zensar

Analytics on Cloud:
A guide to maximize your ROI

Cloud based analytics and
a best practices guide

White Paper

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WHY DATA BELONGS ON THE CLOUD

In recent years, we have witnessed a large-scale shift to the cloud across companies in every sector and industry-type.

From **$272 billion** in 2018, the cloud computing market is expected to cross **$623 billion** by 2023 - growing at an incredible pace of **18% CAGR.**

However, cloud adoption isn't a mere technology trend to be followed blindly by companies. It requires careful evaluation and assessment before one can take the leap. Done right, the cloud could bring significant benefits, like increasing computing power, reducing hardware and infrastructure costs and enabling advanced analytics without massive investments or deep data science capabilities.

Analytics is among the top use cases for cloud adoption today. By hosting analytics platforms on the cloud instead of on-premise, companies could dynamically scale productivity and insights generation. It is also possible to optimize the utilization of resources such as memory and computing power. Given that analytics is a highly resource-intensive process, moving it outside the premise into a virtualized environment would dramatically cut down infrastructure costs. Further, a large number of data sources can be easily integrated via cloud-based applications without requiring complex reconfigurations or API management. As a result,

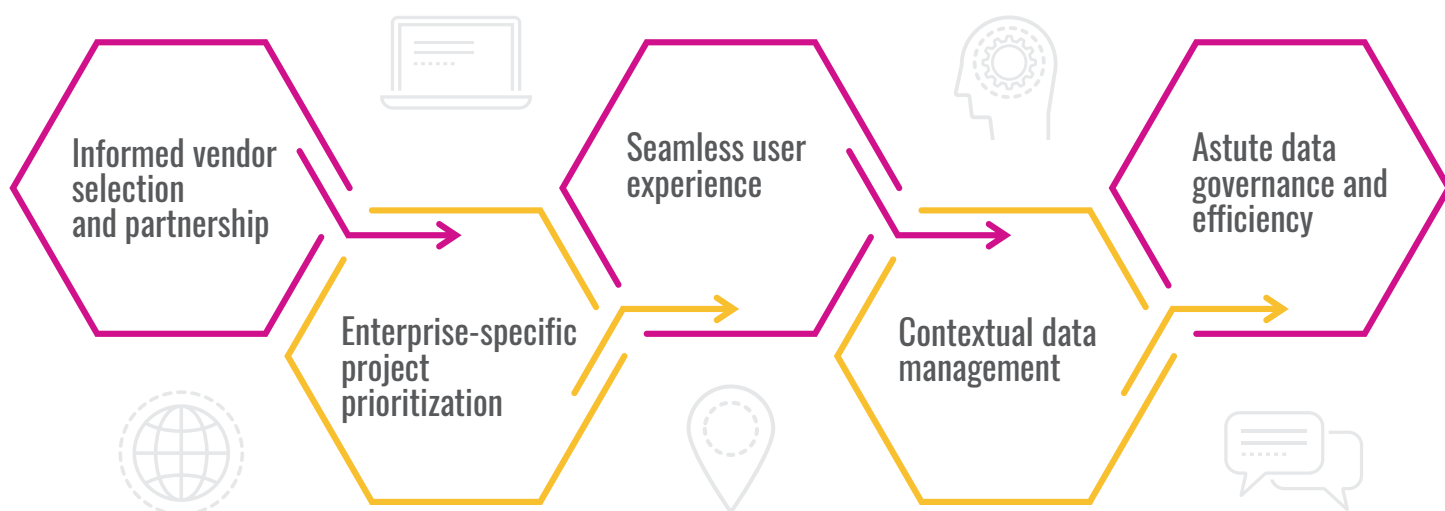the analytics component of the global cloud market is expected to reach **$26 billion by 2023.**

This is propelled by enterprises investing heavily in data and analytics on the cloud, in a bid to centralize processes, enhance customer experience, and adopt data-driven decision making at every level. For example, we helped a large US departmental store chain move to the Google Cloud Platform (GCP), creating a single-source-of-truth, providing us insights on customer, sales, product, and other key domains. This helped to improve overall performance, while dramatically reducing technology costs.

