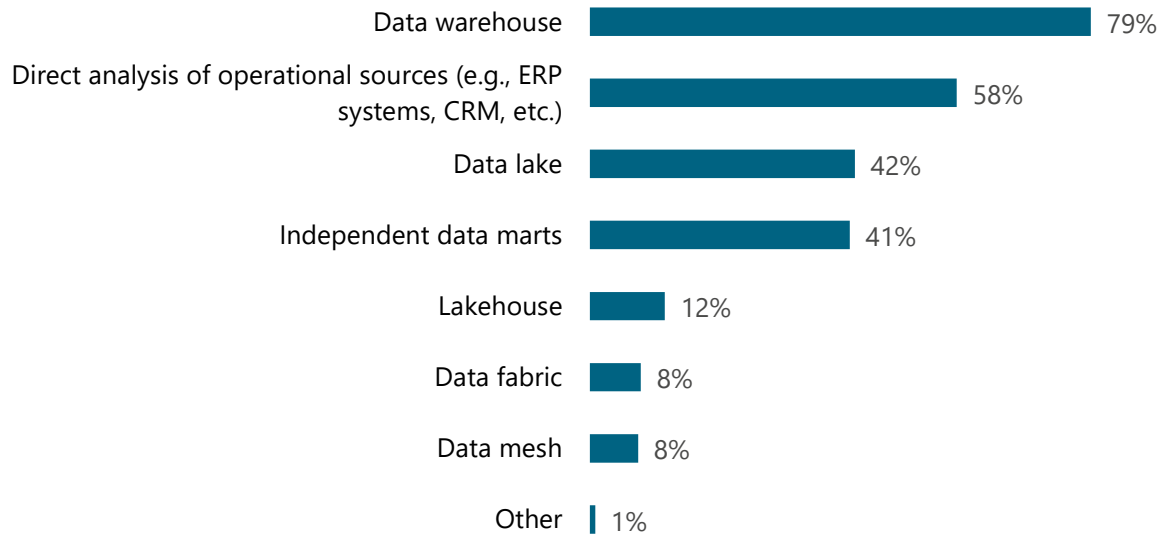
These findings illustrate the close relationship of digital business and analytics. Companies must digitize their customer interactions and operations to compete in our fast-paced economy. As they do so, they modernize their environments, leveraging elastic cloud infrastructure, and generate new data containing new insights about the business. This in turn prompts companies to expand their analytics projects and democratize access to the insights they generate. (See figure 1).

Figure 1. How would you rate the importance of the following initiatives to your company's analytics environment? (n=238)



Architecture types. And as with most modern companies, these environments include a mix of traditional and new architectural types. On the traditional side, most of them (79%) have a data warehouse and 41% have independent data marts. A majority (58%) also still analyze some operational sources directly with no analytics layer. New architectural approaches include the data lake (42%), lakehouse (12%), data fabric (8%), and data mesh (8%). Environments continue to evolve: two thirds of them changed their sources, tools, models, or other architectural elements in the last three years. (See figure 2a).

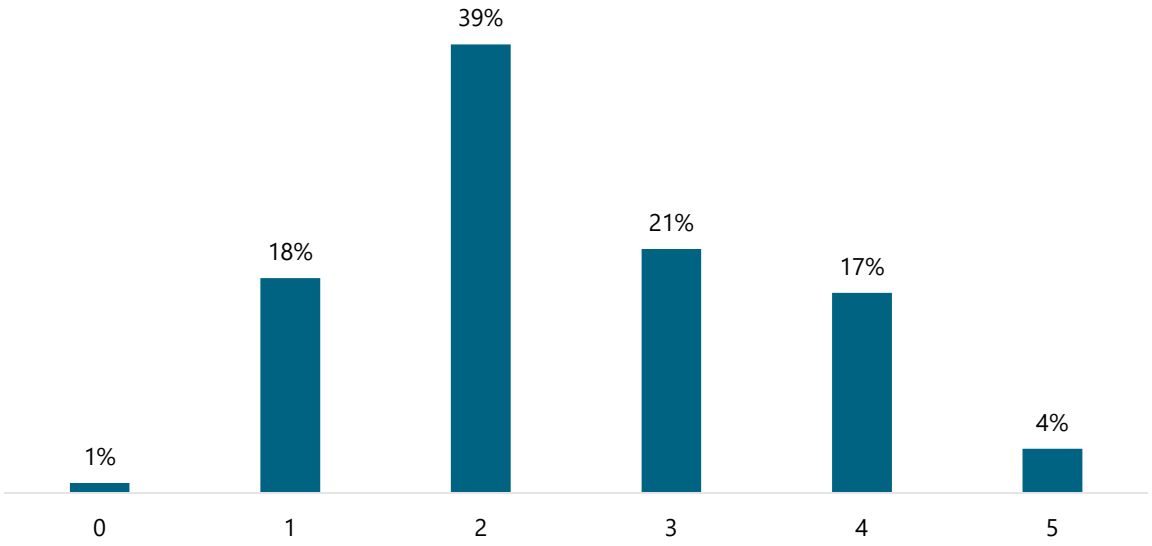
Figure 2a. Which of the following types of architecture do you have in your environment? (n=236)



European respondents adopt the data warehouse (89%) and data lake (44%) than North Americans (67% and 39% respectively.) Europeans also directly analyze operational sources in greater numbers, with 67% usage vs. 47% for North Americans.

Zoom in further, and we see the patchwork nature of modern enterprise environments. Just 18% of companies have only one architectural type, compared with 39%, 21%, and 17% for two, three, and four types respectively. The larger the environment, the more likely they are to have multiple types. While the data warehouse is most prevalent, 85% of data warehouse users also have alternatives such as the data lake, lakehouse, and data fabric. These findings illustrate the fallacy of the data warehouse as a single source of truth. Companies might use the data warehouse as a source of truth for certain data sets. But they also store other datasets or other copies on alternative types of architecture. (See figure 2b).

Figure 2b. Number of architectural types per environment (n=236)

