REGCENTRIC

DATA MIGRATION TO CLOUD

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8 key factors for successful cloud data migration

Migration of data to cloud is going to be one of the key strategic pursuits of many organisations in the decade we are in. Unlike migration of systems to cloud, the industry is starting to realise that migration of data is a lot more involved than a "lift and shift" exercise. In this report, we take an intricate look at the key factors that contribute to a successful migration of data to cloud data warehouses or data-hubs.

Cloud data migration – A strategic "Big Rock"?

Organically grown legacy data landscape in any organisation is quite complex, costly and has limitation in effectively handling the ever-growing variety, speed and volume of data fueled by the digital revolution. This hinders business from timely decisions and achieving enterprise goals. **Several organisations have positioned migration of Data into a Cloud-based Data hub, as one of their strategic 'Big Rocks'.** Successful Cloud data-hub can enable an organisation to maximise the value from continuously evolving data, enable digital and cloud services for competitive advantage in the industry, deliver cost efficiency along with increased sustainability & scalability options.

It is important to note, data migration from legacy systems on to a cloud based data-hub is quite different to migrating an application from its on-premise version to its cloud based platform. A pure infrastructure/platform change of applications (of the same vendor) on to cloud platform, requires a 'lift and shift' solution approach with relatively low change complexity. However, data migration from on-premise legacy data sources/data warehouse to a cloud-based data-hub can be quite complex, depending on the maturity of the legacy data landscape and level of transformational uplift required to achieve the business goals.

Many organisations have underestimated the amount of change required for the cloud data migration initiative. This has hindered them from achieving the expected transformational benefits, despite the large amount of time and money spent on the program of work. In fact, they have ended up with a lot more complex data landscape than what they started their transformation journey with.

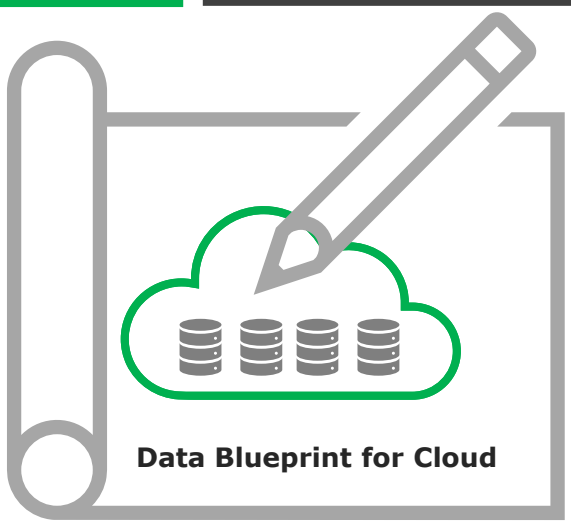
RegCentric has identified eight key factors that enable organisations to successfully deliver a cloud based data-hub with required data migration, generating tangible business value and return on investment.

8 key factors for successful data migration to cloud

1. Begin with the right 'Data Blueprint' for the enterprise

Defining the target data architecture upfront for the cloud based data-hub will enable the initiative to have a 'blue-print' to deliver tangible features iteratively and track progress.

One of the pitfalls of cloud based data-hub initiatives is focusing purely on highly futuristic target architecture based on the latest industry trends without factoring in current state challenges along with immediate business needs and use-cases. On the other hand, building an architecture just to cater for current needs and maturity will not deliver the transformational uplift organisations are aiming to achieve. Both approaches will impact return on investment and can lead to increased cost/complexity to the current data landscape, taking organisations backwards.



While there is growing demand for API enabled real-time data, reporting and analytic capabilities, some of the core head office functions such as risk, finance, and regulatory reporting, in many companies, are still reliant on batch-oriented data processing and consistently conformed data for business operation.

A holistic target architecture that supports all the business-critical use cases of current state, while being scalable to achieve futuristic organisational goals, gives the ideal balance.

