

Reinventing Master Data Management in High-Tech Manufacturing

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Introduction

High-tech manufacturers increasingly seek accurate and real-time supply chain forecasting to improve their customer lead times while reducing their stock levels and working capital. These goals are typically targeted by adopting an end-to-end perspective and increased process automation. However, to be successful, these initiatives are highly dependent on accurate and up-to-date enterprise master data.

This paper aims to assist major enterprises in high-tech manufacturing in understanding and benchmarking their master data management issues and approaches to transformation.

The study is based on interviews with 30 master data management leaders in major enterprises across North America, the U.K., and Europe and identifies:

- The key challenges faced by master data management (MDM) organizations and the importance of enhancing master data management
- Desired changes to MDM within future operating models and the importance of automating master data management
- The key use cases for data enrichment
- The level of appetite for third-party master data management services
- The benefits sought from third-party master data management
- The challenges and key success factors in master data management transformation.

Note that infographics in this paper show percentage values, which indicate the proportions of master data management leaders who perceive specific characteristics to be highly important.

Issues in Master Data Management

High-tech manufacturers have been modernizing their systems and undertaking cloud migrations in response to the pandemic and the uncertainties of the current economic climate. However, in many high-tech companies, master data remains in repositories at the system and business silo level and fails to provide a consistent and accurate enterprise-wide source of the truth.

The main issues in master data management faced by high-tech manufacturers are:

- Lack of policies, processes, and governance for maintaining data
- Being slow to update data resulting in considerable out-of-date data
- Need for common taxonomies across the supply chain
- Lack of departmental manager understanding of need to maintain a single source of data
- High cost of maintenance and lack of budget allocated to active MDM.

Importance of Enhancing Master Data Management



93%

Improving
supplier KYC



47%

Improving
customer KYC

Key use cases for enhancing master data management include earlier identification of potential customer and supplier failure and distribution hold-ups.

Early identification of potential supplier failure

Current master data management adequacy **23%**

Need to enhance master data management **83%**

Early identification of potential distribution hold-ups

Current master data management adequacy **33%**

Need to enhance master data management **63%**

Early identification of potential customer failure

Current master data management adequacy **57%**

Need to enhance master data management **70%**

MDM leader perspectives

"We have too many data repositories and a lack of strategy for data maintenance"

"We need better data governance to ensure robustness of data"

"Making data management a higher priority is essential to reduce errors"

Desired Changes to MDM within Future Operating Model

High-tech MDM leaders recognize that they need to change their organizations' approaches to master data management within their future operating models. It is important that master data management best practice is incorporated into system changes, while the high-tech manufacturing sector also has a strong need to enhance its internal master data with external data sources.

Desired Changes to MDM within Future Operating Model

"We need to retire legacy systems and replace with modern SaaS which has intelligent data management at its core"

"We need to build in master data management excellence in any major system enhancements that touch upon master data"

"We need to use more third-party data to enhance situational visibility – especially around supply chain related issues"

"We need to develop better integration with key trading partners"

"A subscription service where we can leverage third-party data would be more accurate and allow us to build more robust processes".

Importance of Automating Master Data Management Processes

Many organizations use RPA and digital assistants for account setup and reducing duplications in manual data entry. However, the level of automation underpinning master data management is currently modest, with scope to combine enhanced use of RPA with document cognition and machine learning technologies, which currently exhibit low deployment levels in MDM.

