International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

MDG as a Strategic Tool for Accelerating M&A Data Migration and Modernization

Arun Chinnannan Balasubramanian

Verizon Communications
arun.chinnannanbalasubramanian@verizonwireless.com

Abstract
The rise in mergers and acquisitions (M&A) has highlighted the critical need for robust data management and migration tools. Data consolidation and modernization are central to achieving synergies in M&A transactions. SAP Master Data Governance (SAP MDG) emerges as a strategic enabler in streamlining and accelerating the data migration process while ensuring data integrity and quality. This white paper explores SAP MDG's role in addressing data migration challenges during M&A, its architecture, capabilities, and strategic value for data modernization initiatives. The paper provides detailed examples, discusses implementation strategies, and concludes with an evaluation of SAP MDG's long-term benefits for organizations engaging in M&A.

Keywords: M&A, Accelerating integration, Challenges of Merger, Unifying data, Finance integration, Fin aggregation.

Introduction

In an era of increasing globalization and competition, mergers and acquisitions have become a critical strategy for companies seeking growth, market expansion, and innovation (Davenport, 2014). However, the integration of disparate systems, processes, and data during M&A poses significant challenges. Organizations often encounter issues such as:

- Disparate data formats and structures leading to difficulties in unifying MDG entities like Business Partner (BP), Material Master, and Finance Objects (Gartner, 2019).
- Poor data quality and duplication of entities such as suppliers and customers across multiple systems (Loshin, 2011).
- Lack of real-time visibility and governance over key master data entities, including General Ledger (GL) Accounts and Cost Centers (SAP, 2020).
- Complexities in harmonizing master data due to variations in organizational taxonomy and hierarchy structures (Ladley, 2012).

To address these challenges, enterprises require a robust, scalable, and intelligent data governance framework. SAP MDG provides organizations with a unified platform to govern, standardize, and integrate master data, ensuring seamless data migration and modernization.

Problem statement: The Role of foundational Data in M&A

Data plays a pivotal role in the success of M&A transactions. Accurate, consistent, and reliable data is essential for decision-making, operational efficiency, and achieving post-merger synergies (Deloitte, 2018). However, integrating master data from multiple sources during M&A is fraught with challenges:

1. Data Heterogeneity: Different systems use varied formats and taxonomies for master data entities such as Customer (KNA1), Vendor (LFA1), and Material (MARA) (SAP Insider, 2019).
2. Data Duplication: Overlapping records of BP roles like Ship-to, Bill-to, and Payer across acquired systems result in redundancies (Loshin, 2011).
3. Regulatory Compliance: M&A transactions must ensure entity-level compliance for sensitive data, such as tax details in Customer (KNB1) or banking data in Vendor (LFBK) (PwC, 2016).
4. Operational Disruption: Poor integration of master data objects such as Plant and Storage Locations into supply chain processes can lead to inefficiencies (Kimball & Ross, 2013).

Addressing these challenges requires a structured approach to data migration and governance, which SAP MDG facilitates through its comprehensive suite of features.

Capabilities of Master Data Governance & Literature review

SAP Master Data Governance is a centralized solution designed to manage, consolidate, and govern master data entities. Built on the SAP S/4HANA platform, SAP MDG offers the following core capabilities:

Centralized Data Governance

- Provides a unified interface for managing MDG domains like Customer, Vendor, Material, and Finance (SAP, 2020).
- Ensures compliance with governance policies through predefined workflows and approval mechanisms for entities like Profit Centers and Assets (Ladley, 2012).

Data Consolidation and Harmonization

- Enables automated deduplication of master data records, such as identifying duplicates in Vendor Master (LFA1) (Loshin, 2011).
- Supports consolidation from multiple sources into a "single source of truth" for objects like Chart of Accounts and Cost Elements (Kimball & Ross, 2013).

Data Quality Management

- Offers tools for profiling, validating, and enriching master data entities like Material Master (MARA) and Classification Data (CABN) (Smith, 2017).
- Integrates with SAP Data Services for advanced data cleansing and transformation of BP roles and Material hierarchies (SAP, 2020).

Prebuilt Content and Accelerators

- Delivers predefined templates and business rules for faster implementation of Customer (KNA1) and Vendor (LFA1) integration (Gartner, 2019).
- Provides domain-specific capabilities, such as validation rules for Tax Codes and Withholding Tax (SAP Insider, 2019).

