

Evolving Requirements for Embedded Analytics

Enhancing Agility, Reliability and Automation with Cloud Deployments





Organizations Require Agility

The migration to cloud and hybrid platforms is changing the way organizations handle analytics. Analytics are vital to an organization's ability to communicate, operate efficiently and gain a competitive advantage. And yet, the analytics process can be cumbersome, inefficient and can require too many resources. More than two-thirds of organizations report spending more time on data preparation and quality than other analytics processes. It is unsurprising, then, that **77% of organizations report that just one-half or less of their workforce use analytics.**

To address these challenges, organizations need an agile, easy-to-use process that collects information across sources, reduces ad hoc work within applications and utilizes repeatable data pipelines.

Takeaway: Organizations need agile analytics and a well-informed workforce to operate efficiently.

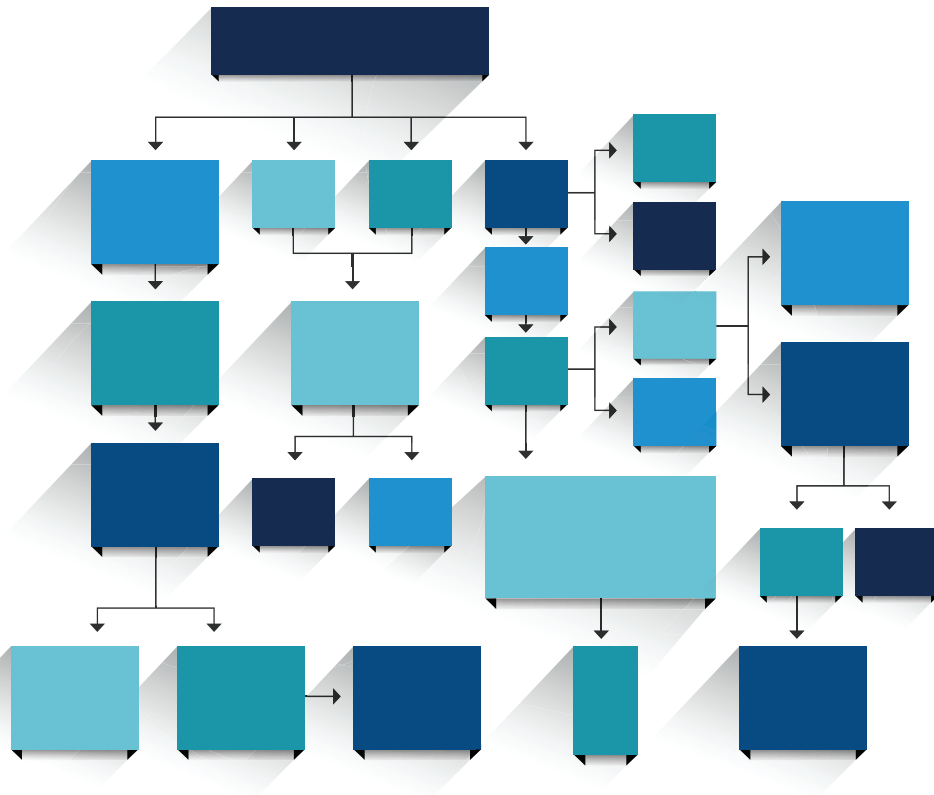
Cloud Sensibility

Organizations are shifting analytics processes to the cloud to enhance agility. But with the adoption of cloud and the requirements that come with that transition, data must be integrated, automated and secure. There is value, ease and sensibility to a cloud implementation, which explains why **nearly three-quarters (74%) of organizations currently use or plan to use the cloud for analytics and data**. One benefit is the ability to embed analytics in a central location providing access from the office, in the field or at home and from a variety of devices. Organizations can also offload some of the systems management and administration to the service provider allowing for more focus on the organization's core business activities.



Takeaway: Running analytics in the cloud enhances agility and can reduce an organization's systems management needs.

Multitenancy



Multitenancy enables the full realization of cloud benefits. Organizations can more easily start a new account or instance—a child tenant—when utilizing a multitenant architecture because the building blocks are already in place, whereas with a single-tenant architecture, processes must start from scratch. The concept of parent and child tenants within a **multitenant architecture is valuable for organizations that want multiple departments to use the same application** while funneling all billing and infrastructure requirements through a single infrastructure. The multitenancy approach also allows for a single source of truth that allows for better data governance while providing the same analysis to all users.