A Kenyan supermarket was also able to increase customer engagement by 60% and shrink application deployment timelines by 15%, thanks to a cloud-based analytics solution. Informed by our years of experience in this domain, we have identified critical use-cases for cloud-based analytics. Here is a closer look at few such scenarios.

ENVISIONING A SUCCESSFUL IMPLEMENTATION ROADMAP: 5 BEST PRACTICES FOR ANALYTICS ON THE CLOUD

Analytics on the cloud isn't a mere lift-and-shift process. It comprises several key milestones including ingestion, management, analysis, and governance of data. Together, these elements help a company make the most of their datasets and discover new possibilities for integrating external information sources.

Informed vendor selection and partnership

Companies must be careful to choose a technology and service provider for which there is already a modest level of in-house skills. This will help to effectively operationalize the migration, establishing a change management plan beforehand. Following the partnership parameters that we defined earlier can be helpful in this regard.

Enterprise-specific project prioritization

This begins with an exhaustive list of services to be used for the implementation/migration, along with the specific applicability of each service. As a result, companies can identify which services can be shut down for significant durations without disturbing operations, saving costs and ensuring the analytics initiative remains a profit center. Next, applications are evaluated and classified based on their criticality, prioritizing those elements which stand to gain the most from cloud technology. Specifically, applications that frequently witness spikes in workload and are mission-critical to the business are prime candidates to be developed or moved to the cloud.

Seamless user experience

Data must be accessible from any location and computing device without any restrictions or dip in user experience quality. Always-on access and persistent data are central to successful data-centric applications. For migration projects, integration with existing infrastructure and the seamless fit of new applications into the current security landscape have to be addressed. In the case of greenfield implementations, companies might have to relook at all ongoing strategies around data utilization. Also, for data to be truly useful, enterprises must adopt powerful visualization capabilities that convert raw inputs into actionable insights. This will ease adoption for business users, even without technical knowhow.
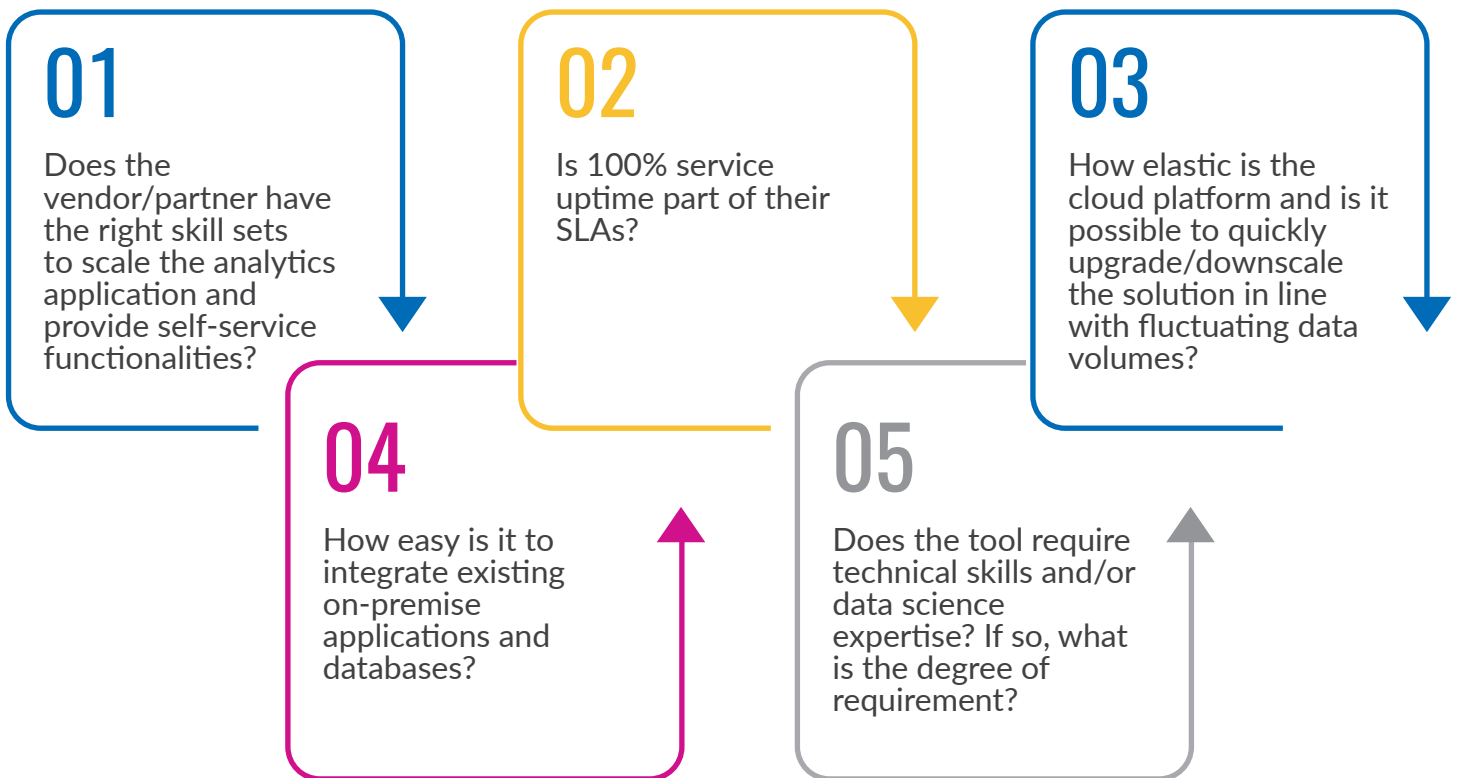
Contextual data management

