Excellence in Master Data Management
Creating Value Through Simplified Data Maintenance
Management Summary

This white paper takes a close look at the importance, challenges, and business value of excellence in master data maintenance. It explores the causes of problems and presents a solution for simplified and improved automated master data maintenance. The example of a manufacturing company illustrates the roadmap to sustainable value through simplified master data maintenance: It shows how both transparency and efficiency can be ensured through objective assessments, clear responsibilities, and traceable ownership of data fields and profiles.

About the Author

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Lars Olesen is Development Director for itelligence Nordic, where he has the responsibility for the itelligence Nordic own developed solutions. He has worked in the SAP® consulting business since 1995 as implementation consultant, solution architect and project manager. He has worked in many different projects of different sizes and industries. Lars Olesen has gained insight in the various problem areas that are common in most projects including master data.

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Why Excellence in Master Data Maintenance is Relevant

Companies strive for high performance processes and reliable business analytics. That is why much effort goes into designing the processes supporting business, for instance, designing key performance indicators (KPI), reports and dashboards. However, the results are often discouraging. Processes do not run as expected. The business analytics are unreliable and decisions are made by gut feeling instead of solid information. This problem is often due to poor quality master data.

Generally, master data is involved everywhere, above all in the supply chain processes for planning, sourcing, producing, delivery and returns. However, it is equally important in business intelligence, financial reports, marketing, services and other critical business activities. It is also highly relevant to the success of business strategies: As an example, frontline staff needs reliable master data if a service organization is to become truly customer-centric. Also just-in-time product management requires correct master records on product specifications, availability, location, and transport capacity. If they are incomplete or incorrect, organizations suffer from inefficiencies, delays, errors, and poor business decisions.

But since master data is driven by business changes, such as new product lines, it must be accessed, used, managed, and changed constantly and in multiple ways across all a company’s divisions and locations. So first, let us identify some common challenges that most modern organizations face related to MDM generally – and specifically to its maintenance:

- Business users spend hours on manual keystrokes for master data maintenance activities, thus reducing work time available for other important business operations.
- Data quality accuracy becomes a major issue.
- No single version of the truth for all master data – and above all product master data – is established.

What is Master Data Management (MDM)?

MDM is, according to the analysts at Gartner: “…a technology-enabled business discipline in which business and IT organizations work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the organization’s official, shared master data assets. It is increasingly identified by organizations with (1) the launch of a formal enterprise information management (EIM) strategy and (2) the foundation of an information governance program that supports EIM.”
Creating Value Through Simplified and Improved Master Data Maintenance

Since master data must be used, modified, and updated within an organization by many users for many different purposes, the probability of errors and reduced data quality rises with each new user, product or product line. In addition, the more integrated a system landscape, the more widely errors will multiply to different areas. For example, an incorrect warehouse parameter in the material master can halt the entire warehouse process and put a hold on customer delivery. Such an effect can cause a significant loss of revenue, or worse, a serious loss of trust in a company’s capabilities.

There are many other examples where poor master data can result in significant inefficiencies and unnecessary loss of revenue. It may produce extra logistics costs for multiple handling or delivery of items. Alternatively, organizations can face an exploding number of returns, which in addition cause more express deliveries and/or bug fixes. Especially on the shop floor, “dirty data” often leads to extra efforts from clearance of incorrect deliveries and wrong prices or quantities to other problems caused by inadequate and slow information. Furthermore, let us not forget marketing, where many communication activities and promotions miss their targets due to insufficient or inaccurate master data, which can hamper sales.

So there can be little doubt that investing in MDM solutions not only makes sense, but also can actually increase revenue, of special importance in today’s difficult economic times. “The adoption of MDM promises many benefits, ranging from business agility and improved business performance to increased revenue and lower IT and business costs.” A significant decrease in errors caused by manual data entry and maintenance will result in considerable cost savings, optimized staffing, and high capital investment efficiency.

