

Area	Challenge	Issue	Solution	Study
DW/BI, Data mining	Integration data heterogeneos	Deduplication, Entity Mapping, Column Type Detection	Hybrid Real-Time Data Warehouse	[P087]
	Integration of (EDW) and (MDM) system	Schema Evolution and versioning	Data vault model	[P050] [P103]
	Propose a modern MDM approach which could substitute traditional MDM tools	Scalability, security, semi-Structured /Unstructured Data, data duplication	ML/IA	[P129]
	To analyze clinical trial data, scattered across multiple databases	Data integration	Using data mining methods	[P044]
Blockchain	Implementing MDM based on blockchain	Security, privacy	CP-ABE technology	[P156]
Cloud computing	Improve the response time of cloud-based MDM	Response time, high cost to adopt commercial MDM solutions	Fog-cloud based architecture	[P092]
Architectural approach	Implementation of centralized system of MDM	Data duplication	Data virtualization	[P133]
	Merging Database	Data integration	Record linkage	[P166] [P194]
	Apply artificial intelligence (AI) methods on master data management tasks	Metadata management, Data quality management	Applying IA methods	[P185]
Organizational	Improve MDM in distributed system	Data duplication, data synchronization	Data virtualization	[P133]
	Define MDM data ownership in relation to roles and responsibilities	Data domain	Establishing and Developing the Organization's MDM Function	[P037]
	Need of information sharing across government agencies	Data protection regulation and inter-organizational data sharing	Developing a Integration Platform architecture	[P070]
	Improve service delivery	Data quality management	Design a model for master data quality management	[P239]
Unstructured database	How selecting the most suitable NoSQL solution for MDM	Flexibility, flexibility, data storage and retrieval	Integration of NoSQL databases into Master Data Management frameworks	[P194] [P247]
Information security	Integrating MDM and Cybersecurity	Organizational silo, data protection, risk mitigation	Data virtualization	[P080] [P041]
Planning	MDM planning	Data quality, data silo, duplication, consistence	Applliing DMBOK framework	[P159] [P160]