Integration and Interoperability

- Seamlessly integrates MDG entities with SAP modules like FI, CO, and MM using APIs (IBM, 2018).
- Supports hybrid deployments with on-premises and cloud-based ecosystems for BP synchronization (Oracle, 2019).

Real-Time Analytics and Reporting

- Leverages embedded analytics for monitoring the health of MDG domains such as Supplier and Customer (SAP, 2020).

- Provides insights into trends and anomalies in master data, such as payment term inconsistencies in Vendor Master (Deloitte, 2018).

Methodology: SAP MDG in Merger & Acquisition org integration

SAP MDGs capabilities align closely with the requirements of M&A data migration. This section details its role in overcoming common M&A challenges through illustrative examples (Rahman, 2020).

1. Addressing Data Heterogeneity

Challenge: Acquiring organizations often have disparate data systems and formats for core entities such as BP, Material, and Cost Centers (Singh et al., 2021).

Solution: SAP MDG's consolidation framework harmonizes these entities. For example, during the acquisition of a regional retailer, the parent company utilized MDG to standardize Material Master (MARA) classifications, ensuring consistent taxonomy (Miller & Hart, 2019). Materials in SAP can be configured in various forms, such as:

1. Sales Sets: Configuring materials as sales sets allows bundling multiple components sold together but managed individually in inventory.
2. Kits: Materials grouped as kits are managed as a single unit in both inventory and sales, simplifying logistics. Sometimes, the Kits make more sense for 3PL, while pick, pack & ship. These too should be captured to leverage further process engagement.
3. Bill of Materials (BOM): BOM configurations detail the components required to assemble a product, enabling efficient manufacturing and tracking.
4. Product Hierarchies: Defining materials within hierarchies ensures alignment across categories and regions. If that is a retail material, it could be termed as Merchandise hierarchy with different industry relevant functions available like, assortments, listing, space management and others.

In the acquiring organization, SAP MDG facilitated a standardization process to reconcile differing material configurations from the acquired company. This involved:

- Data Mapping: Identifying equivalent configurations (e.g., a "kit" in one system mapped to a BOM in another).
- Attribute Standardization: Harmonizing attributes like units of measure, material descriptions, and valuation types.
- Governance Rules: Establishing rules to enforce consistency in material categorization across the enterprise.
- Validation Workflows: Incorporating workflows to ensure all changes adhered to organizational standards.

This approach ensured a unified material structure, enhancing operational efficiency and simplifying integration.

2. Eliminating Data Redundancy

Challenge: Duplication of entities such as Vendor and Customer records leads to inefficiencies (Taylor, 2020). Even within acquiring organization de-duplication could be a humongous task, as the way suppliers are treated differently. Some applications allow the same supplier from different countries to be defined separately to denote a separate entity.

Solution: MDG's deduplication engine merges duplicate BP roles and Vendor data. For example, during an M&A process involving a multinational pharmaceutical company acquiring a regional supplier, vendors often appeared under different names in various systems. For instance, "Global Pharma Ltd." in

one system might be recorded as "G Pharma" or "Pharma International" in others. These discrepancies arose due to linguistic variations, abbreviations, or legacy naming conventions. Using MDGs data consolidation framework, supported by advanced matching algorithms, duplicates were identified based on attributes such as VAT ID, banking details, and address standardization. Triaging involved:

1. Data Profiling: Profiling vendor data to identify discrepancies in key fields.
2. Rule-Based Deduplication: Applying pre-configured rules to detect potential duplicates.
3. Validation Workflows: Enabling business users to review and approve suggested matches.
4. Unified Master Record Creation: Consolidating records into a single source of truth, ensuring unified vendor identification across the enterprise.

This approach reduced vendor data duplication by over 35%, optimized procurement processes, and minimized compliance risks.

3. Ensuring Regulatory Compliance

Challenge: M&A requires adherence to diverse regulatory standards for sensitive fields like banking data and tax numbers. These are legal obligations where a minor misrepresentation or miss out could lead to lasting implications. Changing Privacy laws like CCPA should be cared for, if acquiring an organization honors those. If not, it's a new framework to be put in place.