RPA

37%

Significant current use



77%

Need to enhance use

Document cognition

17%

Significant current use



80%

Need to enhance use

Analytics

80%

Significant current use



47%

Need to enhance use

Third-party databases

73%

Significant current use

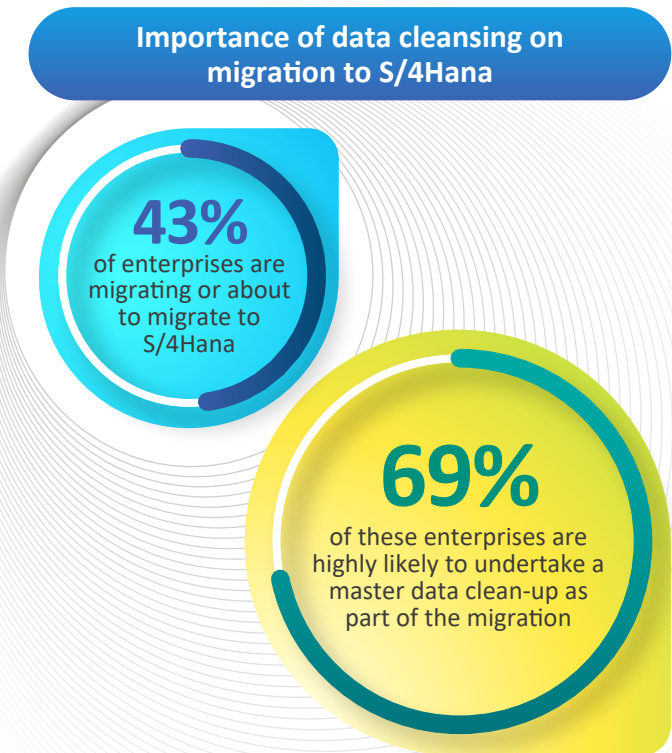
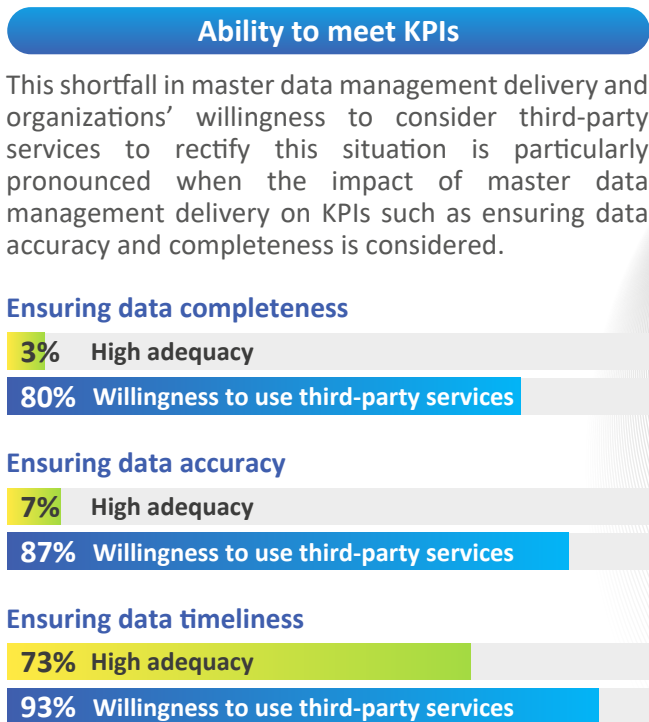
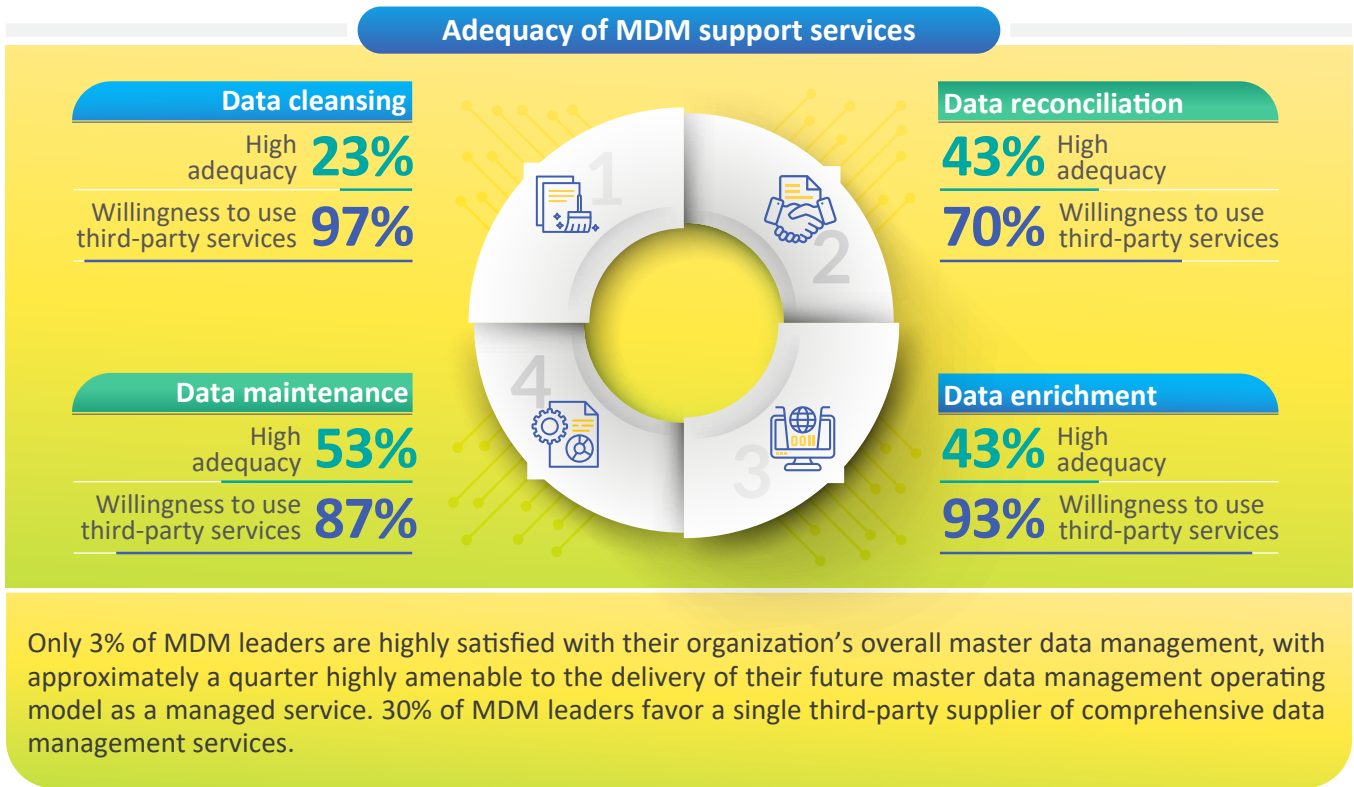


