



Key metrics for assessing cloud computing providers

Understanding the Total Cost of Ownership (TCO)
benefits of Oracle Cloud Infrastructure (OCI)

Summary

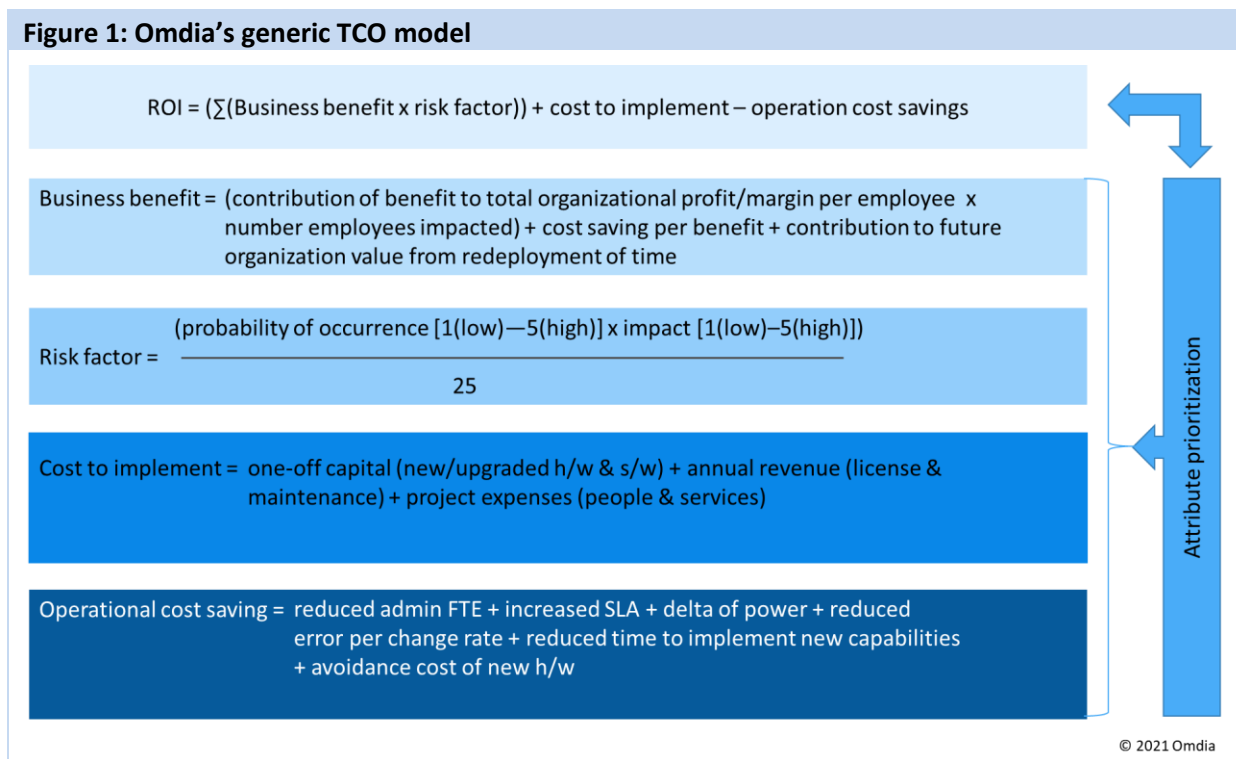
Catalyst

Total cost of ownership (TCO) may sound as if it should be a simple and easy-to-use comparison for organizations when they are selecting a cloud provider. But cloud providers have different strengths and weaknesses and operate in different ways, which makes a singular metric such as TCO difficult to apply. However, understanding and prioritizing the elements of any TCO and applying these to the cloud providers in a sequenced order will help organizations obtain a clearer perspective as they compare cloud providers.

Omdia view

Cloud computing requires a multilevel approach to developing a TCO assessment, leading to situations in which organizations try to “run before they can walk” in terms of their readiness. This can then seriously affect the delivery of benefits expected from the use of these technologies. **Figure 1** shows the Omdia TCO model, which characterizes the calculation as a combination of business benefit, risk factor, cost to implement, and operational cost savings.

Figure 1: Omdia’s generic TCO model



Source: Omdia

Omdia’s key takeaway from the model in **Figure 1** is that organizations need to prioritize the key attributes they expect, or want, from cloud computing before they input them into the calculation. Therefore, Omdia advocates that organizations comparing TCOs from different cloud providers select and weight the attributes that are most important to them. In the following sections, we identify three attributes we see as important and provide justifications.

Key messages

- Matching resources to the workload to achieve optimum price/performance and efficiency is a key comparative metric.
- Egress charges for data are an unseen contributor to TCO.
- Consistent global pricing makes the financing of cloud more straightforward for organizations.

Matching resources to the workload to achieve optimum price performance and efficiency is a key comparative metric

Cloud, in general, delivers significant improvements over on-premises implementations. [Mazda](#), an OCI customer, reported that its five-year TCO was reduced by 50% when it moved from on-premises to OCI, and its performance was increased by 70%. In another example, [Korber](#) (previously HighJump Software) reduced costs by 25% and improved processing times by 40% by moving to OCI from on-premises data centers. Additional information on OCI's price-performance advantages is available through the vendor's [cloud economics page](#).