2. Embed data management capabilities from the start

A common current state challenge in most organisations is that data in the organically grown legacy systems is unreliable, inconsistent, and not readily available or easily accessible. This heavily impacts the business from meeting their expected KPIs. To overcome the issues each business areas tend to build layers of 'work-arounds'/ data adjustment activities across the end-to-end data value chain, which in turn impacts the speed to insights, operational costs and risks.

For a strategic transformation to be sustainable, it is fundamental to embed data management capabilities within the cloud based data-hub from day one. Following core capabilities lay the foundation to uplift the quality and consistency of data along with increased change agility.

Data Lineage — Enables to easily track flow of data from point of capture to point of consumption, increasing the efficiency of change impact assessment and data investigations

Business Glossary — Ensures consistent understanding of data content across the enterprise, and helps to avoids data quality issues relating to misinterpretation

Data Controls — Helps to monitor and control the quality and security of critical data from the point of data source ingestion to the point of business consumption

Not embedding data management capabilities from day one can lead to a lot more data challenges than in current state and will hinder expected business value from the investment. For example, having to continuously adjust and remediate data quality issues at consumption point will impact the speed of data delivery and value of insights despite having real-time data processing and advanced analytics capabilities. Due to significant volume, variety, and velocity of data growth in the cloud, insufficient data controls for quality and security can significantly amplify operational cost and risks.

3. Plan for end-to-end scope taking current state challenges into consideration

In general, data migration to cloud based data-hub includes four delivery components.

Data Hub Platform — Building the core infrastructure/platform foundation for the data-hub in cloud.

Source Data Ingestion — Ingesting data from required source systems into the data-hub.

Data Processing — Transforming data within the data-hub based on business consumption needs.

Historical Data Load — Uploading historical data across the require time horizon up to current period.

As cloud platforms are becoming part of mainstream IT solutions, service providers offer **Platform as a Service** model with several efficient open-source capabilities and integrated DevOps kits. Therefore, building a new data-hub platform is relatively easier and faster. Managing the delivery of the data related components is where the real challenge begins. Data quality and availability of current and historical data within source systems and legacy data platforms can be challenging. In addition, there can be complexity in converging historical data with current data across the time-horizon due to organic growth and change of data structures within source systems over time. Project should plan for potential data remediation activities to avoid impacting the data-hub with legacy data issues.

3. Plan for end-to-end scope taking current state challenges into consideration (Contd.)

Data processing can be highly challenging and time consuming if there is lack of business experts to provide data processing requirements for the new data-hub. The challenge gets exacerbated when there is minimal documentation and/or unavailability of technical experts to articulate data definitions/business rules (business glossary) and how the data flows end to end (lineage) in legacy systems. Under such scenario, the project should plan for 'Data discovery' activities to reverse engineer the legacy data landscape in scope, to define data lineage/transformation rules from source data ingestion to consumption points (e.g., reports/downstream systems). The findings require business validation for accuracy/relevance before designing the data-hub.

For highly regulated organisations such as financial institutions, getting appropriate regulatory approvals across required regional jurisdictions to transfer data on to a 3rd party owned cloud platform is a critical aspect to factor in the delivery plan. This could be highly time consuming depending on the size of the organisation and number of regional subsidiaries it owns, as each regulator's expectation may vary.

Failing to plan early for required data and regulatory activities, is planning to fail - as they can become showstoppers.

4. Automate to accelerate delivery

The project should maximise the containerised DevOps kits and open-source capabilities of could services to establish automated, modularised and pattern driven features for data ingestion, transformation, and consumption, catering for different types of data, at different frequencies (real-time streaming and batch processing). This will fast-track data delivery.