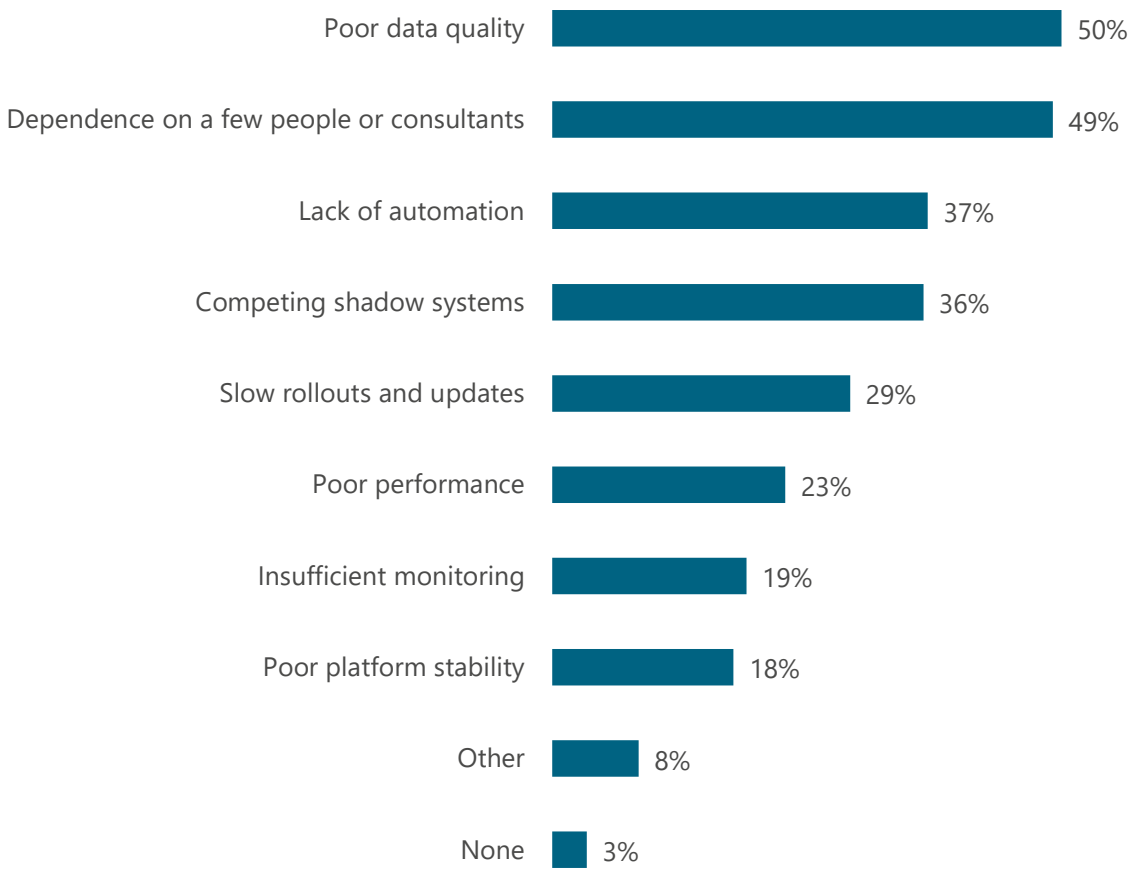


A final group of interest is the 50 respondents that defy tradition and do not use a data warehouse. These companies have a mix of other architectural types, including modern alternatives such as a data lake, lakehouse, or data fabric. But higher portions of the non-data warehouse users adopt the more traditional options of analyzing operational data directly (23 out of 50) and using independent data marts (20 of 50).

Challenges. These companies struggle with familiar, chronic sources of pain. Half of respondents rank "poor data quality" as one of their biggest challenges. Other challenges include "dependence on a few people or consultants" (49%), "lack of automation" (37%), "competing shadow systems" (36%), and "slow rollouts and updates" (29%). These numbers tell a familiar story of technical debt. When a few experts create a one-off analytics project with custom tools for one business unit, they create a silo that becomes harder and harder to integrate with the rest the business. This silo can undermine data quality by creating duplicates, hurt productivity by creating custom processes, and slow future rollouts by increasing complexity. The larger the environment, the greater the pain: as evidence, larger companies say they suffer the most from competing shadow systems. (See figure 3).

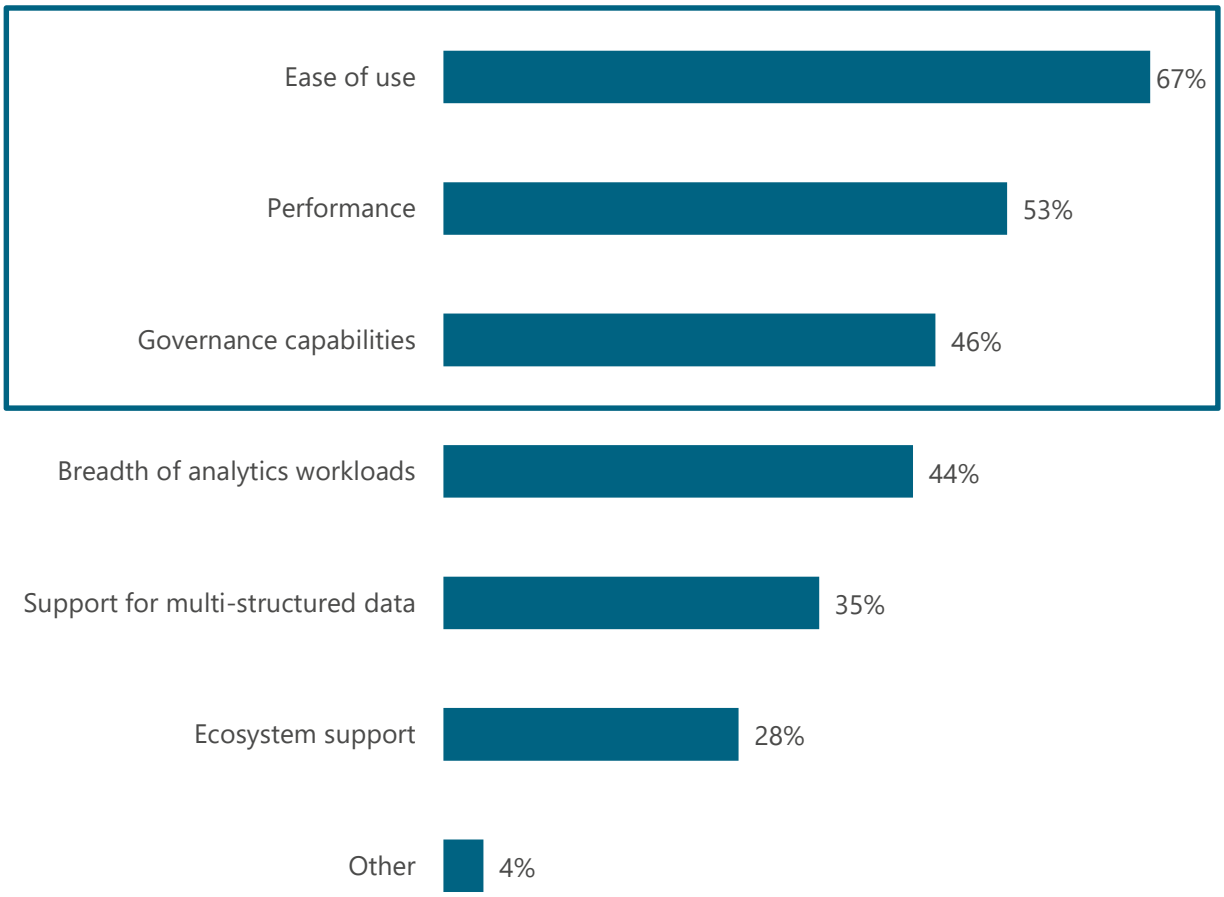
More than a third of respondents cite familiar, chronic sources of pain: data quality, dependence on a few experts, lack of automation, and competing shadow systems.

