

Every supply chain decision runs on master data. When item, supplier, customer, and location records are duplicated, incomplete, or inconsistent, the cost shows up everywhere: delayed shipments, incorrect payments, unreliable plans, and AI tools that no one trusts.



Master Data Management (MDM) fixes the problem at the source. It is not a one-time conversion project. It is an ongoing business discipline that connects the people who own the data, the processes that govern it, and the technology that stores and shares it. That way, every system works from one trusted version of the truth. In this paper, we share what we have learned helping Oracle Cloud SCM customers build MDM programs that last. We cover:

- The master data domains that matter most to supply chain operations
- Why governed master data is the prerequisite for AI
- A practical, phased approach to building your MDM plan
- How to cleanse, standardize, and keep data trusted over time
- How to overcome the obstacles that stall most programs

The Challenge: Master Data is a Supply Chain Leadership Issue

Supply chain leaders are asked to plan with more precision, respond faster to disruption, and put AI to work across operations. All three depend on data that most organizations have never fully governed.

The symptoms are familiar:

- **Duplicate items and suppliers** that split spend, inflate inventory, and hide true demand
- **Inconsistent units of measure and classifications** that break planning, costing, and reporting
- **Incomplete supplier and location records** that trigger payment errors, tax issues, and shipping delays
- **Disconnected systems** where ERP, planning, procurement, and spreadsheets each hold a different version of the same record
- **Manual reconciliation** that consumes planner and analyst time better spent on decisions

These are not IT problems. They slow order fulfillment, erode supplier relationships, and undermine confidence in every forecast. Organizations that treat master data as a strategic asset, owned by the business and supported by technology, gain accuracy, agility, and a foundation they can build on.

“ Supply chain leaders don't lack data. They lack data they can trust. Governed master data is what turns Oracle Cloud SCM from a system of record into a system that drives better decisions, and it is the foundation every AI initiative will stand on.”

— Niket Tyagi, SCM Practice Leader
Peloton Consulting Group

What Counts as Master Data

Master data describes the stable business entities that every system and process shares: the items you make and buy, the suppliers you buy from, the customers you serve, and the places and assets you operate. It gives transactions, reports, analytics, and AI their trusted context.

Transactions depend on master data but are not master data. Orders, invoices, inventory balances, work orders, and financial results are managed separately. Drawing this line early keeps your MDM scope focused.

We see eight core domains in Oracle Cloud SCM environments, listed here in the order they typically affect supply chain performance:

Domain	What it Defines	Key Attributes in Oracle Fusion	Why it Matter to Supply Chain
Product/Item	Goods and services you buy, make, sell, or maintain	Item numbers, descriptions, item classes, categories, units of measure, attributes, organization assignments, product structures	Connects product development, procurement, inventory, manufacturing, costing, order management, and planning
Supplier	Organizations and individuals that provide goods or services	Legal names, supplier numbers, sites, contacts, tax registrations, payment terms, banking references, certifications, procurement classifications	Prevents duplicate suppliers, incorrect payments, compliance gaps, and procurement disruptions
Customer	Individuals and organizations that buy from you	Names, account numbers, addresses, contacts, tax information, classifications, account relationships	Supports accurate fulfillment and invoicing, credit management, service, and segmentation
Location	Offices, plants, warehouses, distribution centers, and customer or supplier sites	Location codes, addresses, geographic coordinates, time zones, operating calendars, organizational relationships	Drives shipping, taxation, scheduling, inventory placement, and compliance across a distributed network
Equipment & Asset	Machinery, production equipment, buildings, vehicles, and tools	Asset numbers, serial and model numbers, manufacturer, specifications, location, ownership, criticality, status	Supports maintenance planning, safety, downtime analysis, and lifecycle cost decisions
Reference	Governed codes and lists of values	Units of measure, currencies, countries, tax codes, status values, categories, calendars, transaction types	Ensures every process, integration, report, and AI tool interprets data the same way
Finance	Structures used to record and report financial activity	Legal entities, ledgers, charts of accounts, business units, cost centers, bank accounts, tax classifications	Ensures supply chain transactions post correctly and roll up to reliable, comparable reporting
Employee	Identity and organizational role of each worker	Employee identifiers, assignments, departments, jobs, managers, work locations	Powers approval workflows, security provisioning, and organizational reporting; requires strict privacy controls

Supplier performance history, inventory balances, maintenance records, and similar data supplement these master records but should be managed as operational or analytical data.

Master Data and AI: Trusted Data Comes First

AI does not become reliable because an organization has more data. It becomes reliable when the data it uses is consistent, connected, and governed.

AI agents, predictive models, and automated decision workflows need:

- Consistent definitions, so an item, supplier, or site means the same thing in every system
- Accurate relationships between items, suppliers, customers, organizations, and assets
- Documented lineage, so teams know where data came from and how it changed
- Measurable completeness and freshness, so decisions are based on current, whole records
- Appropriate security, so sensitive data reaches only the right people and processes

Governed master data provides exactly this. In Oracle Fusion, a standardized Item Master, with clean item classes and categories alongside well-maintained supplier, customer, organization, and asset records, gives AI the trusted business context it needs. For supply chain leaders, that means AI-driven demand signals, supplier recommendations, and planning insights they can act on with confidence.

The message is simple: An MDM program is the first investment in any serious AI strategy.

Building Your MDM Plan

Successful MDM programs start with people and business goals, not tools. We recommend seven steps, delivered in phases so value arrives early and momentum builds.