Datasets cannot exist in a non-contextualized vacuum. Because the data is being moved away from the premise, there is a risk of losing out on business context, hampering meaningful insight generation. Companies should work closely with specialists in data analytics to provide the required context for any data/ dataset placed on the cloud. Another way to overcome the fragmentation of data is to create a detailed map of the organization's information fabric, deploying cloud integration keeping this landscape in mind.

Astute data governance and efficiency

Of course, it is important to ensure that only the right and most relevant datasets make their way to the cloud. Any redundancy must be detected early on, removing unwanted objects so that migration efforts are perfectly optimized. For instance, we developed a streamlined cloud architecture for a leading US retail chain where data from Azure Cloud and Delta Load could be ingested into GCP, and segregated into insights for distinct domains for well-governed data consumption. Another consideration that comes into play here is geographic regulations – location-specific policies governing the region where the data is hosted must be factored in.

By following these best practices, we were able to help a manufacturer with a unified analytics instance on the cloud, geared for future-ready operations. The client, a medical-aesthetic product manufacturer, was facing integration and modernization challenges due to its massive scale. It had 10+ discreet Oracle applications, and lacked standardization of policies and processes around the globe. Zensar executed a smooth transition of multiple enterprise apps and analytics services to the cloud (including QlikView, Qlick Sense, and Discoverer), helping the client to gain insights from a single-source-of-data across the enterprise.

PARTNERING FOR THE BEST OUTCOMES - PARAMETERS FOR CLOUD VENDOR SELECTION

As we mentioned, there are several recognized public cloud providers in the market, each with a unique value proposition and a wide network of implementation partners to help customize deployment for a specific company. The choice of the cloud depends on your organization's holistic vision. For analytics projects, this should be maximizing value from available and new datasets. A thorough landscape assessment must be conducted, keeping in mind the need to process large amounts of both structured and unstructured data. In case one vendor isn't able to meet every requirement, your organization could look at a multi-cloud environment where different vendors are responsible for specific activities on the analytics journey.