83%

Need to enhance use

Appetite for Third-Party Master Data Management Services

Master data management includes many support services which can be regarded as non-core and are not always carried out as systematically as they might. This potentially makes them candidates for outsourcing.



Data enrichment & sharing

One aspect of master data management typically needing enhancement is data enrichment, introducing complementary sources of data from outside the enterprise. The most useful forms of data enrichment, in the words of MDM leaders, are:

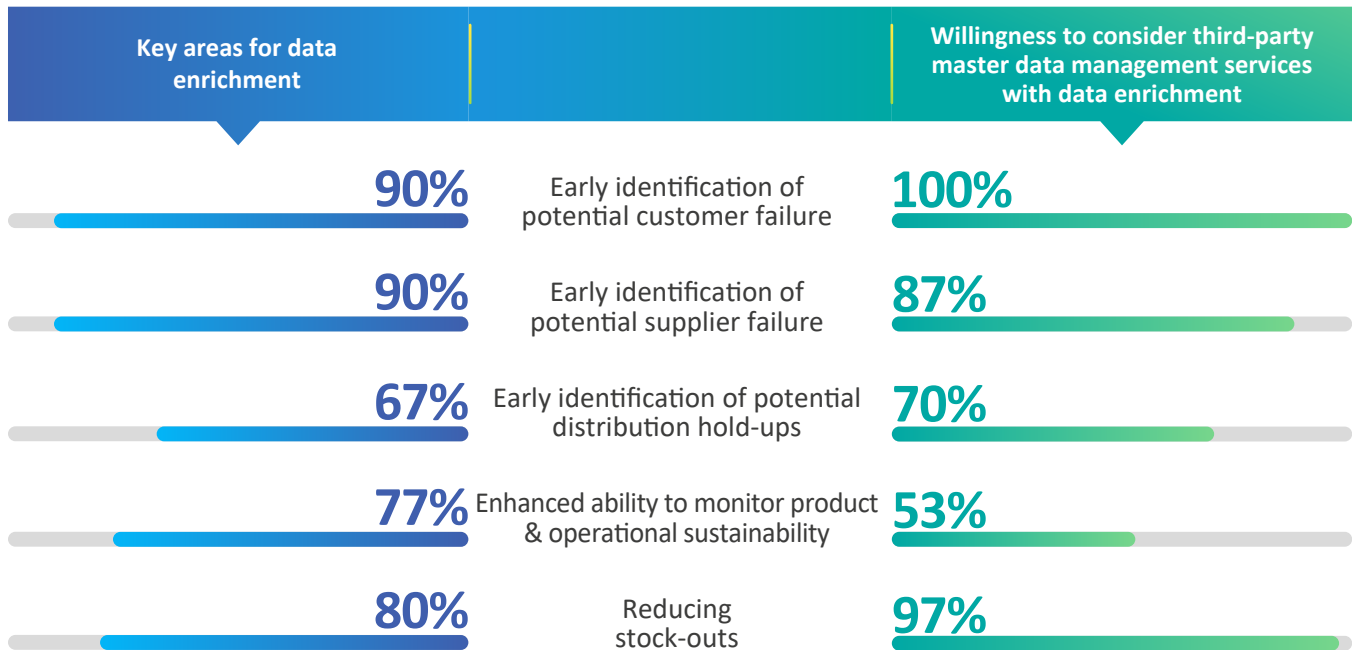
“We need to move away from the perception that master data is static and rarely updated and start to think of it as a real-time data source that is continually shifting”