1. **Define scope and goals.** Identify the data domains that matter most to your business objectives. For most supply chain organizations, that means items and suppliers first. Set clear, measurable goals such as fewer duplicate records or faster item setup.
2. **Assign ownership and governance.** Name business owners and data stewards for each domain. Define who creates, approves, and maintains records, and document the rules they follow.
3. **Engage and train stakeholders.** Explain why the program matters, what changes, and how it helps each team. Train users on new processes before they go live, not after.
4. **Gather, cleanse, and load data.** Profile your source data, correct and standardize it, and load trusted records into Oracle Fusion. The next section covers this step in detail.
5. **Integrate and synchronize.** Connect systems so a change made in one place flows everywhere it is needed, keeping records consistent across ERP, planning, procurement, and analytics.
6. **Secure and control access.** Limit who can create and change master data, and protect sensitive supplier, customer, and employee information.
7. **Monitor and improve.** Track data quality measures, review exceptions, and adjust rules as the business changes.

These steps form a continuous cycle. Trusted records are published and used in daily operations. Operational results and user feedback then reveal new issues and requirements, and the cycle begins again. Each pass improves data quality for operations, analytics, and AI.

Gathering, Cleansing, and Standardizing Data

Clean data is the product of a controlled, repeatable process. One-time cleanup projects fade quickly. A disciplined process keeps data trusted long after Go-Live.

Gather and assess. Start by identifying every source that holds master data: legacy ERP systems, CRM, data warehouses, spreadsheets, and supplier portals. Before extracting anything, profile each source to measure completeness, accuracy, and consistency. This tells you where the real problems are and how much effort cleanup will take.

Define standards. Agree on rules for naming, descriptions, dates, addresses, units of measure, classifications, and required attributes. These standards become the quality rules every record must pass.

Cleanse and match. Validate and normalize records against those standards. Identify duplicates, then match and merge them using approved rules that decide which values survive. Route exceptions to data stewards for review rather than forcing automated decisions.

Load and validate. Transform records into Oracle Fusion's structures, load them, and confirm that every record arrived complete and correct.

Document and audit. Record how data was extracted, transformed, and loaded. This audit trail supports compliance, speeds troubleshooting, and makes the next data load easier.

For Oracle Cloud SCM and Manufacturing, this typically means consolidating duplicate items, standardizing item descriptions and units of measure, validating item classes and categories, and confirming organization assignments before publishing approved records to Oracle Fusion.

“ The organizations that succeed with MDM treat it as a business discipline, not a cleanup project. When the people who use the data also own the data, quality stops being a one-time effort and becomes part of how the business runs every day.”

– Larry Sherrod, SCM Practice Consultant
Peloton Consulting Group





Keeping Data Trusted: Governance and Best Practices

Data quality erodes the moment governance stops. The organizations that sustain results treat master data maintenance as part of daily operations. These practices make the difference:

- **Standardize naming and coding.** Establish one naming structure and coding scheme for items, suppliers, customers, and financial data so every team and system can find and use records the same way.
- **Validate before you create.** Put a formal review and approval process in front of every new record. Stopping bad data at the door costs far less than cleaning it up later.
- **Keep one source of truth.** Store master data in a central repository or in Oracle Fusion itself, and make it the single place authorized users go for trusted records.
- **Separate duties.** Define clear roles for requesting, approving, and maintaining records, and limit who can add or change data.
- **Make it easy to do the right thing.** Use self-service request portals and workflow orchestration so business users can submit and track changes without workarounds.
- **Measure quality continuously.** Use data quality tools and rules to check records on an ongoing basis, and track the sources and teams that create the most exceptions.
- **Stay connected to data providers and consumers.** Keep regular communication with suppliers, customers, and internal teams to resolve issues quickly and keep records current.
- **Protect sensitive data.** Apply security and access controls to supplier banking details, customer information, and employee records.
- **Keep a complete audit trail.** Record every change, who made it, and when, and make that history available to approved users for reporting and compliance.

Overcoming Common Obstacles

Obstacle	What the Obstacle Looks Like	How to Overcome the Obstacle
Data Silos	Each function guards its own records and definitions	Bring business owners from every domain into governance early, and agree on shared definitions before building anything
Limited Resources	Teams are already stretched running daily operations	Take a phased approach that starts with the highest-value domain, and partner with experienced specialists to accelerate delivery
Resistance to Change	Users revert to spreadsheets and old workarounds	Involve users in designing new processes, train them before Go-Live, and show them how clean data makes their work easier

The common thread is **people**. Technology enables MDM. People make it successful.

Conclusion: Where to Start

Master data is the foundation of a connected, AI-ready supply chain. Organizations that govern it well plan with more confidence, operate with fewer errors, and put AI to work on data they can trust.

The path forward is clear: start with the domains that matter most, put business owners in charge, build quality into every process, and improve continuously.

Across our work with manufacturing, consumer packaged goods, and retail supply chains, one lesson holds true: The MDM programs that last are led by the business, delivered in phases, and measured by operational outcomes such as faster item setup, fewer payment errors, and more reliable plans. The number of records cleaned matters far less than the decisions those records support.

Future papers in the SCM Leadership Series will build on this foundation, exploring how supply chain leaders can get more value from Oracle Cloud SCM across planning, procurement, manufacturing, and logistics.

About Peloton Consulting Group

Peloton Consulting Group is a leading global professional services firm with connected capabilities to envision and implement AI-enabled transformation. Peloton combines a client-first culture and deep industry, process, technology (cloud and AI), and analytics expertise to drive results. For more information, visit www.pelotongroup.com