Data Migration - A Case of Lost in Transformation!

A re-usable and repeatable framework-based approach ensures data migration success
“Migrations represent about 60% of all large enterprise IT projects”

“More than 65% of data migration projects are not able to deliver within planned budget and time”

These perspectives from leading market intelligence firms present a grim picture of data migration. It implies 1 in 3 projects in an enterprise fail to deliver value, because the data migrated into new platforms either don’t make it in time or do not meet quality benchmarks to add value.

With rapid adoption of big data, open source solutions and cloud/as-a-service models of IT procurement, the problems of data migration are only going to become bigger and more critical.

What ails current data migrations?

These are the areas where data migration typically fails:

- Estimation of the problem – Most migrations are heavily underfunded because the enterprise is not aware of the extent of the data problem. Very few companies actually establish a baseline to assess their readiness for the transformation.

- Lack of business support/governance – In organizations where transformations are led by IT, getting business buy-in to manage and upkeep the data is a problem and this reflects in the data migration process in a big way. Without proper controls like specified ownerships, access privileges and audit controls, the process of data preparation can lose the confidence of stakeholders, leading to higher costs and schedule overruns.

- Ad-hoc processes – Migration is never achieved in a single attempt - there are multiple rollouts, plus, within each rollout there are multiple iterations before the data can be certified for the target systems. Hence, lack of a structured process makes it less predictable and productive.

- Lack of automation – Excessive reliance on excel sheets, emails and phone calls make the process to identification, collation, curation and certification of data slow, less transparent and expensive.

- Uncoordinated program tracks – It is critical that the data preparation track of the transformation program be tied in the hip to the application development track of the program.

How to make data migrations work?

Though data migration might focus to a greater extent on the data structure and content as seen from the requirements of the target system, there is a big need for transforming the data governance practices to align with the target platform/processes as well.
Even greater is the need for setting up an interim data governance team – with a clear owner for each data set, supported by able stewards who understand the business processes and nuances of the transformation required of the data. These stewards are part of the team that helps define the target systems (ERP/CRM/HRM etc.), its processes and the aligned operating models.

Strategic approach to migration

It is important to take a broad view of the data migration process (Fig 1 - Migration Approach) that aligns with the overall blueprinting process of the transformation journey. The overall process can be broken down into 3 phases:

- **Discovery** – In this phase, the output developed is the scope of the program (how many objects, source systems, preliminary idea of the level of effort in transformation etc.) and outline of what is required from other dependent teams. You should be able to sign off against the overall project plan at the end of this phase.

- **Strategize** – At this stage, key decisions are made with respect to building a blueprint for the execution phase – e.g. selection of tools to use, the data governance structure (roles and responsibilities, processes etc.), overall process for migration, architectural framework, strategies for cut-over, delta loads etc. are formalized.

- **Execute** – At this stage, the bulk of the actual work happens with regards to preparing the data for the initial load into target platforms. The phase is iterative and is typically aligned to the overall rollout strategy (by BU, geo etc.). Use of a structured framework provides most of the benefits in this phase.

![Fig 1: Migration Approach](image-url)
Repeatable process of migration

The process of preparation of data needs to be repeatable and efficient, that not only allows cutting down of costs, but also provides sufficient amount of controls to provide business the confidence in the process and final dataset. Each step in the process requires appropriate tool support and governance controls to ensure high quality data is prepared for transformation.

- **Scope** - Key in this phase is to be able to understand the number of objects involved, the number of business users supporting it and how the sources contribute to the build of the target platform.

- **Assess** - Profiling is a key step in understanding the magnitude of the transformation required to support the target platform. Automation of the technical profiling (null checks, valid value checks, pattern checks etc.) and high support for functional profiling (making it business user-friendly version etc.) is key in this step.

- **Transform** - Using tool sets (ETL, DQ) and external data dictionaries (for Companies, Names, Address etc.) to correct and transform is a key part of this step. Being able to tie checks done as part of the ‘Assess’ step into the transformation is key to ensure consistency of data generated from this step.

- **Enrich** - This stage typically caters to enrich in terms of two aspects. First, it might be used to collect data currently not available within source systems and require business SMEs to manually capture them. Here, it is important to have tools that have the ability to collaborate across multiple business users, have controls like versioning, data access controls etc. Second, the business users might be required to enrich datasets that have failed during the ETL/DQ process - here again controls like versioning, data access controls etc. might be key.

- **Validate** - Last step is where the data from the sources need to be reconciled with the produced initial load. The reconciliation capabilities required might include reconciliation at record level, at currency sub-total levels etc. Additionally, there might be a need to visually inspect sample of data sets prior to certifying the data set for initial load.

Most migrations happen without the support of integrated tool sets for the above-stated steps and hence suffer delays and cost over-runs. Also, lack of support for proper governance and transparency in the process might lead to reduced business confidence on the data sets being prepared.

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**IQNxt - a Wipro platform to de-risk migrations**

IQNxt is an integrated solution to manage data migration and quality improvement initiatives. The solution provides a systematic approach to overcome challenges around governance, repeatability and best-practice to control overall costs and contain time to value. It provides an integrated platform for data collection, data quality assessment, data conversion and cleansing, all enclosed within tight governed controls.

The solution can be used in two different inter-related use cases of one-time data migration or on-going data quality management.
IQnxt is a re-usable and repeatable framework (Fig 2 - IQnxt) for data migration initiatives for industries including but not limited to Energy & Utilities, Healthcare & Lifesciences, Banking & Financial Services, as well for supply chain vendors of players cutting across industries. Deployment of pre-built library of data quality and governance control rules that can be customized for relevant use cases, along with pre-engineered templates for transformation and integration accelerate the deployment of data migration initiatives while lowering the cost of programs.

Fig 2: IQNxt – Wipro’s Information Quality Framework
Key solution capabilities

- Addresses data quality for migration and on-going monitoring
- Library of pre-built DQ rules by industry-specific use cases (FATCA, UDI etc.)
- Out of the box integration and transformation templates for select platforms
- Flexible and intuitive interface for business users to deploy customized data quality rules
- Business user focused data management interfaces for data collection/cleaning
- Scorecards and dashboards for continuous monitoring
- Strong governance mechanisms - audit trails and data security etc.

Benefits

- Ensures a structured process for the entire migration
- Builds business ownership of data through tighter controls and higher transparency
- Saves efforts in the migration through use of pre-built libraries for transformations

With shelf-life of platforms coming down and rapid innovations across enterprises, it is imperative that companies invest in building a sound capability in Data Migration. Sound governance and structured processes are key to success in data migration. Tools that help to formalize the processes, aid enforcement of governance policies and automate as many of the steps possible, will not only lower the cost of data migrations but will also ensure success of transformation programs.
About the author

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