

HANDLING

KEY

MASTER DATA

OBJECTS DURING

AN

ERP DATA

MIGRATION



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» Handling Key Master Data Objects During An ERP Data Migration

Enterprises, large and small spend huge amounts of money on creating and maintaining systems that will enable them to make smarter, faster and cost-effective decisions. Enterprise Resource Planning (ERP) is one such initiative that spans across the different operating functions of an enterprise. The focus with using an ERP is to help get a clear visibility into the business, both past and present to help the enterprise make the right business decisions. However, in most cases, even with systems being in place, senior management executives of these enterprises are not able to get a real view into the business, primarily because the data that is present in these systems is not accurate.

1. ERP initiatives, the importance of data migration & the emergence of Master Data Management (MDM)

When organizations move from one ERP to another on account of consolidation, or move from their legacy based systems to an ERP (full lifecycle implementation), they are faced with the challenge of managing legacy data. This data represents years, if not decades, of irreplaceable sales, customer, employee, business partner, or other type of mission-critical information. A solid data migration strategy will ensure that the right data is transferred to the new system. Only then can managers make the informed decisions they need to thrive in a competitive market.

83% of data migration projects fail/overrun

- *Half exceed timescales by three- Quarters*
- *Budgets are exceeded by two-thirds*
- *A third of these fail entirely*

Standish Group Study - 2008

Too often, ERP implementation projects lean heavily on the functional aspects. It is common to see expert functional/business consultants coming on board as implementation partners to ensure a smooth transition.

Their main task is usually developing frameworks, modules and configuring/customizing functional assets in the new ERP framework. Though data migration and data management require a significant amount of planning, in practice, it does not get the attention it deserves. With the top management demanding the timely rollout of the ERP, planning for data migration and data management becomes the premier casualty. This results in junk data going into the new ERP system thereby making the whole implementation suboptimal from day one.

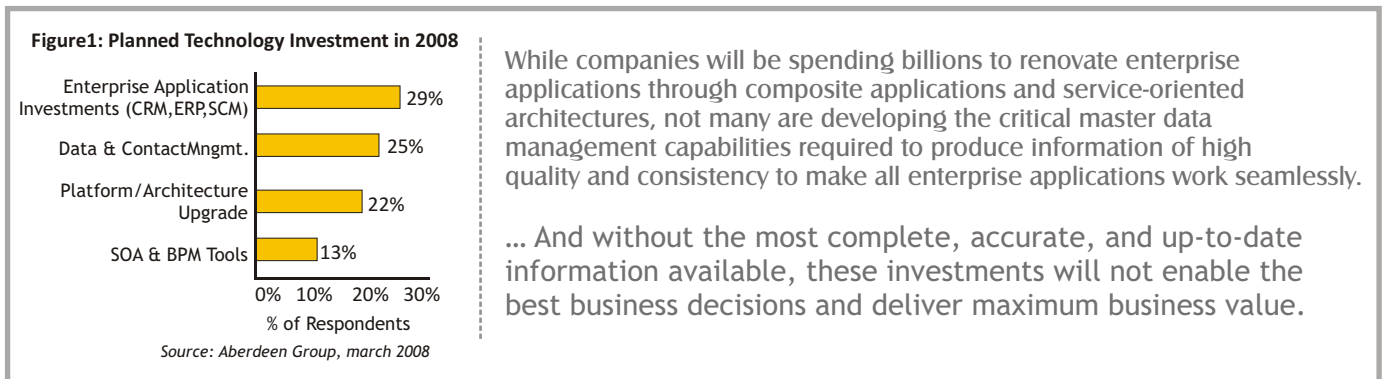
Migration is not just about moving the data ; It's about making the data work. A real configuration of an ERP system can only happen when there is real data in the system. Data loading and data conversion is not a project that can be done after everything else is ready. Extracting and cleansing the data from the existing system can be the single largest task in the project. Typically, mapping the existing data to the new ERP system schemas is a lesson in pain that must be experienced to be believed. If the data migration and data management is managed inefficiently, then the likelihood is that your ERP implementation is headed towards a failure.