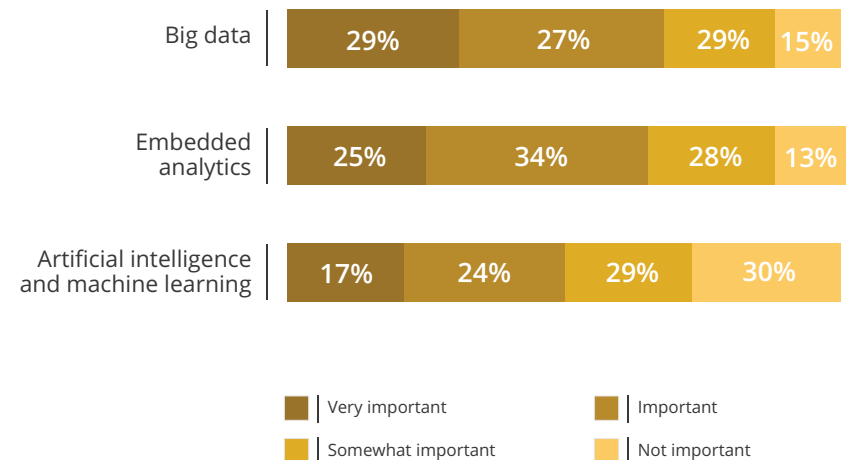
Takeaway: A multitenancy approach allows for easier analytics scaling across the organization.

Opportunities to Empower the Workforce

The unfortunate reality is that the majority of the workforce does not have access to analytics; yet nearly every position in every organization can benefit from analytics. This discrepancy is an opportunity for software developers to help reach more people and make their applications more valuable. Organizations need a two-pronged approach that includes embedded analytics and investments into technologies that make analytics easier to use, such as augmented intelligence and natural language processing. According to our research, two-thirds of organizations **(65%) consider embedded analytics one of the most important technologies in their analytics and data efforts**, even more important than artificial intelligence and machine learning (AI/ML) and second only to big data.

Important Digital Technologies

Organizations rank their top three



Takeaway: Embedding analytics into everyday applications is one of the most important ways to expand analytics usage.

Intelligent Technology



Adoption of AI/ML and natural language presentation continues to grow, with more than **80% of organizations using or considering using** those technologies. AI/ML-assisted analyses can guide individuals as they examine the data in their organizations. No special expertise is required. Automated analyses also introduce consistency since the same type of analyses will be conducted and available to all. AI/ML can be used to make data and analytics software products easier to use so organizations can get more out of the analytics processes and improve overall performance.

Takeaway: The next significant leaps forward in analytics capabilities will come with the integration of AI/ML and natural language capabilities.

Automate the Process

Organizations have become more agile and responsive with their information technology. Adopting a DevOps approach to application deployment has allowed organizations to deploy new and revised applications more quickly. Automating the development processes is key. Yet, **one-third of organizations (35%) report analytics and BI technology are not flexible and hard to integrate** in business processes. Organizations need an analytics platform with APIs that expose all functionalities of the analytics process, as well as all the administrative processes. Everything must be in code that can be managed in source code repositories, build-tools and developer frameworks. This continuous-integration/continuous-deployment approach builds automated, repeated processes that eliminate error-prone and slow manual processes.

Takeaway: Automating key steps of analytics process deployment will increase agility and decrease errors.



Monitoring and Management



An important benefit of cloud platforms is the ability to harness real-time data processing. Almost one-quarter (**22%**) of participants in Ventana Research's Analytics and Data Benchmark Research **are currently analyzing data in real time, with an additional 10% analyzing data every hour**. To properly manage analytics, an organization must be able to monitor its data pipelines to make sure data is flowing properly through the system. Usage must be monitored to understand which parts of the system are being used the most and least so the system can be optimized. That information can also potentially be used for billing and chargebacks. Application providers need to be able to monitor and understand resource consumption to plan capacity and cost appropriately.

Takeaway: Cloud analytics providers streamline the monitoring and management needed for real-time analytics.

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Governance

If an organization is in the data business, it's in the security business. Almost **three-quarters of organizations (71%) have implemented formal data governance policies** and procedures. If a software developer is providing access to data and performing analytics on that data, they need to have an appropriate governance framework in place as well. A governance framework with embedded data cataloging capabilities makes it easier for developers to design and build the analytics. Those capabilities will ensure that organizations comply with their data governance policies and regulatory requirements. It is important to choose a cloud provider and platform that is certified to meet the requirements of different industries, such as HIPAA, CCPA and SOC 2 compliance.



Takeaway: Data governance capabilities must be a core component of the analytics platform.

Closing the Loop

For decades, almost since its inception, data analytics have been performed using read-only systems with no connection back to operational systems. The rest of the exercise was left to the reader. The analysis provides information, but there is no guidance on how, exactly, to get there. **An organization needs a system that can initiate and act digitally rather than manually.** Embedded analytics connects all systems—from pricing to recruiting and beyond—so changes can be implemented efficiently and automatically. Rather than build a platform, consider products that provide all of these capabilities out of the box and can help an organization move from analysis to action.

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