The time seems right to meet the MDM challenge, as many leading researchers say. For example, Gartner Research has compiled three central MDM predictions to help organizations plan for the future:

- By 2016, 20 per cent of CIOs in regulated industries will lose their jobs for failing to successfully implement information governance.
- Through 2016, spending on information governance must increase to five times the current level to be successful.
- Through 2016, only 33 per cent of organizations that initiate an MDM program will succeed in demonstrating the value of information governance.
How Do Master Data Problems Arise?

Unlike transactional data, master data is longer lasting, so MDM requires continuous governance and maintenance throughout the entire lifecycle, from inception to deletion. Harmonization of data entities and synchronization between systems are complex challenges, which can be tackled by implementing SAP NetWeaver® Master Data Management or similar platforms to consolidate, cleanse and synchronize master data within a heterogeneous application landscape.

However, despite this approach and the fact that modern ERP and CRM systems provide increasingly complex functionality, the diverse task of detailed master data maintenance is still often handled manually. Even the world’s leading business software companies have yet to deliver sufficient tools for maintenance that provide both ease of use and a high level of automation.

The fact is that most companies so far lack the maintenance structure and easy-to-use tools that would enable people to quickly enrich master data at its lowest level, based on central standardized rules and clearly defined ownership.

Thus, it is no surprise that problems with master data quality and governance result mainly from time-consuming, error-prone manual data maintenance processes. And this situation is not limited to certain sectors or industries. Neither does it correlate with specific business units and divisions.

Figure 1: The Three Pillars of Excellent Master Data Maintenance

- **Rules, Dependencies and Profiles**
  - Reduction of fields to be maintained
  - Focus on business instead of manual tasks
  - Change from technical fields to business process
  - System documented rules – independent of key people

- **Time and Governance**
  - Less time, quick change
  - Ownership to fields/objects
  - Decentralized execution – central governance

- **Quality**
  - Operations – process quality
  - Analytics
  - Finance
The Road to Excellence: Clear Responsibilities and a Simplified, Automated Maintenance

Results of a comprehensive study by PricewaterhouseCoopers show that “companies that explicitly create a master data stewardship program are significantly more successful in terms of data governance.”

According to the study, “structured and goal-oriented governance reflecting a company’s individual MDM objectives, needs and business model can ensure high quality in master data sets over the long term. This requires, above all, explicitly defined responsibilities along the chain of MDM operational processes and the development of dedicated governance elements, such as data stewards and data councils.”

Figure 2: A Best Practice Setup for Master Data Maintenance

The main related questions are: What rules apply for the creation and maintenance of master data? Who is allowed to create, validate, approve, and change master data? How can you ensure that only allowed fields are changed? How are changes documented?

To make rapid progress in answering these questions, a stewardship program and even the most sophisticated governance approach will not be enough. It takes automated governance and simplified maintenance processes – supported by tools developed especially for these tasks – to pave the fast lane to sustainable business value through master data.
Please note: A maximum return on investment also requires keeping an eye on a lean and cost-effective implementation that suits all your company’s global and local requirements.

» It takes automated governance and simplified maintenance processes to pave the fast lane to sustainable business value through master data. «

For example, the software it.master data simplified (known as it.mds), by itelligence, provides out-of-the-box functionality and features that ease the maintenance of master data through business rules, automated completeness checks with SAP® ERP, and automated workflows for updates and changes (see Figure 2).

Its profile-based functionality creates dependencies between master data objects and fields, and provides central rule maintenance and decentralized master data maintenance. The workflow supports approval of new master data entries and changes. In other words, master data becomes closely linked with business, while business rules and workflows support governance.

A Practical Example From the Manufacturing Industry

The Challenge

A leading global manufacturer of professional cleaning equipment was looking for a way to significantly reduce manual keystrokes and errors in its product-MDM processes.