Master Data Management (MDM) results in significant improvement in operational efficiency, reporting and fact based decision making

To unify and consolidate data about their customers, products and organizations; data that is often fragmented

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across different systems, several large enterprises are using an emerging concept called Master Data Management (MDM). It is a combination of applications and technologies that consolidates, cleans, and augments the corporate master data, and synchronizes it with all applications, business processes, and analytical tools. This results in significant improvements in operational efficiency, reporting, and fact based decision-making.



2. During Data Migration, multiple masters are migrated

Most software systems have lists of data that are shared and used by several of the applications that make up the system. For example, a typical ERP system at a minimum will have a Customer Master, an Item Master, and an Account Master. This master data is often one of the key assets of a company. Because it is used by multiple applications, an error in master data can cause errors in all the applications that use it. For example, an incorrect address in the customer master might mean orders, bills, and marketing literature is all sent to the wrong address. Similarly, an incorrect price on an item master can be a marketing disaster, and an incorrect account number in an Account Master can lead to huge fines or even jail time for the CEO.

It would have been great, if the organizations had just one set of master data, but this is usually not the case in most organizations. Many companies grow through mergers and acquisitions. Each company you acquire comes with its own customer master, item master, and so on. If it were possible to just merge the new master data with your current master data that would have been a fix to this issue, but this is also usually not easy to achieve. The end result is that several of your customers and products will appear in multiple sets of master data usually, with different formats and different database keys. All of these issues need to be addressed before you move to your new ERP system.

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During data migration, multiple masters need to be migrated to the new system. These include, among others, supplier master, customer master, chart of account master (for each segment), banks master, currency master, region master, country master, location master, tax master etc.

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Depending on the complexity of these masters, they could be classified as small masters & key masters.

2.1 Small Masters - Chart of Accounts Master, Currency Master, etc.

During data migration, an enterprise view of financial chart of accounts, cost centers and legal entities with a unified aim to govern on-going financial management and consolidation is an imminent activity. Chart of accounts, currency and other small masters should be migrated based on consistent definitions of financial and reporting structures across general ledger systems, financial consolidation, planning and budgeting systems to capitalize on the advanced business process improvisation features offered by the new ERP software.

Although these masters are small in terms of enterprise data volume, their impact on the planned ROI from the ERP project is holistic and substantial in terms of projected enterprise needs and requirements from such an investment. Hence, adequate planning and expertise is required to facilitate such a migration.

However, small masters like chart of accounts, currency, etc. are internal to an organization and do not require 3rd party resource allocation and deep domain expertise during data migration.

2.2 Key Masters - Material, Vendor, Customer, etc.

Large enterprises have thousands of line items of material, vendor or customer master data. On a daily basis, large number of items are created in these masters and come from a variety of locations and systems. Hence, these masters are very dynamic in nature and reflect the core of an enterprise's business. During an ERP implementation, consolidation or up-gradation, these masters form the bulk of master data migration and hence, require adequate and comprehensive planning to ensure the success of an ERP project.

Effective and efficient migration of key masters is vital to maintain information consistency and quality across the organization. Key masters are core to an organization but are dependent on external knowledge warehouses for enhanced master data visibility and successful business process implementations. Hence, management of key masters is a very challenging activity.

Characteristics of small masters

- *Small in terms of enterprise data volume*
- *Impact on the planned ROI from the ERP project is holistic*
- *Internal to the organization and does not require 3rd party resource allocation*
- *May not require deep domain expertise*

Characteristics of small masters

- *Ensures consistency of master data and preferences across data systems*
- *Removes duplicate and inconsistent data repositories*
- *Ensures uniformity of data during an ERP data migration*

3. Handling of the key masters during migrations is the key to unlocking the ROI from an ERP investment

As we discussed in section 2, numerous business applications on diverse IT systems access/modify large quantities of material, vendor and customer data all the time. Not all of this is done in a uniform and organized manner. The result is redundant and inconsistent data, which can lead to inaccurate reports and unreliable business decisions.