Solution: SAP MDG ensures compliance through workflows and validations for fields like VAT ID in Customer Master (KNB1). Additionally, SAP GRC (Governance, Risk, and Compliance) can play a critical role in regulatory integration by automating policy management, streamlining access controls, and ensuring real-time monitoring of compliance metrics. For example, during a cross-border merger, SAP MDG validated master data compliance while SAP GRC ensured adherence to GDPR and SOX by tracking user access, enforcing segregation of duties, and generating comprehensive audit reports (PwC, 2016).

4. Low or No Operational Disturbances While Integrating

Challenge: Prolonged integration of critical entities like Chart of Accounts and Materials delays M&A synergies. Business is not ready to take the whole at once due it its size or disruption and fear of outage, like for plants spread in different time zones

Solution: Predefined MDG content for domains like Finance and Material accelerates timelines. A template based approach can be done, For example, a pharmaceutical company integrated Finance Master data (MARA and MARC) within six months (SAP Insider, 2019). Build a fail proof template that can be transformed for onboarding/integration, approach in stages spread in timeline.

Data Modernization with SAP MDG

M&A often necessitates modernization to ensure long-term scalability and agility. SAP MDG supports this by:

Taking advantage of SaaS platforms: SAP MDG supports hybrid and cloud deployments, enabling seamless integration of Customer and Supplier data into SAP Business Technology Platform (BTP) (IBM, 2018).

Advanced Analytics and AI: MDG integrates with SAP Analytics Cloud to deliver predictive insights for anomalies in entities like Vendor banking details and Material costing data (Deloitte, 2018).

Implementation Strategies

Effective implementation of SAP MDG during M&A requires careful planning and execution. Key strategies include:

Conducting a Data Assessment: The first step in implementing SAP MDG is a comprehensive data assessment. This involves identifying and prioritizing critical master data entities, such as Business Partners (BP), Material Master, and General Ledger (GL) Accounts (Ladley, 2012). During M&A, legacy systems often house inconsistent or incomplete data. For instance, different units of measure for materials or inconsistent supplier names can create significant integration challenges. Organizations must deploy profiling tools to analyze data completeness, accuracy, and redundancy, creating a clear baseline. The output of this process is a data quality report that feeds into a roadmap for harmonization (PwC, 2016). A pharmaceutical M&A example showed that early profiling helped identify and correct 40% of discrepancies in material unit conversions, streamlining integration efforts.

Leveraging SAP MDGs Prebuilt Content: SAP MDG provides predefined templates and models for domains such as Customer (KNA1), Vendor (LFA1), and Material Master. These accelerators reduce the effort required for configuration and enable rapid deployment (SAP Insider, 2019). For instance, pre-configured business rules ensure tax compliance across multiple jurisdictions, avoiding discrepancies in VAT IDs or tax codes. Organizations can further tailor these templates to specific needs, such as adding custom fields for product compliance certifications. Using prebuilt templates also supports quicker onboarding of legacy systems, particularly in manufacturing settings where material hierarchies often differ (Kimball & Ross, 2013). In one case, a global retailer used MDGs templates to integrate vendor master data across 15 systems, reducing onboarding time by 60%.

Ensuring Stakeholder Alignment: Stakeholder alignment is crucial for a successful SAP MDG implementation. M&A processes bring together diverse business units, each with unique requirements and perspectives on master data governance (Loshin, 2011). Engaging stakeholders early—including IT teams, procurement, finance, and regional managers—ensures consensus on data governance policies. Collaboration workshops can address regional variations in material or customer data formats and classifications (Smith, 2017). For example, during a merger of two global manufacturing firms, alignment workshops were used to define uniform attributes for serialized components, enabling global traceability across production lines. This proactive approach mitigates resistance to change and ensures smooth adoption of MDG processes.

Phased Rollout: A phased rollout strategy reduces operational risks and provides opportunities for iterative improvements. High-priority domains like BP and Material Master are typically addressed in initial phases (SAP, 2020). For example, a multinational automotive company prioritized critical supplier integration to ensure uninterrupted production lines during its M&A process. The phased approach allowed testing of validation workflows and data harmonization in smaller batches before scaling to additional domains. Organizations can use MDGs simulation features to validate the impact of changes, ensuring continuity in operational processes (Davenport, 2014). This method reduces disruption and enables continuous learning during implementation.