The TCO reduction benefits are delivered by the cloud operating on a “pay for the resources as they are used” approach (a.k.a. consumption-based pricing). But the second-order reality of cloud is that organizations do not need to estimate future resource needs and purchase overcapacity just in case the estimates for demand are wrong. Another key cloud benefit is that organizations do not need to have people to manage and administer the infrastructure or to increase headcount as the infrastructure grows.

However, paying for your package of resources as they are used does not necessarily make them efficient. Typically, the cloud provider packages up resources so that customers select the packages that meet their demand and pay a set price per time used for these packages. Therefore, if you only use a package for two hours you only pay for that time, but if you only use 50% of the resources in the package you are effectively paying for four hours of use but only getting two. This is critical when comparing TCO for cloud between cloud providers. Omdia has identified two key metrics that customers can use to compare cloud providers when considering resource usage: resource package utilization and resource package performance-to-price ratio.

Delivering resource package utilization requires the ability to size the resource packages to the workload, which in turn means more granular control. An example of this type of approach is Oracle's OCI, which uses AMD-powered E4 and Intel-based Optimized3 flexible compute instances (Flex Shapes), where customers can attain granular control of the CPU cores and memory desired. Therefore, for workloads that can benefit from odd core counts and nonstandard memory increments, OCI offers precisely sized instances as opposed to competitors that offer only fixed instance sizes.

The resource package performance-to-price ratio should show that increased use increases the TCO benefits. A recent study showed that compared to on-premises, the TCO advantage of the cloud increases as it is scaled up for Oracle applications deployed on OCI.

Table 1: Oracle study into TCO of OCI versus on-premises

Oracle application	TCO benefit for OCI vs. on-premises*
E-Business Suite (EBS)	27% for 300 users; 38% for 1,200 users
PeopleSoft	27% for 1,000 users; 39% for 5,000 users
JD Edwards (JDE)	30% for 600 users; 38% for 2,000 users
Siebel	33% for 1,500 users; 44% for 15,000 users
Note: * based on an Oracle study done during January–April 2021. Savings may vary based on customer environment characteristics such as network activity, processor requirement, and scale of deployment.	

Source: Omdia, Oracle

While the results above are for Oracle applications running on OCI, a third study compared other workloads deployed on OCI and on-premises and found the TCO savings were in the range 18–51% based on a few factors:

- Self-managed application and database platforms versus Oracle-managed platforms for offerings such as Kubernetes and MySQL (Oracle-managed platforms provide greater TCO benefits)
- Use of Oracle technologies on OCI, such as Oracle Database and Oracle WebLogic
- The scale of deployment (larger deployments provide greater TCO benefits)

According to the same analysis, TCO benefits against major cloud vendors may be higher than that for comparable on-premises environments.

Egress charges for data are an unseen contributor to TCO

Organizations that are currently on-premises can often overlook some elements of the public cloud in evaluating TCO. One of the most common overlooked differences with public cloud is the cost of data egress from the cloud. It is often free to place data into a cloud provider's storage, but when it comes to data leaving the cloud provider's storage there are costs, something alien to organizations that operate on-premises. A recent [case study on 8x8](#) showed that data egress represents a significant potential benefit and contributor to any TCO calculation. Global communication platform provider 8x8 has seen over 20 million monthly active users, and these users generated more than 1.5 petabytes of egress network traffic per day. The company reported saving 80% in terms of data egress charges on moving to OCI from another major cloud provider. This demonstrates that the cloud TCO must account for costs that organizations might not even consider when moving from on-premises. Data egress is a major point of difference between cloud providers and can represent a significant TCO saving if organizations have a large amount of outbound network activity.

Consistent global pricing makes the financing of cloud more straightforward for organizations

For organizations that operate globally and require workloads to execute in multiple locations, the complication that most cloud providers introduce is variable pricing by location. In these scenarios, customers must include additional steps in their TCO calculations:

- The amount of latency any workload can support must be known, and the latency to reach the different cloud providers' data centers must be calculated.
- The cost of running in each data center must be calculated and mapped to the associated latencies.
- The customer must then select the location to execute the workload in based on a cost/latency analysis.

However, if the cloud provider has a simple and consistent global pricing approach, the customer can eliminate billing surprises because the workloads can run in the optimum location with no impact on the cost and TCO. Unlike most other public cloud vendors, OCI offers consistent global pricing, and its benefits are supported by customers such as [Sky.One](#) and [WorkForce Software](#) among [others](#).

Final thoughts

When compared to other on-premises and cloud environments, Oracle Cloud Infrastructure (OCI) provides noticeable TCO benefits through optimum price performance, low network-egress charges, and consistent global pricing. These benefits help organizations, large and small, unlock the business value of the cloud for enterprise- and mission-critical workloads.

Appendix

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