For an ERP implementation, upgrade or consolidation to be successful and optimal, (post go-live), effective and efficient migration of the key masters like Materials, vendors and customers is extremely important.

3.1 Material Master ROI

Material master is considered the core functionality for any ERP system using distribution or manufacturing type functions. The data stored in the material master is not only used by Warehouse Management (WM), but also by other application components, such as Inventory Management (IM), Production Planning (PP), Quality Management (QM) and Logistics (SD-SHP). The integration of all material data in a single materials database eliminates the problem of data redundancy during an ERP implementation, consolidation or upgrade.

Material Master ROI - Reduced inventory, Better reuse, Easier search

<p>Accounting: Valuation and pricing calculation information</p>	<p>Materials planning and control: Consumption-based planning/inventory control</p>	<p>Purchasing: Data provided by purchasing for a material</p>	<p>Engineering: Engineering and design data on a material</p>	<p>Warehousing: Information related to the storage of a material</p>	<p>Forecasting: Information for predicting material requirement</p>	<p>Sales and distribution: Information for sales orders and pricing</p>
<p>Material Master ROI across various Enterprise Departments</p>						

Rationalized and enriched material master data is a vital enterprise asset that drives the optimization of inventory and improved shop floor productivity. It provides greater visibility and control over material spend thus avoiding bloated inventory and inefficient enterprise spending.

3.2 Supplier/Vendor Master ROI

The vendor master record contains information about the vendors to an enterprise. This information is stored in individual vendor master records. A validated, rationalized and unified

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vendor master

- Normalizes vendor info attributes like name, address etc. according to enterprise requirements
- Rationalizes vendor base by preventing duplication at source
- Validates vendor diversity and authenticity with the help of dynamic knowledge repositories
- Monitors performance of vendors by all departments concerned

Supplier Master ROI - Less payment errors, Single de-duplicated repository of suppliers, Standardized payment terms across suppliers, Better Spend Analysis

Prevents system control collapses such as				Facilitates			
Duplication (rationalization of vendor base by cutting down on multiple suppliers)	Payment & taxation errors/frauds	Incomplete data (original vendor name, address, hierarchy, etc)	Lack of information (source of certifications, W9 forms, insurance certificates)	Linking multiple divisions/subsidiaries, facilities/locations to the parent vendor	Identifying vendor by type	Enabling the ability to store, update, and access vendor contact information including different contact types	Access of vendor information by all departments concerned enabling identification of non-compliant/blacklisted suppliers

3.3 Customer Master ROI

It is important to create a single view of customers to drive revenues. A customer master contains different data elements about a customer. This could include things like general info (Name, address etc.), financial info, contract info, etc. As products/services are delivered, customer master records are updated on a regular basis by the various departments that are in touch with the customer. Superior customer master data quality reduces failed trades, offers better reconciliation, reduces incorrect transactions and improves overall efficiency of any business process.

4. Handling Key Masters need a specialist

During an upgrade/consolidation, it is important to build functional modules of an ERP, keeping in mind the state of the existing enterprise master data and its attributes in the current system. However, creating customized functional modules first and then worrying about the applicability of the master data & its migration is a widespread industry practice. This is one of the prime

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reasons for panic situations during the Go-live stage.

Key master data objects are very unique to an enterprise. Large organizations built over many years, across multiple geographies will have a history of large number of legacy systems, taxonomies and data formats. Handling these key master data objects during an upgrade/consolidation is a major challenge.

