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As enterprise needs change, so must data platform systems, effectively working up and down the data environment stack

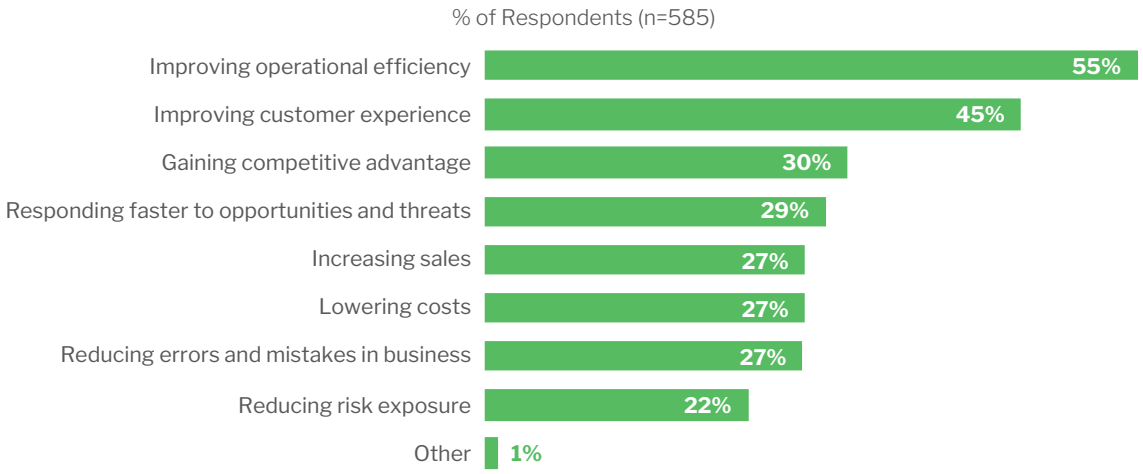
The 451 Take

An organization's database system generally represents a significant investment in technology because it holds the organization's most critical data. These systems are usually mission-critical such that a disruption in operations can lead to a material impact on the business. Technology decisions regarding data platform technology are extremely important for organizations because a misinformed decision could have a lasting impact, potentially for decades or longer.

Adding to the complexity of choosing a database system is the fact that organizational and user application needs have changed significantly in recent years. The back-end system needs to handle varying data types and data volumes to store and process the data to drive a variety of workloads, and organizations must also consider the changing needs of consumer applications. So-called modern applications require back-end database systems to effectively manage high user concurrency, as well as unpredictable data volumes, while ensuring that the system is always available. End users have performance expectations and assume that applications can be accessed globally. Enterprises must also consider the deployment environment for their infrastructure, whether that be on-premises, multicloud or hybrid.

Benefits of Data Platforms and Analytics

Source: 451 Research's Voice of the Enterprise: Data Platforms and Analytics, Q1 2019



While enterprises are looking at significantly more complex environments than in previous years, they have also noted their expectations. As the figure shows, the overarching goal of data platforms and analytics technology is to make enterprise data more organized and available. Implementing data platform systems, however, has a variety of benefits that span business processes. For instance, more than half of respondents said that their data and analytics platforms lead to improvements in operational efficiency. Simply put, data platforms can make it easier for business users to get to the information they need when they need it, enabling faster decision-making. But there are other operational efficiencies to consider as well, such as data storage with multiple access methods and managing fewer overall systems. Just under half of enterprises said they are looking to improve the customer experience with data platforms, realizing that from an end-user perspective, there are certain expectations regarding performance, user experience and availability that are driven by the back-end systems.

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Business Impact

STORE DATA ONCE, PROVIDE MULTIPLE ACCESS POINTS. For many organizations, data collection is not the challenge; the challenge lies in providing the right individuals and key decision-makers with access to the right data in a timely manner. This is not only frustrating for many organizations but can also impede operations if not addressed. Enterprises need to store data natively while providing ways to access that data for operational and analytical workloads.

DEPLOY CLOUD-NATIVE SYSTEMS FOR FUTURE BENEFITS. Cloud adoption for data platforms has its benefits, but only if done correctly. While the 'lift and shift' cloud adoption strategy has short-term benefits, it could prove disastrous over the long term. Data platforms hold critical operational data, so taking advantage of cloud infrastructure to leverage scaling (compute and storage) and high availability while driving security and governance policies is a must.

CONVERGING WORKLOADS DRIVE EFFICIENCIES. Because data platform systems are built around certain data models, enterprises look to match the workload to the data model. But data comes in different models, and workload needs change. Storing data in its native format while providing multiple access points enables enterprises to capture operational efficiencies – efficiencies that can mean fewer systems to maintain.

EFFICIENT SYSTEM MANAGEMENT HELPS CUT COSTS. Managing costs for administering data platform systems ranks high on the list of concerns many enterprises have. Multi-model databases are a way to enable database administration efficiencies because there are fewer systems to maintain. However, multi-model databases have other benefits such as allowing organizations greater use-case flexibility because multiple data models can be combined as part of a job.

Looking Ahead

While the need to collect, store and analyze data is not likely to change in the near term, organizational, end-user and market conditions are likely to change. For enterprises, then, it becomes an exercise in adaptability – the ability to navigate a changing user and technology landscape while managing costs and working to meet user expectations. For enterprises, it's not so much a technology decision on which data platform technology to adopt, but an ecosystem decision that not only consists of a database technology but also the environment in which to run that system. Enterprises, therefore, are tasked with matching business challenges, user needs and organizational goals with the right technology.

Two overriding technologies will have a dramatic impact on the enterprise landscape and data platform technologies. One is cloud computing. In a recent 451 Research survey, respondents reported that they continue to run data platform systems on-premises. However, cloud adoption is expected to increase while on-premises deployments are expected to decrease. And with these environmental changes, organizations are likely to move beyond traditional database deployments to more complex ones leveraging microservices, containers and serverless infrastructure. The other is AI and machine learning. While 451 Research studies indicate a strong appetite among enterprises to adopt AI/ML, there is also concern that their current infrastructure is ill-suited to adopt these technologies. Therefore, modern enterprises must choose a data platform that can be tightly coupled to these two technologies if they expect not only to survive but thrive.