Figure 3. What are the biggest challenges in your current analytics environment? (n=238)



Requirements. With this context in mind, we can understand the requirements data teams have for their analytics environment as they look to the future. Two thirds of respondents (67%) rank "ease of use" as a primary requirement, followed by "performance" (53%) and "governance capabilities" (46%). Additional requirements include "breadth of analytics workloads" (44%), "support for multi-structured data" (35%), and "ecosystem support" of related software elements (28%). The relative ranking of requirements shows that companies place a higher priority on simplifying, accelerating, and governing their environments than they do on extending to new workloads, data types, or tools. Their legacy of technical debt looms large. (See figure 4).

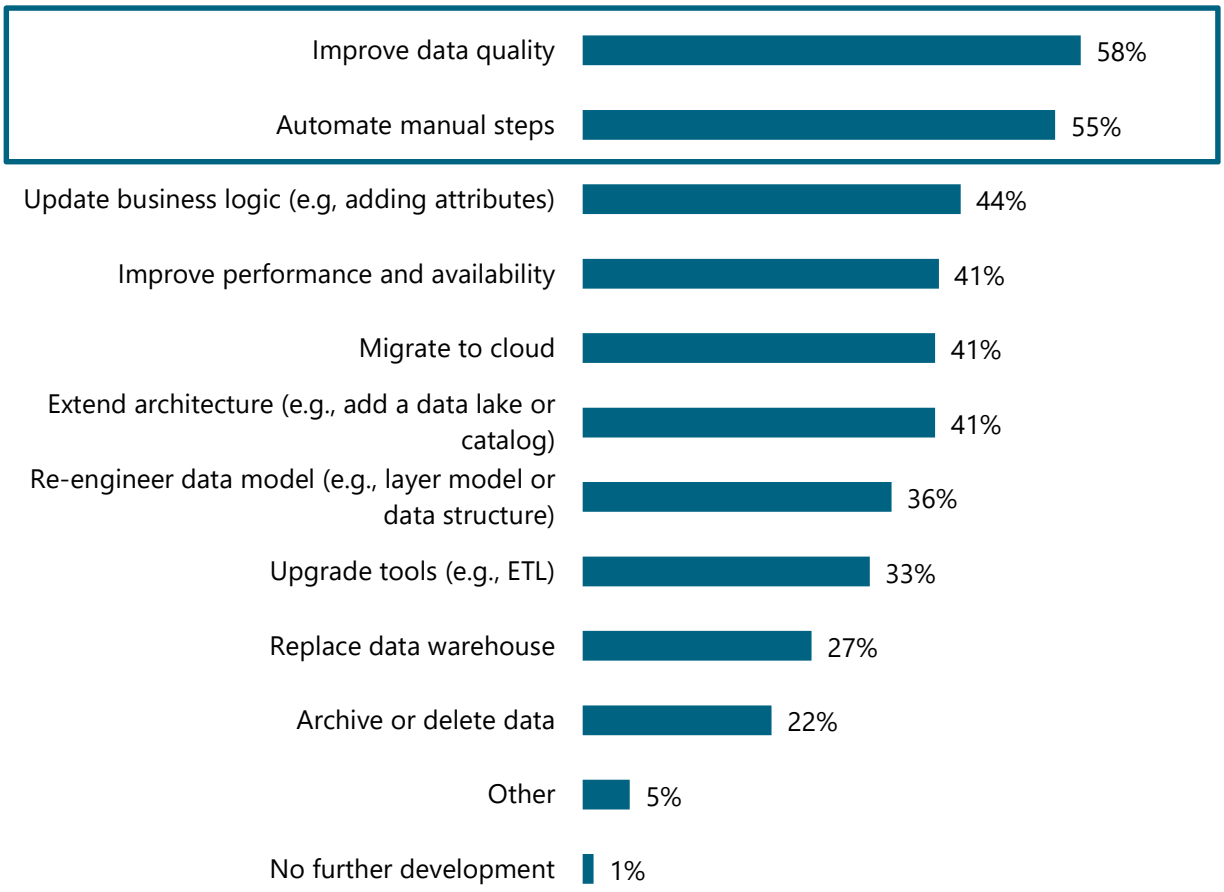
Figure 4. What are the primary requirements for your analytics environment going forward? (n=237)



Planned improvements. Now we examine the path to improvement. First and foremost, 58% of respondents tell us they plan to "improve data quality" in the next three years, and another 55% intend to "automate manual steps" in their data management processes. Respondents also intend to "update business logic" (44%), "improve performance and availability" (41%), "migrate to the cloud" (41%), and "extend architecture" by adding elements such as a data lake or data catalog (41%). These environment updates and modernization steps indicate that companies overall place the highest priority on delivering timely, accurate data while reducing effort. Other updates and additions, while important, have a lower priority. (See figure 5).

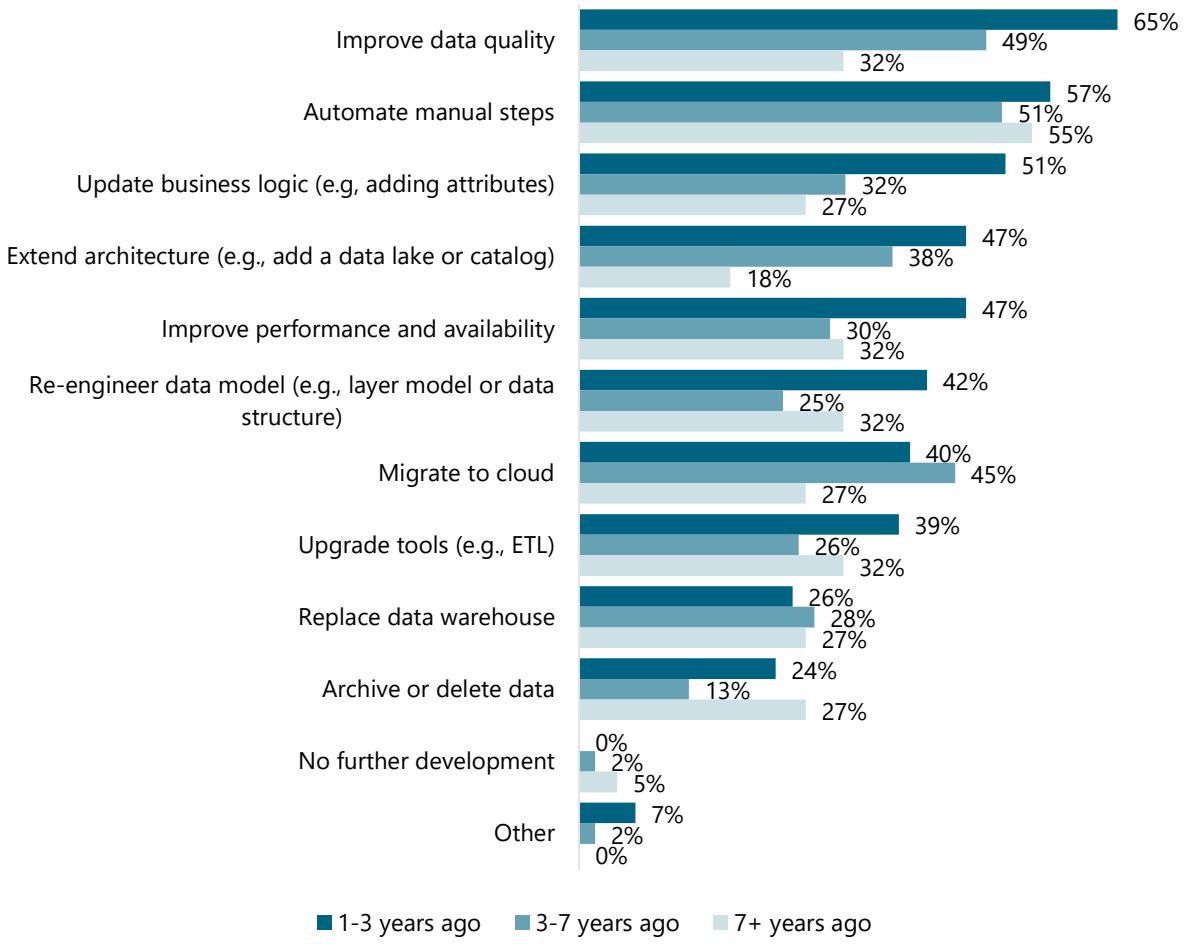
Companies overall place the highest priority on improving data quality and increasing automation.