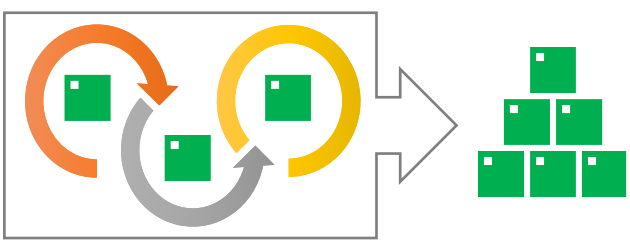
Like cloud services, the DataTech industry has also undergone rapid maturity growth in the last decade. There are several tools in the market to significantly speed up Business glossary, Data linage discovery & Quality assessment activities. The same DataTech tools can also support the required data management capabilities needed in the cloud data-hub. Selecting the right data tools and using them from the start of the initiative, to prepare the legacy data for migration and for ongoing management of new strategic data will generate significant delivery efficiency for the project and sustainable return on investment in BAU.

5. Execute iteratively and deliver business outcomes progressively

Based on the size of the planned scope along with complexity and constraints in the current state, the cloud based data-hub initiative may require several months to complete the delivery.

At RegCentric, we strongly recommend breaking delivery into multiple sprints with targeted scope using agile approach. Early sprints cover the delivery of the core data-hub with foundational features of the platform such as environments, security controls along with basic capabilities for data ingestion, transformation, publication, and IT support operations.

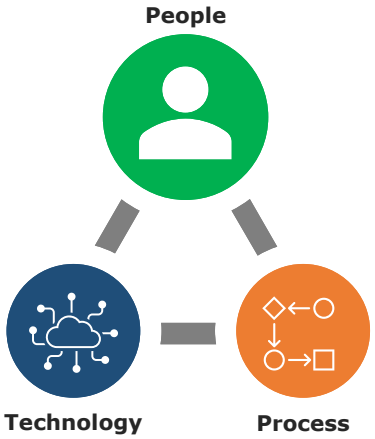
From then on, the delivery needs to be set up as iterative time-boxed sprints, focusing on executing tangible business outcomes at the end of each sprint. This will enable the organisation to tightly manage the spend, business adoption of new capabilities and have the flexibility to change priority sequence of delivery, to cater for evolving business needs.



This approach will also help to progressive increase the overall data availability, capability, and maturity of the data-hub with the delivery of each use-case, generating compounding business value over time.

6. Business change management is as critical as Data/IT solutions

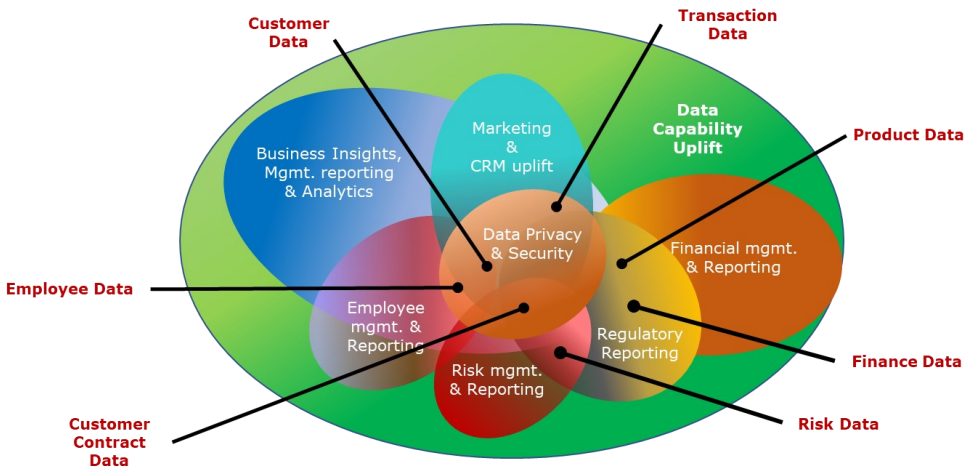
Delivery of data capabilities and migration of data onto the strategic cloud platform for every business use-case should be accompanied by required business processes and staff accountability changes to ensure business adoption of the new solution and transition out from the legacy. This is critical to achieve true transformational uplift and enable decommission of legacy processes, systems, and data to progressively reduce data complexity/risks, and improve overall efficiency across the organisation.