Data Migration Mindsets that ERP Implementation's lack

Data that was of good quality in the old environment may not meet the requirements of the new.	Information that was thought to be comprehensive may now be incomplete.	Additional, unfamiliar data may have to be created to achieve a full business picture	Your in-house experts know your current systems, not how to ensure data quality in the new system
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4.1 IT services provider or ERP implementation partners cannot do it

The main focus of the ERP System Integration (SI) partner is to configure/customize the available ERP system modules according to the client's needs. However the SI typically faces the following challenges:

- Formats and types of data used in the enterprise are usually unrelated to the SI's past experiences. Also, most of the ERP systems have predefined data formats in which the SI's expect the enterprise data to exist, which might not be the case.
- SI partners do not have the expertise to undertake cleaning and improvisation of corrupt and incomplete data. Data reforming activities like data cleansing, data rationalization, data enrichment, data augmentation, etc. should leverage automation and require know-how of data trends and data governance models that exist in the current legacy data. SI's lack the experience in data improvising processes that leverage automation and deep domain expertise.

As a matter of best practice, SI's should plan effective data migration strategies beforehand leveraging deep domain expertise and customizable trends relevant and unique to an organization. However, this is not on the priority list of most SI partners, thus resulting in ineffective data migration during ERP projects.

Specialized third party data management partners are needed that have the know-how of the industry standards. They can then use their knowledge to improvise and complete data attribute specifications to deliver a clean ERP legacy data facilitating effective data migration.

4.2 Data migration of Key masters needs strong domain expertise

ERP end-users in organizations are spread across a wide spectrum of geographies, languages, taxonomies and legacy systems. Hence, master data is being created in multiple formats by many

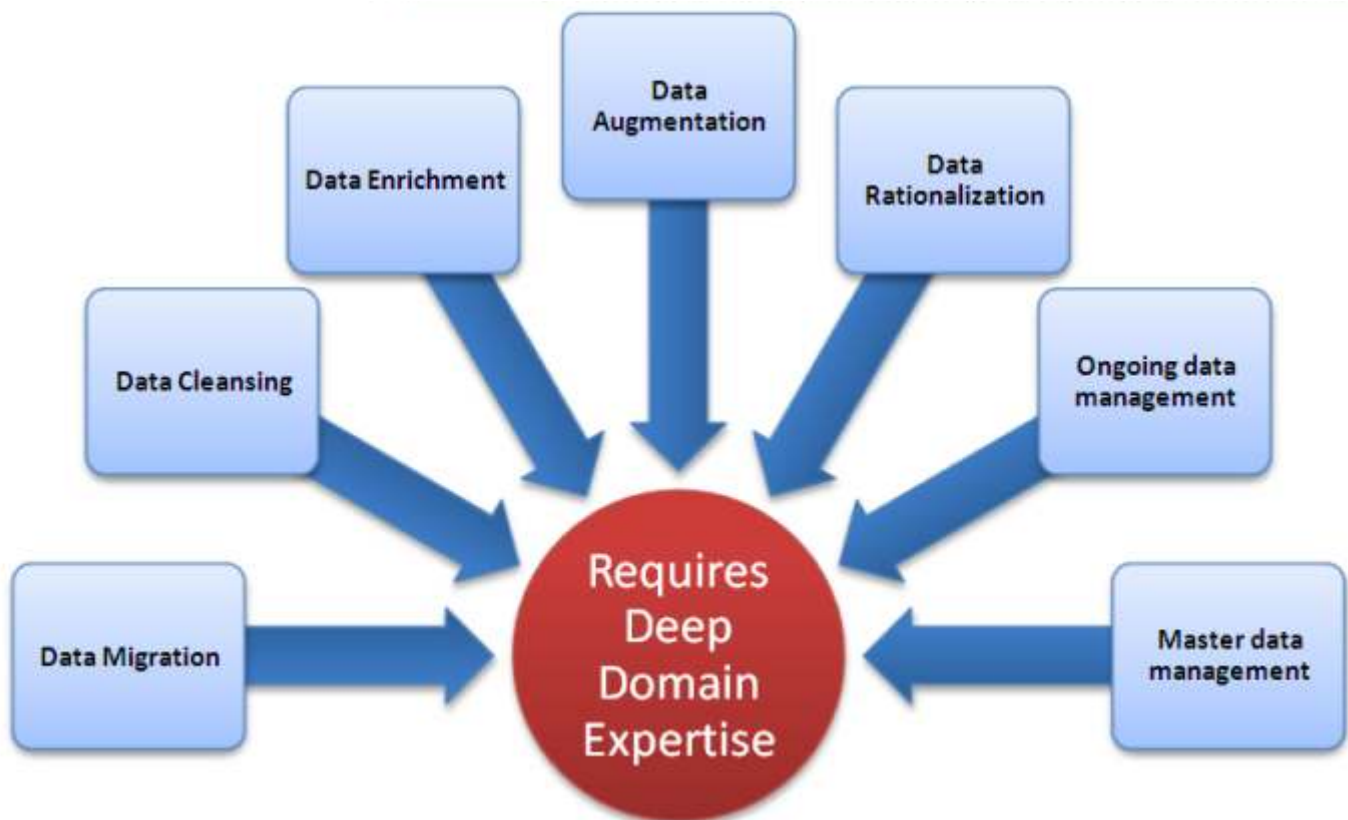
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enterprise' factions that are very unique to the organization's industry and history. For example, a material master would have very different attributes for an enterprise in the Oil & Gas or manufacturing vertical than one in the construction or hospitality industry. Similar would be the case of vendor masters for a financial institution and a utilities enterprise.