Other obvious factors to consider before commencing on a cloud-based analytics partnership include computing needs, storage requirements, network compatibility, compliance, and pricing. Apart from this, companies looking to either move their analytics to the cloud or kickstart a greenfield cloud analytics initiative should ask themselves five critical questions:

01
Does the vendor/partner have the right skill sets to scale the analytics application and provide self-service functionalities?

02
Is 100% service uptime part of their SLAs?

03
How elastic is the cloud platform and is it possible to quickly upgrade/downscale the solution in line with fluctuating data volumes?

04
How easy is it to integrate existing on-premise applications and databases?

05
Does the tool require technical skills and/or data science expertise? If so, what is the degree of requirement?

Based on the answers to these questions and whether the vendor meets essential criteria for a cloud partnership, the company should commence the migration/adoption process. Importantly, the selection parameters will vary based on the usecase. For example, mobile data exploration may not be a determining factor for enterprises looking to adopt embedded BI, while mobile support would make a major difference for agile BI projects.

There are a number of essentials that must be validated before selecting a cloud analytics partner:

We helped a US-based car rental company to implement a cloud-based SaaS set-up using the Azure platform. This resulted in reduced time-to-market, easy maintainability, intuitive UI, and improved scalability leading to savings of up-to 30% in infrastructure costs within the first year of implementation

1
Admin control, security, and underlying architecture

This is probably the biggest influencing factor, as it shapes everyday operations, alignment with enterprise policies, and the solution's resilience to dynamic market movements.

2
Data source compatibility

Depending on the objectives of analytics, enterprises would need to connect a myriad of data sources. The solution should be able to onboard these without marked configurations.

3
Analytics dashboards

A foundational element for any project, dashboards offer business users granular visibility into key data in their domains. Ideally, these should be customizable across verticals.

4
Scalability

The partner should be able to support the enterprise's vision for scalability, expanding into new domains, data sources, and analytics models with ease.

5
Workflow simplicity

Often ignored workflow and UI design determine the solution's adoption rates and how seamlessly it blends into the larger enterprise ecosystem.

6
Data preparation, storage, and loading

In the age of big data, it is vital to ensure analytics-readiness for datasets before deployment. The solution must have a streamlined blueprint for cleansing, storing, processing, and loading data.

THREE CRITICAL ANALYTICS REQUIREMENTS MET BY THE CLOUD – ILLUSTRATIVE SCENARIOS

Scenario 1: Retail

Company A is a retailer major based out of the US. It boasts of a wide customer footprint with several brick-and-mortar stores as well as a robust e-commerce business. Because it is not digitally native, Company A has expanded from its brick-and-mortar origins into the online world. As a result, it retains a complex on-premise set-up with data centers, servers, hardware-based network components, and other devices.

Company A faces high demand volumes at specific times of the year, including March (back-to-school sales), July (Independence Day weekend) and the holiday season. The on-premise infrastructure is designed to keep these demand levels in mind, as the retailer means to fully meet peak demand during these periods to maintain business productivity. However, for large stretches across the year, a majority of these resources are left sitting idle while Company A continues to spend on infrastructure support and maintenance. This significantly adds to its operating costs, without generating any value in return.

The cloud presents a massive opportunity for modernization and efficiency in this scenario. There are several public cloud vendors available today, enabling flexible infrastructure hosting as per current demand levels. For instance, Company A can invest in advanced business analytics and real-time insights during the holiday season and redirect funds to other initiatives for the remaining months of the year.

Company A can even opt for a multi-cloud environment, choosing the required functionality from each vendor, thereby strengthening its capabilities at a fraction of the in-house costs. It should be noted that a multi-cloud environment could increase effort levels to a certain extent; however, this can be manipulated by partnering with a cloud-implementation partner with multi-cloud expertise.