Figure 5. What environment updates and modernization steps do you plan in the next 3 years? (n=237)



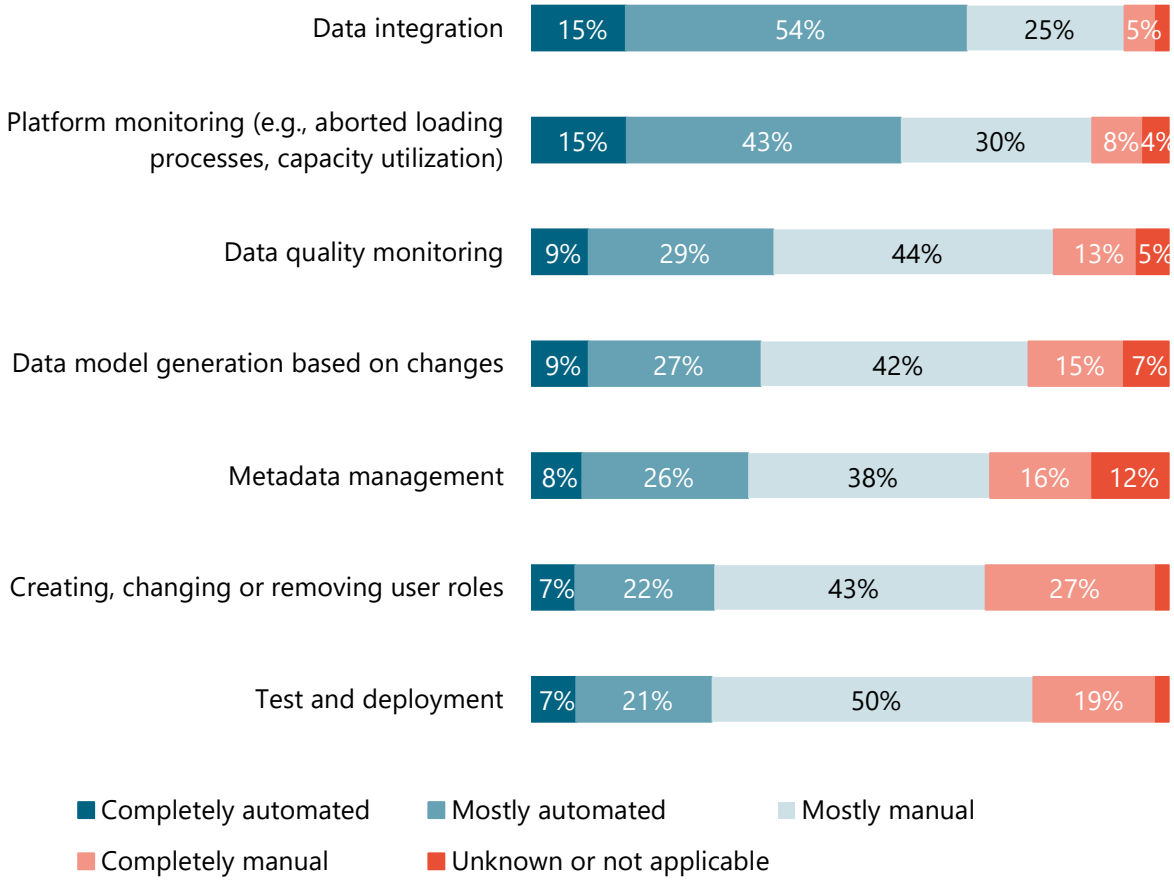
These findings vary some by the age of the environment. Two thirds (65%) of respondents with newer environments—i.e., that have been updated in the last three years—plan to improve data quality. Another 57% of this group plans to automate manual steps and 51% plan to update business logic. In contrast, respondents with older environments—i.e., updated more than seven years ago—focus mostly on automation (55%), followed by data quality, performance and availability, data model re-engineering, and tool upgrades (all 32%). Another 27% plan to update business logic. (See figure 6).

Figure 6. What environment updates and modernization steps do you plan in the next 3 years? (n=237)



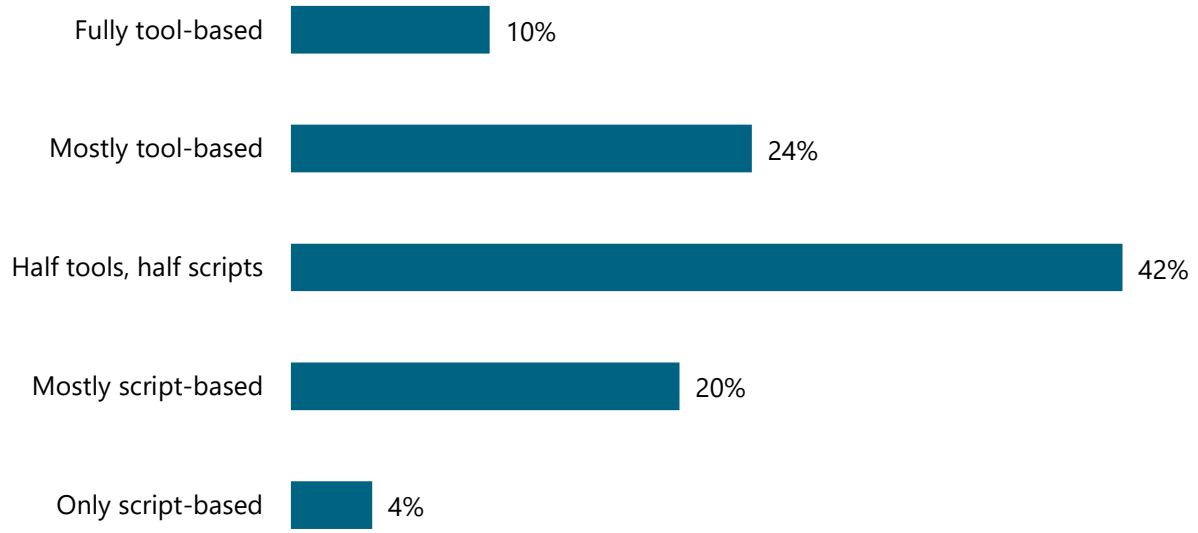
Automation. Companies have patches of automation in their environments. First is data integration: 15% of respondents say they "completely automated" their "data integration" processes, and 54% "mostly automated" them. In addition, 15% completely automated and 43% mostly automated "platform monitoring;" while 9% completed automated and 29% mostly automated "data quality monitoring." About a third or less of respondents automated some or all processes related to "data model generation based on changes," "creating, changing, or removing user roles," "test and deployment," and "metadata management." (See figure 7).