7. Prioritise and delivery sequence the right business use-cases at right time

Organisations are facing many competing business critical demands, such as sustaining growth for survival, keeping up with ever increasing regulatory, risk and cost pressures, along with rapidly evolving customer expectations in line with changing data/digital trend.

Running several high priority projects in silo to address each individual business need, while driving transformational initiative such as data migration to the cloud, can lead to organisational chaos. Projects will be competing for resources across data, systems, and staff (business, IT and data subject matter experts), due to common needs. This will impact the delivery efficiency across the projects, staff morale relating to burn out factor, and the overall operational cost in BAU due to projects deploying multiple stand-alone solutions for the same requirements. Below is a simple illustration to show potentially overlapping data requirements across different business use cases.



Another important factor to consider when delivering transformational solutions such as cloud data-hub is, there will be some initial 'teething trouble' relating to the new technology, platform, data solutions and processes. The new platform, capabilities, processes, and IT/business operations need time to mature to become stable and effective. Hence the initial set of business use-cases to be delivered via the cloud-based data-hub need to be simpler to test the platform capabilities and operational stability.

7. Prioritise and delivery sequence the right business use-cases at right time (contd.)

Starting with highly complex use-cases and/or very tight delivery timelines can result in forcing the delivery team to take short-cuts and tactical approaches in the new strategic data-hub which fundamentally defeats the transformation agenda.

Running too many high priority initiatives outside the strategic cloud data-hub will intensify the complexity and risks to the already challenging legacy data and IT landscape. This can impact the success across the enterprise and the expected business return on every investment.

It is important to narrow the number of top priority initiatives for each delivery period, based on their expected business value and criticality of the delivery timeline. Identifying synergies across the prioritised initiatives and converging delivery will accelerate speed to value. It is also prudent to sequence the delivery timing of the projects factoring into consideration the readiness of the cloud-based data-hub capabilities where possible to fast tract adoption to target state. Where initiatives cannot utilise the strategic data-hub due to its time criticality and lack of data-hub readiness, an interim solution needs to be defined to support immediate business needs while having a plan to transition towards strategic platform.

Such project planning, sequencing and delivery discipline will enable effective execution of projects across the enterprise and achieve transformational business value through every investment.

8. Data Migration should be 'Business Led and IT executed'

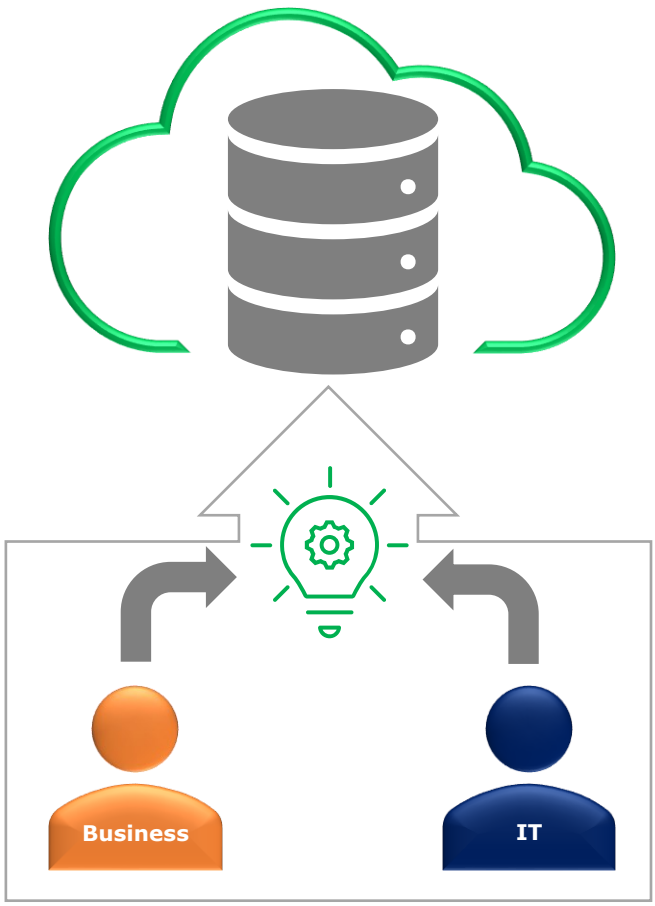
As indicated before, data migration to cloud is not just about changing the technology infrastructure, platform, and tool kits. A key aspect of delivery is transforming data & analytic capabilities for business to achieve their strategic goals.