Scenario 2: Insurance

Company B is a property & casualty (P & C) insurance provider with offices across the globe. Recently, Company B sought to develop deep analytics expertise to aid risk assessment for its customers. This would help the company garner a comprehensive and accurate understanding of customer risk, thereby defining the accurate claims value and product proposition. Company B has two options for this greenfield analytics project – either host it on-premise or develop it natively on the cloud.

Initially, Company B considered on-premise hosting as the smarter option given its greater perceived security. The company deals with large amounts of sensitive information every day and was hesitant to move the data outside the immediate premises. However, the company realized that analytics would give them a definitive edge over its competitors – that's why it was essential to accelerate time-to-market. A truly effective analytics platform would source and analyze data from a variety of sources, including various social media platforms. As an insurance provider, social data was particularly relevant for Company B. To achieve this in-house, Company B would have to procure a database, ensure streaming data processing capabilities, and

set up an infrastructure able to seamlessly handle unstructured data formats. This is a highly time-consuming process and would lead to massive delays in value generation.

On the other hand, cloud-based analytics is a more efficient alternative. Company B can simply subscribe to its preferred analytics service on the cloud (or even partner with multiple vendors if there is no one-stop solution) and start obtaining insights. Company B also has the flexibility of moving to a different provider if desired outcomes aren't met within the expected period, without any sunk cost. It can also choose a cloud partner with security and data governance capabilities, ensuring that enterprise resilience is not compromised by moving out of the premise.

Scenario 3: Manufacturing

Company C is a fast moving consumer goods (FMCG) company based out of USA, with several manufacturing plants for multiple lines of related products across the country. Like most manufacturing companies in the region, Company C continues to rely on outdated and legacy IT infrastructure; however, with the onset of Industry 4.0, a number of new opportunities have emerged. Company C is eager to embed IoT sensors in its machines so that the data from sensors can be analyzed for predictive maintenance. But, the existing infrastructure and platforms are incompatible with the real-time data streams being generated by the sensors. Further, Company C needs access to cutting-edge analytics tools to process the data and obtain predictive insights. Unless the company is able to achieve this, Company C faces maintenance issues and equipment breakdowns during the peak months, delaying production and reducing operational efficiency.

Company C realized that establishing a new analytics platform on-premise and building relevant competencies would incur huge costs and may not get executive buy-in immediately. This is where analytics on cloud can help. By moving to the cloud, the limitations of legacy IT can be avoided. Company C would not have to be worried about infrastructure setup, as this is managed by the cloud vendor. It can also use cloud-native applications to exploit IoT data, by subscribing to them on a flexible, pay-per-use model. The three scenarios we shared above highlight several drivers for cloud migration. Broadly, this can be classified as drivers (need-based) and benefits (goal-based) factors:

Drivers	Benefits
Aging infrastructure	Greater flexibility (zero vendor lock-in)
Inability to scale	The ability to meet greater demand for computing power
Digital native competitors	Easy access to new technologies (for example, AI)
Rising operational costs	Higher per-person efficiency

A successful transition to cloud-based data analytics will bring several benefits, including better decision-making, real-time and predictive business insights, as well as faster time-to-value from the cloud.

We helped a US based leading medical device manufacturer to leverage Azure cloud to get the most out of their sensor (IoT), financial, and operational data. Using our expert insights, they were able to increase the sales by segmenting the customers and reduce the cost of repairs by carrying out predictive maintenance.

CONCLUSION

While companies are eager to adopt the cloud, any transformation project must be approached with careful consideration and astute handling. This is not a scenario where data can just be transferred to the new environment, and application licenses purchased. To truly benefit from cloud-based analytics, companies should undergo an end-to-end internal evaluation of datasets, realign strategies wherever necessary, and take an intelligent call as to vendor selection guided by organizational vision, not market hype.

In the end, the cloud could completely transform how companies host, utilize and monetize their datasets. With data volumes only growing every day, it is vital to balance industry best practices and unique business requirements to achieve positive outcomes.

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