Figure 7. What level of automation is applied to the following aspects of data management? (n=237)



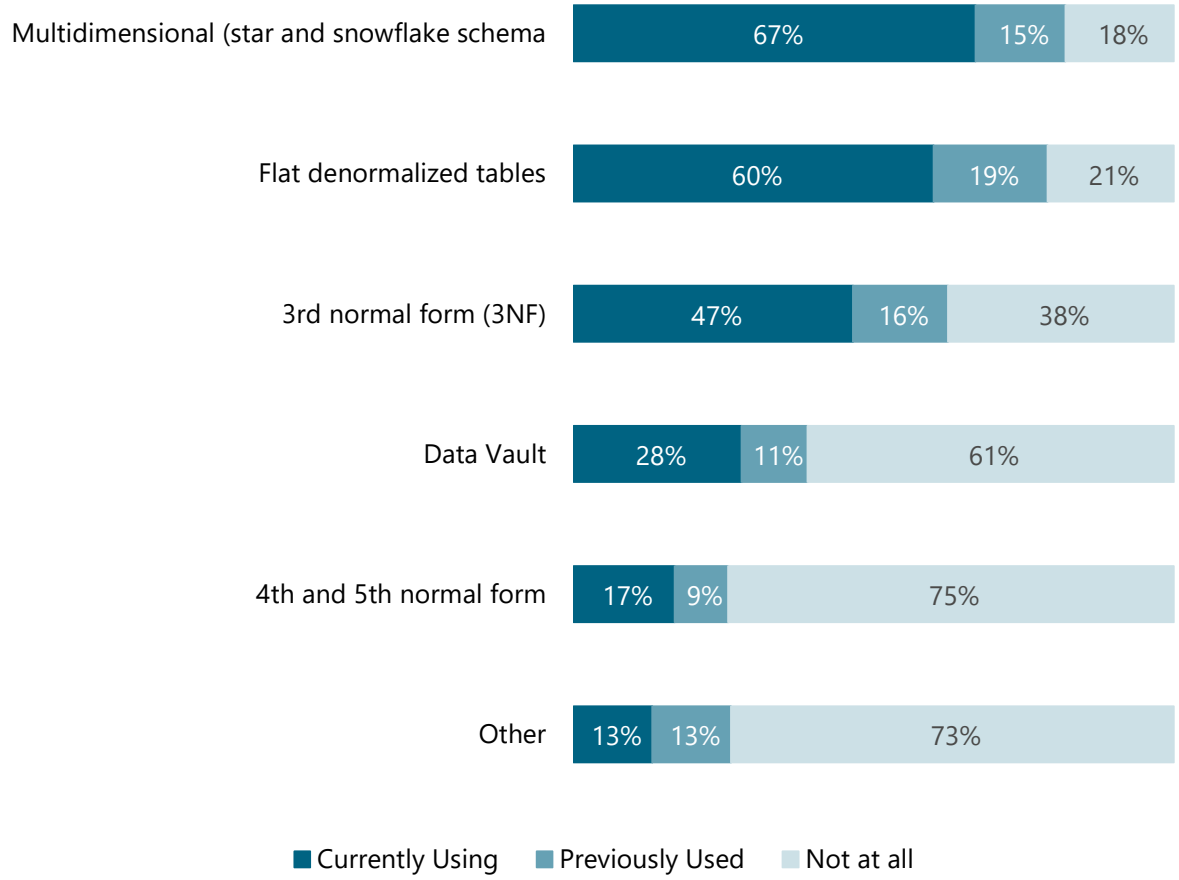
Automation tools. These companies use a mix of commercial tools and homegrown scripts to automate their data management processes, with a higher tendency to use commercial tools. Our survey shows that 10% of respondents are "fully tool-based;" 24% "mostly tool-based;" 42% "half-tools, half scripts;" 20% "mostly script-based;" and 4% "only script-based." A higher portion of smaller companies (i.e., fewer than 500 employees) and North American companies use commercial tools than other groups. Overall, we see lots of room for companies to improve in this area. We expect them to use more and more commercial tools to address data integration, platform monitoring (a.k.a. observability), and data quality. Vendors offer mature tools that help automate each of these high-priority processes. (See figure 8).

Figure 8: What is the level of automation based on commercial tools vs. homegrown scripts? (n=217)



Data modeling techniques. Companies use a range of data modeling techniques. Two thirds (67%) of respondents use multi-dimensional star or snowflake schemas and another 15% used them in the past, compared with 60% current usage and 19% prior usage of flat denormalized tables. Next up is the third normal form, with 47% current usage and 16% prior usage. These findings underscore the predominance of Ralph Kimball's star schema model and Bill Inmon's third-normal form framework. They also indicate the desire of companies to speed query performance by using flat denormalized tables, despite the extra data copies and storage space that those flat tables require. The data vault, a focus of this report, comes in at 28% current usage and 11% prior usage. As we'll describe in the next section, awareness of the data vault remains low (See figure 9).

Figure 9. What data modeling techniques does your company use, or has it used in the past? (n=238)



Data Vault Adoption Trends

As described in the introduction, the data vault is more than a technique for modeling data. Successful implementations require a concerted change to people, process, and technology. The Data Vault Alliance offers the data vault 2.0 solution to prescribe methodologies and reference architectures that support the core modeling technique.