“Visibility of our supply chain would be the biggest enhancement we could make at this time”

“Core trading partner lead times and product changes”



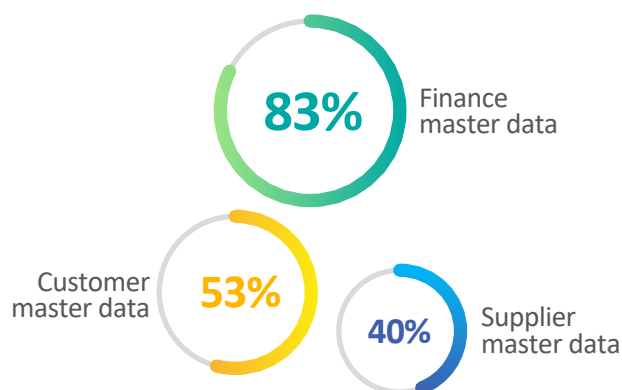
Data enrichment is viewed as being particularly important in addressing some of the key MDM issues identified by MDM leaders earlier:



Master data sharing as a means of data enrichment

One potential data enrichment approach is sharing master data across organizations facilitated by a third-party data management services provider. MDM leaders in high-tech manufacturers show some appetite for this approach, provided the data is highly anonymized and they have a high level of trust in the third party.

Willingness to anonymously share master data with a third-party data management services provider:



MDM leaders commented on customer data sharing

“We would share most data as long as it is secure and beneficial to us to do so”

“We would share the static element of customer data but not transactional data”

“We would share credit limit data and payment histories and we would want to understand risk better so having that same data from a network of businesses would be valuable and help build our master data value”

MDM leaders commented on supplier and component data

“We would share any data that allows us to enhance supply chain forecasting”

“Having product catalogs and recall & specification change notifications would be useful”

“We would need access to supplier data, in particular lead times and pricing”

Benefits from Third-Party Master Data Management Services

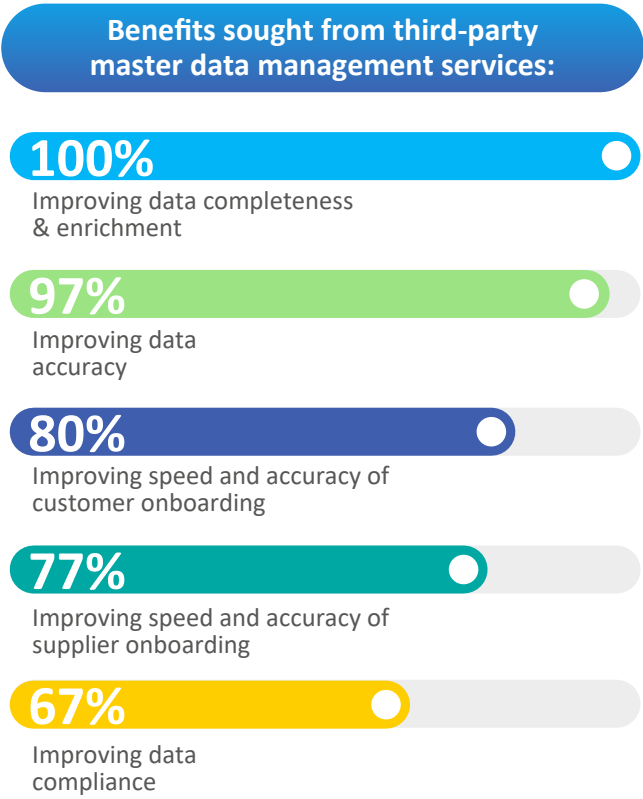
As shown earlier, MDM leaders are highly willing to consider outsourcing elements of their MDM support processes.