The rapidly growing organization, with 61 locations in 43 countries and 4,900 employees worldwide, is facing several challenges from a dynamic supply chain, fluctuating customer demand, and the need to determine accurate plant and equipment lead times.

With 250 engineers developing more than 30 new products for the market each year, and over 3,000 products available altogether, massive material entries have to be created and modified in SAP ERP daily. To illustrate this challenge with a concrete figure, a single material at 61 locations requires 3,615 fields in SAP ERP (see Figure 3). And to make things even more difficult: The supply chain planning team may need to rapidly implement changes affecting all 135,000 product numbers.

Errors in material data can be fatal if, for example, dispatchers in the warehouse cannot process the right material, resulting in several hours of delay and costly fines. Therefore, both efficiency and precision do matter to the manufacturer.

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The Solution

Each employee registers between 50 and 100 materials into the system daily. Through it.mds transparent governance and automated maintenance processes for material master data, the number of fields that have to be maintained for a single material in SAP ERP was reduced from 3,615 to 199 – a reduction of 94.4 per cent (see Figure 4). In addition, value increased for the company the longer it.mds was used and the more individual rules were created. Finally, the number of fields to be maintained even dropped from 199 down to between 20 and 30 fields.

Figure 3:
Before – 3,615 Fields for One Material and 61 Locations

<table>
<thead>
<tr>
<th>View</th>
<th>Amount of Fields</th>
<th>Create One Material</th>
<th>Location Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Data</td>
<td>Basic Global</td>
<td>17</td>
<td>Global 9</td>
</tr>
<tr>
<td>Sales</td>
<td>Sales Local</td>
<td>13</td>
<td>Production 2</td>
</tr>
<tr>
<td>Purchase</td>
<td>Purchase Local</td>
<td>6</td>
<td>Dist. 50</td>
</tr>
<tr>
<td>MRP</td>
<td>MRP Local</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>Storage Local</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>Work sch. Local</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>Finance Local</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>17</td>
<td>504</td>
<td>112</td>
</tr>
<tr>
<td>Total sum</td>
<td>3,615</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4:
After – it.mds Reduces 3,615 Fields for One Material to 199 Fields

<table>
<thead>
<tr>
<th>Create One Material with it.mds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile type</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Source Global</td>
</tr>
<tr>
<td>Plan Local</td>
</tr>
<tr>
<td>Source Global</td>
</tr>
<tr>
<td>Make Local</td>
</tr>
<tr>
<td>Definition Global</td>
</tr>
<tr>
<td>Sum</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
So today, due to the rule-based data maintenance approach, a user can just place material in a certain category, and with a single keystroke, between 20 and 30 fields in SAP are automatically filled in. The remainder of the fields is handled automatically for each material: this way all 3,615 fields are correctly updated in SAP ERP throughout the organization. Factories and subsidiaries that do not run SAP can also benefit from it.mds by deploying a web interface, which facilitates a mix of central control and decentralized maintenance.

Figure 5: Thousands of Data Fields in ERP – How the Challenge Can be Met in Three Steps

Fields Used by the Company

1. Split Fields into Profile Types and Profiles
2. Define Profile Content
3. Define Dependent Values

A
- MRP Type = PD
- Lot Size Key = HB
- Consumption Mode = 2
- Forw. Cons. = 20
- Backw. Cons. = 20
- Etc.

B
- MRP Type = PD
- Lot Size Key = FX
- Consumption Mode = 2
- Forw. Cons. = 30
- Backw. Cons. = 30
- Etc.

C
- MRP Type = PD
- Lot Size Key = EX
- Consumption Mode = 1
- Forw. Cons. = 0
- Backw. Cons. = 30
- Etc.