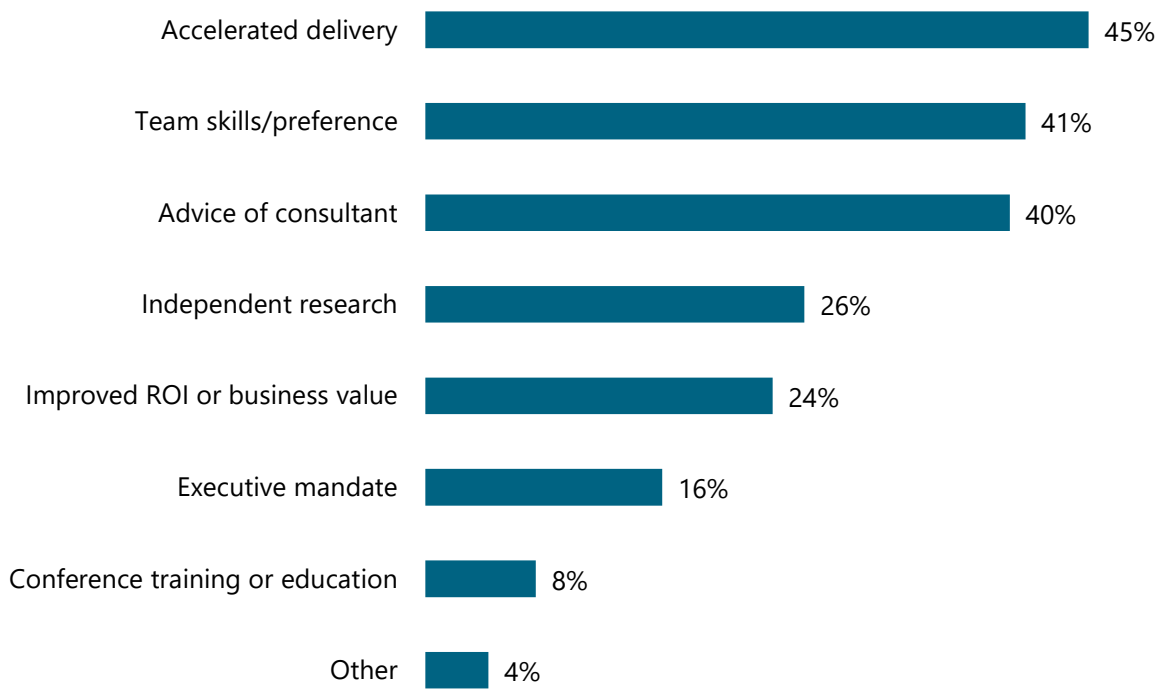
Most adopters of the data vault, however, only partially adhere to this solution. About one third (31%) of adopters say their "overall implementation" "fully" aligns with solution standards, and 60% say it "partially" aligns. The picture improves a bit when we zoom in: 41% say their "architecture" aligns fully with standards and 53% say it aligns partially. "Methodology" falls between the two, with 35% full alignment and 55% partial alignment. "Modeling techniques," meanwhile, are 31% and 63% respectively.

60% of data vault adopters adhere only partially to 2.0 solution standards.

The issue stems in part from a lack of training. Only 65% of data vault adopters say they have been trained on the 2.0 solution, via online courses such as Udemy, Dan Linstedt's book (Super Charge Your Data Warehouse), a certified practitioner course, or a certified data modeling course.

Business drivers. Respondents choose the data vault for a variety of business reasons. Nearly half (45%) of respondents say they sought "accelerated data delivery," followed by "team skills/preference" at 41% and "advice of consultant" at 40%. Other drivers include "independent research" (26%), "improved ROI or business value "(24%), and "executive mandate" (16%). These numbers underscore the weight that decision makers place on project speed and individual expertise. They also highlight a potential risk: when the consultant driving the data vault decision moves on, that company can lose valuable knowledge. This risk manifests itself in the overall challenges described earlier. (See figure 10).

Figure 10. What were your team's primary business reasons for choosing the data vault? (n=93)



Technical drivers. A wide array of technical capabilities prompted respondents to choose the data vault. "Extensibility" tops the list with 53% of respondents, reflecting the ability of the data vault to accommodate new data structures without changing the existing structures.

Next up are "scalability (data volume and velocity)" (40%), "flexible architecture" (35%), "simpler data management" (33%), "unified data model" (32%), and "data quality" (27%). Less frequent responses include "security," "history tracking," "self-service BI," and "agile development," each at 26%; as well as "resiliency" at 24%. Looking at these top responses, we see that companies chose the data vault to grow and adapt to changes while improving productivity and governance. (See figure 11).

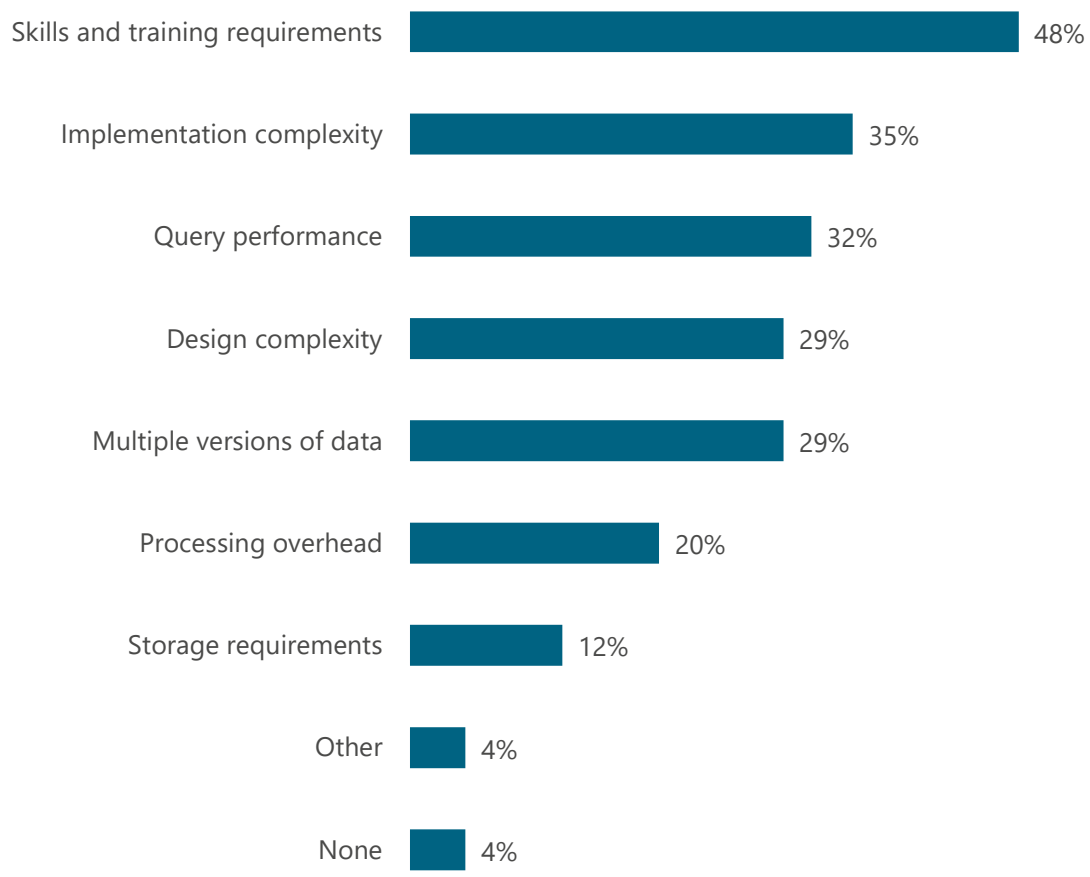
Companies chose the data vault to support growth and adapt to changes while improving productivity and governance.

Figure 11. What were your team's primary technical reasons for choosing the data vault? (n=91)

So, do companies get what they need from the data vault? Overall, the answer seems to be yes. Nearly two thirds (62%) of respondents plan to "increase" the role of the data vault in their analytics environments over the next three years, and another 29% intend to "maintain" its role. Just 9% intend to "decrease."

Drawbacks. The data vault, like all modeling techniques, brings its share of challenges as well. Nearly half of data vault adopters (48%) cite "skills and training requirements" as a primary drawback—perhaps no surprise, given the lack of training we cited earlier—followed by "implementation complexity" (35%) and "query performance" (32%). Additional drawbacks include "design complexity" (29%), "multiple versions of data" (29%), and "processing overhead" (20%). (See figure 12).

