



Cloud Computing

By Idris Drief

Cloud Computing has been around since the mid 2000's but has really grown in popularity in recent years as businesses seek to simplify maintenance, reduce physical footprint (pay as you go "PAYG", capital expense converted to operational expense) and operate on a more resilient, reliable and cost-effective infrastructure.

Cloud is a compelling paradigm due to the explosion in the number of available data sources, whether they are purchased from data vendors or procured by web scraping. Asset managers are consuming alternative data at an ever-greater rate to derive valuable insight that shape and support their investment strategies.

Value proposition

There are many ways that a cloud strategy can help create value for organizations that do not wish to invest heavily in on-premises infrastructure or support large IT functions.

The elasticity that cloud offers means that it's easier than ever to scale up/down server specs to align with the needs of the business. Many large providers (Microsoft, Amazon and Google) offer a full set of services to cover all necessary considerations of an enterprise architecture, making them truly turnkey and quick to market. Cloud platforms include data security services to provide user authentication, authorization and data encryption resilience and high availability out-of-the box, as well as, allowing automation of security operations such as taking servers offline. Cloud also offers resilience during disaster recovery scenarios by replicating data and services across high availability zones.

Cloud services and PAYG pricing models means that firms only need to pay for the computing power and storage they need. This has resulted in a big data analytics boom, where it is now possible to use elastic data warehouses that shrink and grow on-demand to execute complex, time costly analytical operations across vast and diverse datasets with ease.

In data analytics, most of the upfront work involves wrangling, cleansing and normalizing data from a variety of sources. Cloud can help break down silos where these activities happen and instead perform them transparently in a distributed fashion and make the results accessible to users across the organization. Cloud platforms being accessible via the internet by their very nature also means that analytics is now more mobile than ever.

As these platforms keep maturing, providers are investing billions into new services in data processing, analytics, compliance and security with new features and services rolled out on a monthly basis. The value of this is significant since the investments are done once but can be taken advantage under the PAYG model.

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Investment in Alternative Data

Once a platform is set up in the cloud, the possibilities for asset managers to source alternative data greatly expands, while the cost can decrease. This is especially important right now, as alternative data become more mainstream. As reported by the Financial Times, Alternativedata.org forecasts that overall expenditure by asset managers on alternative datasets and employees to parse the data will climb to over US \$1bn by 2020. Moreover, "Opimas, a consultancy, estimates that investors are spending about \$5bn a year on alternative data, and expect the industry to grow 30 per cent annually in the coming years."¹

With this rising trend, there are many sources of alternative data that are being used in predictive modeling:

- Individuals: **Social/Sentiment, Web Traffic, App Usage, Survey data**
- Business Processes: **Credit/Debit Card, Web Data, Public Data, Email/Consumer Receipts**
- Sensors: **Geo-location, Satellite, Weather data**

The quality of the data can vary considerably, but the most reliable and insightful sources tend to be consumer related (credit/debit card usage) and web data (traffic), with social media and sentiment data providers being most prevalent. Social media is a particularly sensitive area, given the privacy concerns and potential to inadvertently obtain non-public information.

*Lowenstein Sandler's recent survey of hedge funds "reported a number of concerns, primarily related to cost and quality. Other worries included possible data security and privacy issues and the risk of acquiring material nonpublic information."*²

Regulatory Pressures

Financial services have generally been slower to move to fully virtualized environments due in part to jurisdictional and data sensitivity and privacy concerns. This has necessitated the use of virtual private clouds ("VPCs") which are single tenant and can be located in a specific geography. VPCs are different to public clouds which are multi-tenanted and distributed across the globe. The pace at which the industry adopts virtual technology has also prompted many to adopt a hybrid approach, where business critical systems and sensitive data remain on premises to provide greater control and satisfy data residency, sovereignty and localized compliance.

Whilst the General Data Protection Regulation was introduced to bring uniformity to laws governing data privacy and protection for all European Union ("EU") member states, one of the biggest challenges outside the EU is in knowing which laws apply within each region, especially if they are clustered together to offer even more resiliency than before. Selection of regions is a critical part of determining how to migrate to the cloud, and establishing the correct terms and conditions with the cloud provider is essential to mitigate against breached privacy commitments. Good data lineage, cataloging and leveraging metadata to keep track of how data flows through your organization is also key.

Conclusion

- Cloud infrastructure can provide greater reliability, resilience, security and controls when compared to on-premises infrastructure.
- Analytics can be performed in the cloud in a more affordable on larger datasets.
- Proof of concepts can be built very fast to evaluate new technologies and processes.
- VPCs allow for good separation of systems and environments such as development, User Acceptance Testing ("UAT") and production allowing true segregation of functions and controls.
- The barriers to cloud entry have come down with competition between the big providers and the availability of open source tools.
- A wide variety of alternative datasets are readily available for purchase from data vendors.
- Asset managers and service providers must navigate complex regulatory requirements with the true implications and associated costs of compliance only now starting to become known.

¹Financial Times, Asset managers double spending on new data in hunt for edge, Robin Wigglesworth, May 8, 2018

²Institutional Investor, Hedge Funds Plan to Pour More Money Into Alternative Data, Amy Whyte, September 11, 2019

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