Material codes, vendor attributes, taxonomies, compliance codes like HTS, EECN, etc. are all unique to different industries and hence, organizations in different verticals require different data management methodologies that leverage industry specific data rationalization and normalization standards so as to deliver clean enterprise data. Hence, deep domain expertise and experience with the specific industry vertical data formats and representations is necessary while undertaking data cleansing, enrichment, augmentation or migration during an ERP implementation, consolidation or up-gradation.

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4.3 Specialized cleaning tools and knowledge repositories are needed



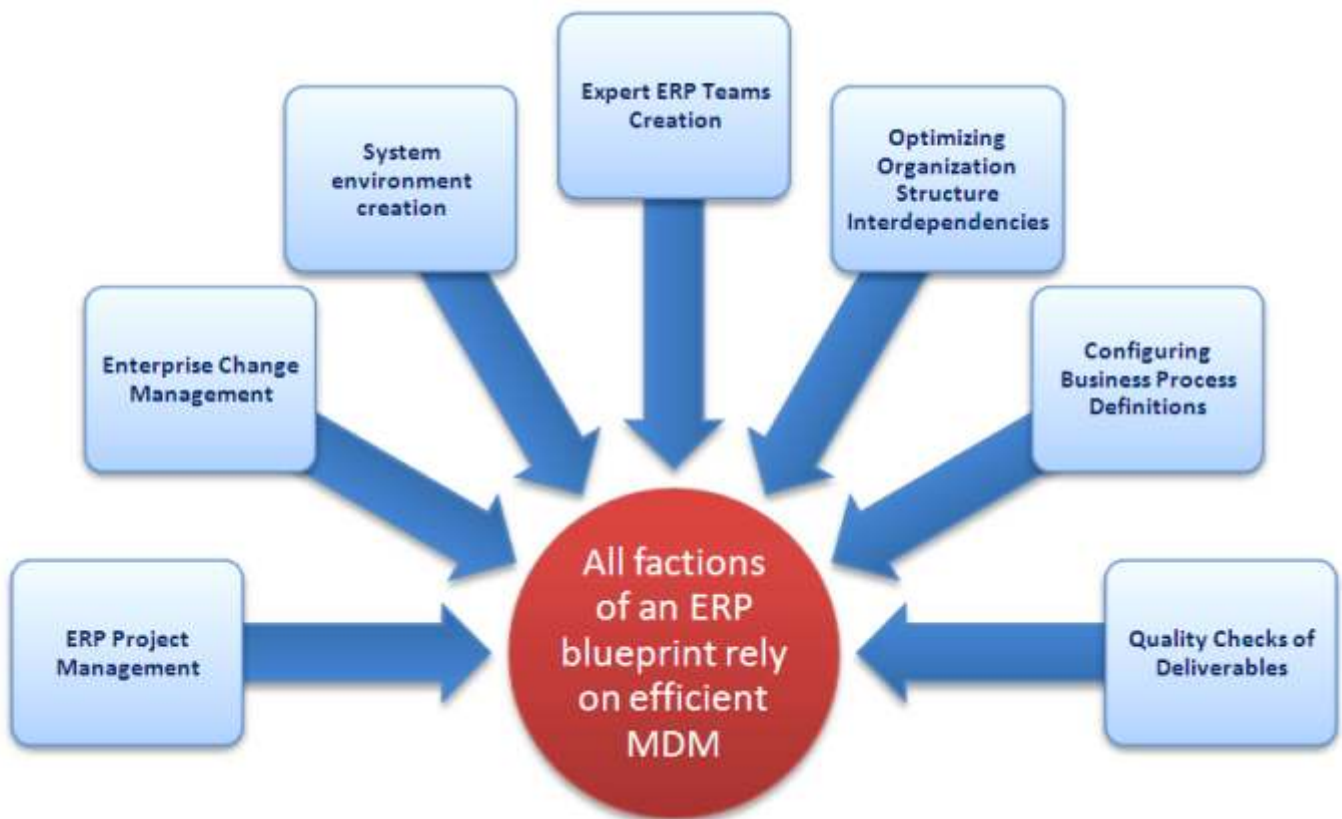
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With the application landscape in large institutions constantly changing, new databases and information keeps getting integrated. This increases the complexity of ERP data management and migration strategies. A complete data management or migration program needs to include development and maintenance of metadata standards and managing metadata knowledge repositories to remove inconsistencies and redundancies. Dynamic content repositories are needed for efficient master data attribute enrichment. These content repositories update and process data objects in real time, thus allowing seemingly, effortless integration and communication between areas of a business in the ERP system architecture.

Usually, master data in the legacy system is found to be inconsistent through years of improper maintenance by disparate users. Migration is a good time to review and improve such data. As a matter of best practice, it is best to cleanse and enrich this in the legacy database prior to the migration, so that during the actual migration, things become a lot easier.

Specialized data cleansing and enriching tools are required that leverage automation and domain expertise to successfully improvise data benchmarks of the legacy data before data is migrated to the new ERP system.

5. Master Data Management (MDM) of the Key Masters have to be part of the ERP blueprint



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Master Data Management is often perceived by business executives as purely ERP infrastructure improvement methods lacking any long term enterprise business benefits. Hence, under management pressure to capitalize on the business benefits of the new ERP system, the blueprint of an ERP project usually lacks adequate frameworks and methodologies for managing key masters. But managing, improvising, cleansing, enriching and migrating key masters is an important activity which has high impact on the success of an ERP initiative and should not be an activity that is handled towards the end of the project.

Master Data Cleansing should be planned at the beginning of the project and should leverage third party expertise (with deep domain skills and capabilities in providing automation to improvise bad or incomplete data). Data teams need to understand how legacy data exists in the current systems and how it could be transformed in the best possible manner in order to be suitable for the new system.

Data migration may be the last activity on the dashboard of an ERP project, only because real time data can migrate when the system is about to be working live, but it is a subject to be dealt with much earlier, during the start of the project. Including MDM of the key masters as a part of your business blueprint will ensure that your enterprise derives the maximum real time business benefits of having a new ERP system.