Hence, business should be co-owner and co-contributor for the cloud data-hub partnering with IT, providing data, reporting and analytics requirements, sequencing delivery timelines and defining quality expectations. Having business representatives with delegated authority to make decisions, actively supporting the project from planning through to implementation will contribute to highly efficient and impactful delivery.

Organisations should consider establishing appropriate cross-business stakeholder group at executive level (e.g., data leadership forum or steering committee) for effective leadership to drive the strategic transformation agenda across the enterprise.

This would make a substantial difference for

- Sponsorship and support needed for ongoing evolution of transformational changes
- Formalise enterprise-wide priority sequence for execution and any conflict resolution
- Increased business engagement to ensure expected business outcomes are delivered
- Mandate adoption of strategic solutions and progressive reduction of legacy footprints



Conclusion

As organisations start embarking on data migration to cloud, they need to have a clear view on the target state architecture, understand current state challenges and plan the delivery appropriately, taking a holistic view of the changes required across people, processes, technology and data for successful return on investment.

For the cloud migration to have a tangible impact on organisation's transformation agenda, it needs to be complemented by broader enterprise-wide changes in many aspects, including culture and mindset.

Following are examples of changes to consider:

- Uplift skilled staff across Business and IT to utilise and manage the cloud based capabilities and encourage innovative mindset to maximise the data and analytics opportunities it provides for greater business value.
- Increase the focus on the quality of data within data capture points and source systems, rather than continuing the status quo of fixing/adjusting data within the data-hub and at point of consumption. Without data quality uplift across the data flow, real-time analytics and insights will remain a distant goal as data cleansing and remediation will continue to be a speed-breaker.
- Cloud based data-hub and analytics capabilities will progressively democratise data access across the organisation with self-service capabilities. Organisations should drive enterprise-wide data literacy training to ensure business and IT staff understand the growing regulatory expectations on data security, privacy and ethical use of data, to minimise the risk of data breaches, which can result in significant penalty, reputational damage and customer confidence.

To truly embrace and fundamentally shift an organisation's perception of data and the contribution of data to business success, the board and senior executives of the organisations should set the tone from the top and drive the enterprise transformation elevating importance of data as a critical business asset.

How RegCentric can assist

RegCentric can assist organisations gain control over their data from Data Strategy through to implementing DataTech solutions that leverage latest advances in technology as well as by providing subject matter expertise on proven methodologies for managing exponential growth of data.

Please get in touch with us if you would like to know more about our services:

Advisory Services: Data Strategy, Data Architecture and Data Management transformation roadmap definition, Data Governance & Controls, Technology recommendation for managing data.

Implementation Services: Take advantage of next gen technology to quickly and cost effectively implement Cloud, Data and Analytics capabilities delivering high performance, flexibility & agility.

About Us

RegCentric delivers innovative services and solutions that leverage the latest advances in technology to increase efficiency, provide insights, reduce risks, and ensure regulatory compliance. We provide strategic advice and design, build, and implement technology solutions that deliver the best outcome in a technology-agnostic way. Our team consists of data, risk & regulatory technology experts with decades of experience supporting transformative initiatives for regulators as well as the regulated industry.

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