From Field 1
- Lot Size Key = FX
- Lot Size Key = FX

From Field 2
- Mat. Group = XXX
- Mat. Group = YYY

To Field
- Fixed Lot Size = 10
- Fixed Lot Size = 20

» The significant reduction in keystrokes can total thousands of working hours saved each year. «
The significant reduction in keystrokes can total thousands of working hours saved each year. At the same time, error rates have decreased and data quality has improved, simply because people need not remember and monotonously enter numerous – and for their work tasks, irrelevant – master data fields in SAP ERP.

» Place material in a certain category and, with a single keystroke, between 20 and 30 fields in SAP are automatically filled out. «

The solution’s request-system ensures data integrity and discipline. When a source of error is detected, the master data team can now easily identify and contact the person who entered the incorrect or insufficient data. Moreover, if necessary, they can easily implement or change a rule to solve frequent problems. The manufacturing company has created some 2,000 automated rules that significantly simplify the daily challenges presented by material data.

Summary: Tackling the MDM Challenge Through Simplified, Highly Automated Maintenance

Accurate master data has become a business imperative for staying successful in global markets. Therefore, both large and small organizations have to develop powerful processes and procedures for master data maintenance and governance.

While MDM is often described as a major technological issue, this white paper shows that a great part of the MDM challenge can be tackled easily. All it takes is a dedicated software solution that can simplify and automate today’s increasingly complex, ERP-related data maintenance procedures.

As the practical example above points out, organizations that take this avenue will create sustainable business value, since over 90 per cent of the maintenance tasks can be automated. The company and its employees benefit from significant time savings. In addition, data quality improves as the error rate drops significantly. Combined with a lean and cost-effective implementation, this leads to a maximum return on investment and paves the road to true MDM excellence.
it.mds at a Glance

it.mds by itelligence simplifies both creation and maintenance of master data by using rules, profiles, and dependencies that can be easily defined and documented.

Technical (ERP) terms are converted into common business language, so users can make quick decisions based solely on business needs. They no longer have to deal with thousands of difficult technical fields. In addition, personal ownership of data fields and profiles removes all doubt about maintenance responsibilities.

it.mds simplifies internal workflows and provides a simple and solid overview of all master data across your business. Your company can count on a single version of the truth for all master data, steadily improving data quality, and the most efficient data-maintenance procedures.

Benefits

- Build workflows for highly effective data maintenance processes
- Define company-specific terminology based on business-specific terms (as opposed to difficult ERP terms)
- Create your own logic for global and local fields – independent of ERP data structure and ensure a uniform reporting standard across locations
- Define dependent values, derive field values from other fields
- Define logic and rules for different locations
- Support SAP industry solutions and customer modifications to tables
- Create values via profiles and ensure data consistency
- it.mds can be called up from other MDM tools such as SAP NetWeaver MDM
- The underlying technology is exclusively patented by itelligence
Read more …

… about future-oriented strategies and software solutions in our series of white papers. If you want to know more about it.mds please contact the author or visit us online at: www.itelligence.info

References

Gartner Research, P. R. (2012). Gartner Says Master Data Management is Critical to Achieving Effective Information Governance. Stamford, USA.

Gartner Research, P. R. (2011). Gartner Highlights 10 Critical Myths and Realities of Master Data Management, Egham, UK.


About itelligence

itelligence is one of the leading international full-service providers in support of SAP® solutions, employing about 3,000 highly qualified employees in 21 countries and in five regions (America, Asia, Western Europe, Eastern Europe and Germany/Austria/Switzerland). As a frequently awarded SAP partner, among others a global value-added reseller, SAP Certified in Cloud Services and SAP Gold Partner Business ByDesign®, itelligence realizes complex projects in the SAP solution-based environment for over 5,000 customers worldwide. In 2006, itelligence obtained gold-level status as an SAP channel partner as part of the SAP® PartnerEdge™ program. The company’s services in support of SAP solutions range from consulting and licensing to outsourcing and services to proprietary industry-specific SAP. In 2011, itelligence generated total sales of EUR 342.4 million. itelligence is “Top Consultant” 2012.
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