Continuous Monitoring and Optimization: After deployment, continuous monitoring ensures that data quality and governance frameworks remain robust. SAP MDGs embedded analytics provide real-time dashboards to track metrics such as data completeness, error rates, and duplicate entries (Deloitte, 2018). Business teams can establish thresholds for KPIs, triggering automated alerts for deviations. Over time, organizations refine governance rules to accommodate evolving business needs or regulatory requirements. For instance, a retail company enhanced its duplicate detection rules to handle name variations in international vendor records, reducing duplication rates by 25% (Smith, 2017). Optimization efforts also extend to refining workflows and user interfaces to enhance adoption and usability.

By adopting these implementation strategies, organizations ensure a seamless transition during M&A while maintaining operational integrity and data accuracy. SAP MDG emerges as a critical enabler in this process, leveraging its technical capabilities and strategic methodologies to address common integration challenges effectively. Embedded analytics within SAP MDG allow organizations to track key performance indicators (KPIs) such as duplication rates and data completeness (Deloitte, 2018). Over time, business rules can be refined to address evolving needs, such as enhancing compliance workflows to meet new regulatory standards (Smith, 2017).

Conclusion

SAP MDG serves as a strategic enabler for M&A data migration and modernization. By managing critical master data entities like BP, Material, and Finance objects, MDG ensures data consistency, quality, and compliance while accelerating integration timelines. SAP MDG employs methodologies such as rule-based data harmonization, workflow validation, and attribute standardization, ensuring seamless integration across diverse systems. For example, leveraging prebuilt content templates and analytics for real-time monitoring enables organizations to address challenges proactively. These methodologies highlight SAP MDG as one of the most effective tools for ensuring data integrity and reducing disruptions during M&A. By adopting these approaches, organizations can unlock synergies and achieve seamless harmonization post-M&A.

References

1. Davenport, T. H. (2014). Big Data at Work. Harvard Business Review Press. Retrieved from: https://hbr.org/product/big-data-at-work
2. Gartner. (2019). Magic Quadrant for Master Data Management Solutions. Retrieved from: https://www.gartner.com/reviews/market/master-data-management-solutions
3. Ladley, J. (2012). Data Governance: How to Design, Deploy, and Sustain an Effective Data Governance Program. Elsevier. Retrieved from: https://www.elsevier.com/books/data-governance/9780124158290
4. SAP. (2020). SAP MDG Product Documentation. Retrieved from: https://help.sap.com/viewer/product/SAP_MASTER_DATA_GOVERNANCE
5. Loshin, D. (2011). Master Data Management. Morgan Kaufmann. Retrieved from: https://www.elsevier.com/books/master-data-management/9780123756954
6. Deloitte. (2018). Data Integration in M&A: Challenges and Opportunities. Retrieved from: https://www2.deloitte.com/global/en/insights/topics/mergers-and-acquisitions/data-integration-m-and-a.html
7. Kimball, R., & Ross, M. (2013). The Data Warehouse Toolkit. Wiley. Retrieved from: https://www.wiley.com/en-us/The+Data+Warehouse+Toolkit
8. Oracle. (2019). Data Governance Best Practices. Retrieved from: https://www.oracle.com/data-governance
9. Smith, C. (2017). Managing Data Quality. Springer. Retrieved from: https://link.springer.com/book/10.1007/978-3-319-44700-3
10. SAP Insider. (2019). Master Data Management for S/4HANA. Retrieved from: https://sapinsider.org/articles/master-data-management-for-s4hana

11. IBM. (2018). Data Modernization for the Digital Era. Retrieved from: https://www.ibm.com/cloud/data-modernization
12. PwC. (2016). M&A Integration: Mastering the Challenge. Retrieved from: https://www.pwc.com/gx/en/services/deals/mergers-acquisitions.html
13. Miller, J., & Hart, P. (2019). Harmonizing Material Master Data Post-Merger. Journal of Data Management, 12(3), 45-60. Retrieved from: https://jdmjournal.org/article/material-data-harmonization
14. Rahman, A. (2020). Challenges in Cross-Border M&A Data Integration. International Journal of Business Systems, 18(2), 89-101. Retrieved from: https://ijbs.org/article/cross-border-data-integration
15. Singh, R., Patel, N., & Gupta, V. (2021). Best Practices for Master Data Consolidation. SAP Case Studies, 8(1), 15-29. Retrieved from: https://sapcasestudies.com/articles/master-data-consolidation
16. Taylor, M. (2020). Mitigating Vendor Duplication Risks in M&A. Global Procurement Journal, 14(2), 123-136. Retrieved from: https://globalprocurementjournal.com/mitigating-vendor-duplication