Figure 12. What do you see as the primary drawbacks of the data vault? (n=92)



Obstacles. Several factors push data practitioners and leaders away from the data vault. The most frequent comments show lack of awareness. One survey respondent said that they "didn't know [the data vault] existed until today." Other respondents echo this sentiment: "not enough knowledge," "not enough information," and so on. Other frequent comments cite the complexity of the data vault, along with the skilled resources and training it might require. Less frequent comments center on unclear value, competing priorities, and cost. (See figure 13).

Figure 13. "What is the primary reason your company did NOT choose the data vault?" (n=105)

Future consideration. Education might open more doors for the data vault. When asked what if anything would prompt them to consider it in the future, respondents described how they could address the frequent obstacles. Many said they could learn more about the data vault, including its skill requirements. They also need to understand the business value of the data vault and compare it to other priorities. One respondent said they "would need to understand advantages/benefits over current data warehouse."

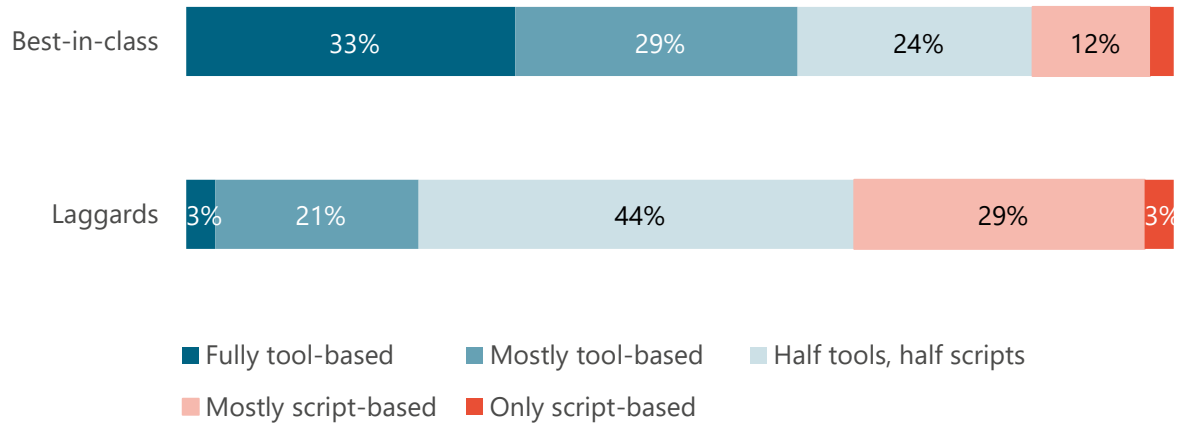
Leaders and Laggards

To enrich our findings, we asked respondents how they rate their analytics environment against the competition. We deem those that said "better" (52% of respondents) to be "best-in-class," and those that said "worse" (48%) to be "laggards." The results shine a useful spotlight on best practices to emulate as well as shortcomings to overcome.

Overall Comparison

Automation. A higher portion of best-in-class companies use commercial tools to automate their data management processes when compared with laggards. One third (33%) of best-in-class companies say their automation is "fully tool-based," while 29% say "mostly tool-based" and 24% say "half tools, half scripts." By embracing commercial tools, best-in-class companies can standardize data management tasks, improve efficiency, and reduce their dependence on the individual authors of homegrown scripts. In contrast, only 3% of laggards are "fully tool-based, 21% are "mostly tool-based," and 44% are "half tools, half scripts." (See figure 14).

Figure 14. What is the level of automation based on commercial tools vs. homegrown scripts? (n=76)



Future plans. Recognizing their weaknesses, laggards have ambitious plans for environment updates and modernization steps over the next three years. A higher portion of laggards plan to improve in the areas of automation, data quality, performance, and availability when compared with best-in-class companies.

- About half of laggards (49%) plan to "automate manual steps," compared with 39% for best-in-class companies.
- Most laggards (61%) plan to "improve data quality," compared with 45% for best-in-class companies. This makes sense because similar proportions of each group, 59% of laggards and 45% of best-in-class companies, view data quality as one of their "biggest challenges."Nearly half (46%) of laggards intend to "improve performance and availability," versus 27% for best-in-class companies.

Data Vault Comparison

As described earlier, data vault adoption trails the star schema and third-normal form. However, best-in-class companies adopt the data vault and take 2.0 solution training in higher numbers than the laggards. Best-in-class companies also have bigger future plans for the data vault compared with laggards.

- One third (34%) of best-in-class companies are "currently using" the data vault and 16% "previously used" it, compared with 15% and 10% respectively for laggards.
- More than half of best-in-class users of the data vault (52%) took the "certified data vault 2.0 practitioner course," nearly half (48%) read "Dan Linstedt's book," and 43% took "Udemy or [an]other online course." Laggards came in at 20% for all three categories.
- The vast majority of best-in-class users (91%) expect to "increase" the role of the data vault in their analytics environment over the next three years, compared with 60% for laggards.

Conclusion

Industry hype and buzzwords notwithstanding, the data warehouse retains a commanding position in today's analytics environment. Most companies entrust their mission-critical analytical data to a cloud-based data warehouse. However, most companies, especially larger ones, have multiple architectural types rather than relying just on the data warehouse. They continue to struggle with data quality issues and cumbersome manual processes. Best-in-class companies tackle these issues head-on with commercial automation tools, setting a good example that laggards intend to follow in coming years.

Best-in-class companies also set a high bar with their use of the data vault. Compared with laggards, a higher portion of them adopt the data vault, embrace its standards, and intend to expand their use of it. While data vault usage lags the star schema and third normal form, it does attract trained experts as an extensible, scalable, and efficient way to accelerate data delivery. They intend to double down on this modeling technique and methodology.

These survey results yield a few lessons for data practitioners and leaders alike. They must focus on fundamental objectives such as simplifying data management and improving governance with data quality controls. They should use commercial tools rather than homegrown solutions to automate processes, increase efficiency, and gain flexibility for future changes. Finally, data practitioners and leaders should consider the pros and cons of the data vault and learn from the experience of its loyal user community. Taking these steps will enable companies to continue to derive business value from their data warehouse, gaining competitive advantage in our modern digital economy.

About BARC

BARC (Business Application Research Center) is one of Europe's leading analyst firms for business software, focusing on the areas of data, business intelligence (BI) and analytics, enterprise content management (ECM), customer relationship management (CRM) and enterprise resource planning (ERP). Our passion is to help organizations become digital companies of tomorrow. We do this by using technology to rethink the world, trusting databased decisions and optimizing and digitalizing processes. It's about finding the right tools and using them in a way that gives your company the best possible advantage. This unique blend of knowledge, exchange of information and independence distinguishes our services in the areas of research, events and consulting.

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Our BARC studies are based on internal market research, software tests and analyst comments, giving you the security to make the right decisions. Our independent research brings market developments into clear focus, puts software and vendors through their paces and gives users a place to express their opinions.

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In confidential expert workshops, coaching and in-house consultations, we transform the needs of your company into future-proof decisions. We provide you with successful, holistic concepts that enable you to use the right information correctly. Our project support covers all stages of the successful use of software.