Examples of the benefits sought quoted by MDM leaders are:

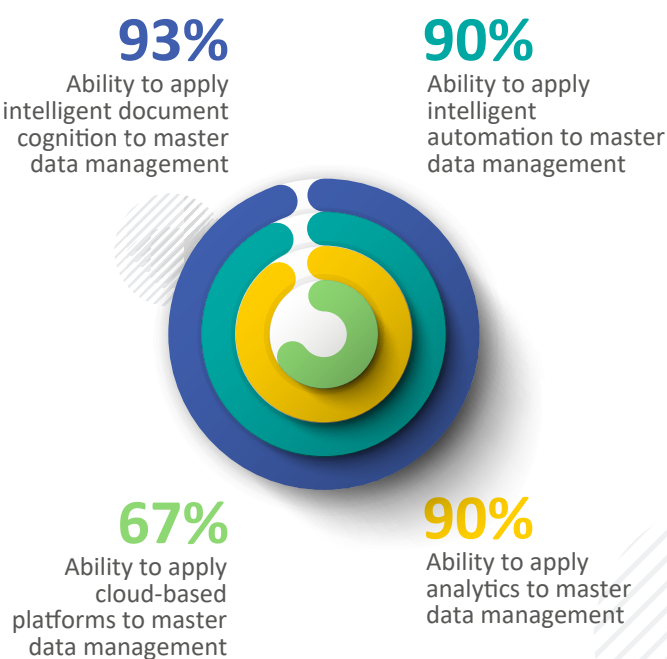
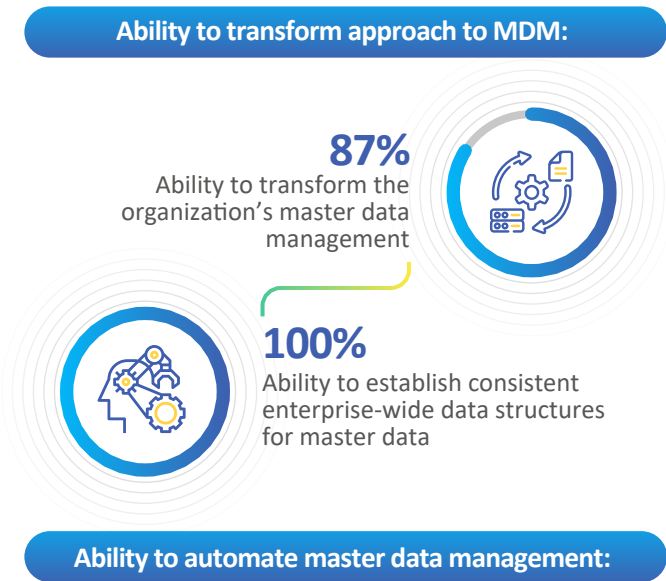
“Efficiency improvements and fewer errors”

“Improved business decision-making”

“Improved reliability of data to support better analytics and decision support and increase business agility”



Characteristics sought in a provider of third-party master data management services include the ability to transform the organization’s approach to MDM and increase the level of automation in MDM processes. Indeed, **60% seek the ability to transform and operate the organization’s master data management.**



Challenges & Success Factors

1

Challenges

- High-tech manufacturers express low levels of satisfaction with their current MDM processes
- Key areas of low satisfaction are ensuring data accuracy and completeness
- Many organizations lack processes, policies, and governance for keeping data up-to-date
- High cost of data maintenance and lack of budget allocated to active MDM
- Need for common taxonomies across the supply chain

2

Key Success factors

- Establish consistent enterprise-wide data structures
- Actively, rather than passively, manage master data
- Enhance data with external and third-party managed data sources
- Move towards real-time data acquisition & processing
- Target earlier identification of customer & supplier failure
- Target reducing stock-outs & distribution hold-ups

3

Opportunities

- Migration to S/4Hana presents an opportunity to adopt new MDM operating models
- Consider using third-party MDM services for MDM transformation & automation and data enrichment

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