About Eckerson Group

Wayne Eckerson, a globally-known author, speaker, and consultant, formed Eckerson Group to help organizations get more value from data and analytics. His goal is to provide organizations with expert guidance during every step of their data and analytics journey.

Eckerson Group helps organizations in three ways:

- **Our thought leaders** publish practical, compelling content that keeps data analytics leaders abreast of the latest trends, techniques, and tools in the field.
- **Our consultants** listen carefully, think deeply, and craft tailored solutions that translate business requirements into compelling strategies and solutions.
- **Our advisors** provide competitive intelligence and market positioning guidance to software vendors to improve their go-to-market strategies.

Eckerson Group is a global research, consulting, and advisory firm that focuses solely on data and analytics. Our experts specialize in data governance, self-service analytics, data architecture, data science, data management, and business intelligence.

Our clients say we are hard-working, insightful, and humble. It all stems from our love of data and our desire to help organizations turn insights into action. We are a family of continuous learners, interpreting the world of data and analytics for you.

Get more value from your data. Put an expert on your side. **Learn what Eckerson Group can do for you!**

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About Coalesce

At Coalesce, our mission is to improve the lives of data professionals by helping them more easily and efficiently transform data. Data transformations are at the very heart of data analytics and we believe that this long-neglected area finally deserved a modern day transformation. Data teams can now transform data at scale with a flexible, easy-to-use platform that supports their most complex use cases.

Coalesce automatically generates the majority of the SQL that would otherwise need to be written by hand, enabling data teams to build and manage data warehouses 10x faster, without sacrificing flexibility, and focus on what matters most: generating insights and value from their data.

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Based in San Francisco, Calif., Coalesce is backed by Emergence Capital, 11.2 Capital, GreatPoint Ventures, and Industry Ventures, and supports customers worldwide, including Medtronic, TotalEnergies, and CKE Restaurants. Learn more at Coalesce.io.

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About Performance G2

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PerformanceG2, Inc. is a leading Business Intelligence Consultancy firm that helps companies modernize their Enterprise Data Warehouse (EDW). In today's fast-paced business environment, data plays a crucial role in decision-making and organizations need to have quick and easy access to accurate data. That's where PerformanceG2 comes in.

Our team of experts provides a range of services to help companies rapidly build and optimize their EDW. We use a combination of Agile methodologies, Data Warehouse Automation, Cloud Platforms, and the Data Vault 2.0 system of Business Intelligence to ensure that our clients get the most out of their EDW.

The Data Vault 2.0 system is a highly scalable, flexible and secure way of storing and managing data, and it is becoming increasingly popular among organizations of all sizes. It allows for fast data retrieval and provides a single source of truth for all data within an organization. PerformanceG2 provides comprehensive Data Vault 2.0 training and full lifecycle Data Vault 2.0 implementation and support services to ensure that our clients get the most out of this powerful system. PerformanceG2 has trained over 750 students on Data Vault and has 50,000 plus hours Data Vault implementation experience.

Our goal is to help our clients build an EDW that is tailored to their specific needs and goals. We understand that every organization is unique, and we work closely with our clients to understand their requirements and develop a solution that meets their specific needs. Our team of experts provides end-to-end support, from the initial design phase through to implementation and ongoing support.

PerformanceG2 is committed to helping organizations modernize their EDW and achieve their Business Intelligence goals. We use cutting-edge technology and industry-leading expertise to help our clients get the most out of their EDW, and we are dedicated to providing the best possible support and service to our clients every step of the way.

About TimExtender

TimeXtender is a holistic, metadata-driven solution for data integration. TimeXtender provides all the features you need to build a future-proof infrastructure for ingesting, transforming, modeling, and delivering clean, reliable data in the fastest, most efficient way possible.

You can't optimize for everything all at once. That's why we take a holistic approach to data integration that optimizes for agility, not fragmentation. By unifying each layer of the data stack, TimeXtender empowers you to build data solutions 10x faster, while reducing your costs by 70%-80%.

We do this for one simple reason: because time matters.

TIMEXTENDER

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VaultSpeed provides a best-in-class data automation solution, building on the Data Vault 2.0 methodology. Enterprise customers worldwide rely on VaultSpeed to automate multi-source data integration as well as industry-specific metrics stores. VaultSpeed is the default SaaS solution for companies looking to simplify the creation and maintenance of their data cloud.

Data automation is the ability to collect and enrich huge amounts of source metadata and then transform that metadata into a valuable outcome. The more metadata you can push through, the better automated the process. VaultSpeed differentiates in key areas to increase the level of automation:

Its model-driven approach allows you to develop and deploy integrated loading patterns instead of isolated data pipelines. This is made possible by a state-of-the-art GUI that supports object and attribute metadata tagging to apply repeatable logic. Prebuilt integration templates for Data Vault 2.0 save a lot of time in both development and testing, and the ability to build custom business model templates allows you to apply industry-specific logic like CLV, NPV, Defect Density, PRR, … and to build your own metrics store on top of the integrated datasets.

The tool integrates with most popular ETL tools, hundreds of data sources, and top customer choices for cloud data platforms like Snowflake, Databricks, Microsoft Synapse, and Google BigQuery.

VaultSpeed is headquartered in Leuven, Belgium, with offices in Seattle, USA and Vilnius, Lithuania. For more information, visit www.vaultspeed.com

VAULTSPEED

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WhereScape (www.wherescape.com) is a data automation and acceleration solution that reduces design time, increases developer productivity and reduces risks associated with a lack of standards, documentation and governance. WhereScape helps IT organizations of all sizes to design, develop, deploy, and operate complex data ecosystems in a fraction of the time, and more reliably, compared to traditional approaches. It enables customers to leverage agile methods that promote user involvement and commitment, enabling them to work at the speed of business and technology changes. Thousands of data management professionals in more than 700 customer implementations worldwide, and across every market segment, rely on WhereScape automation to deliver data warehouses, vaults, lakes and marts in days or weeks rather than in months or years.

WhereScape 3D® models, designs and prototypes data architectures with automation to fast-track delivery while reducing cost and risk. This allows IT to quickly spin up models for verification with the business before they build, resulting in close collaboration and shorter iterations. WhereScape RED® builds, documents and manages data architectures via a drag-and-drop GUI. It commits changes to the underlying database by automatically generating thousands of lines of SQL code in seconds, enabling one developer to do the job of ten. Project builds and changes are managed by developers but committed with automation in a fraction of the time versus hand coding. The result is data warehouses that just work. WhereScape Data Vault Express® makes Data Vault 2.0 implementations quicker and safer whilst shortening the learning curve for data teams. WhereScape uses optimized, tried-and-tested templates that follow industry best practices while automation manages intricate dependencies that build up over time.

In a data world that is ever evolving, WhereScape is the one constant organizations count on to deliver exceptional results. It combines maximum flexibility with rigorous standards and enhanced governance leading to the most efficient delivery of reliable data imaginable. WhereScape has maximum technology compatibility working with nearly any target platform. With over 20 years in the business, WhereScape offers unparalleled expertise, superior product capabilities and world-class support. Come see for yourself at www.wherescape.com.

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