

DATA ASSESSMENT - IS Rating Tool
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 Version Beta V30 – 2010 - February 24th

		weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines	
			1	3	5	7	10		
Criteria	Explanation	For each question check one choice ONLY						Tip: use this column for vertical scroll	
Mastering Data Knowledge									
<p>DT-KN-01 Enterprise Data Architecture</p> <p>Enterprise Data Architecture should be seen as a subset of Enterprise Information Architecture (EIA) since it tackles data only, not business rules. The IS Rating Tool copes with Business Rules in the Rules Assessment part.</p> <p>Enterprise Data Architecture enforces a politics encouraging a unified data modeling and data knowledge management at the whole scale of the system rather than siloed data modeling and implementations only.</p> <p>It means that Enterprise Data Architecture is aimed at deploying knowledge management applied to data, at least towards main business objects reused within business rules and processes.</p> <p>Working procedures and organizational issues are out of the scope of the IS Rating Tool. Indeed, this tool is focus on Intrinsic Value of IS (1). Other organizational issues should be tackled through frameworks and methods such as CobiT, CMMI, etc.</p> <p>(1) Before using the IS Rating Tool we invite you to find out the definition of IS Intrinsic Value and its differences with IS Use Value and IS Business Value (see our website).</p>	<p>DT-KN-01-1 Reference and Master Data</p> <p>Enterprise Data Architecture is applied to reference and master data. This is the less difficult data architecture level to achieve as it can be established without being intrusive to existing data models and databases.</p> <p>To regain data knowledge by enforcing a real ROI not limited to establishing new data models, it is valuable to start with ref/master data architecture. Indeed, once ref/master data models are available, it is easy and cost effective to implement them with a MDM to benefit from data governance features such as authoring, querying, version management of data, etc.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Reference data are standard codes and labels such as countries, time interval types, enumerations. Master data are core business concepts such as Address, Product, Organization and Structure, Chart of accounts, etc. It means that reference data are steadier than master data.</p> <p>If you have unified ref/master data models at the whole scale of the system then you should check 'optimized'. If these data models are applied to a subset of ref/master data only with data structures duplications then you should decrease your mark.</p>	
				More than 50% of ref/master data models are duplicated. Most of the time ref/master data models are intertwined with transactional data models which reduce the ability to establish EA applied to ref/master data	Lack of metrics but you suppose less than 50% of ref/master data models are duplicated. Most of the time ref/master data models are intertwined with transactional data models which reduce the ability to establish EA applied to ref/master data	Less than 50% of ref/master data models are duplicated. Ref/master data models are well-identified and complement with transactional data models	Less than 20% of ref/master data models are duplicated. In other words, 80% of your ref/master data models are unified and shared. Ref/master data models are well-identified and complement with transactional data models	Complete unified ref/master data modeling with very limited duplications within data structures. Ref/master data models are well-identified and complement with transactional data models	<p>Main criteria to be considered for rating: level of duplication within ref/master data models, ability to maintain ref/master data models regardless of transactional data models</p>
		<p>DT-KN-01-2 Transactional Data</p> <p>Enterprise Data Architecture is applied to transactional data. This level of data architecture is more complicated to attain than ref/master data. Indeed, spending time to redesign existing transactional data models to reduce their duplications and defects could be difficult to justify without IS restructuring. Unlike ref/master data, when restructuring transactional data models it is needed to rebuild existing systems. It means that Enterprise Data Architecture applied at the level of transactional data is intrusive to existing systems, which can slow down its deployment.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>When unified transactional data models are used by every project to avoid the blank page effect, you should check 'optimized'. Conversely, if your modeling procedures allow duplications of transactional data structures then your mark should be decreased. Your mark should be 'initial' when unified transactional data models don't exist.</p>
			More than 80% of transactional data models are duplicated. There is not initiative to share transactional data models	Lack of metrics but you suppose less than 80% of transactional data models are duplicated. There is not initiative to share transactional data models	Less than 50% of transactional data models are duplicated. A first approach exists to encourage the sharing of transactional data models	Less than 20% of transactional data models are duplicated. In other words, 80% of your transactional data models are unified at the whole scale of the system and shared by every project	Complete unified and shared transactional data models with very limited duplications of data structures at the whole scale of the system	<p>Main criteria to be considered for rating: level of duplication within transactional data models, level of sharing between projects</p>	

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	<p>DT-KN-01-3 Decisional Data Enterprise Data Architecture is applied to decisional data. Most of the time, this data level relies on an Operational Data Store (ODS). The ODS uses a data model stemming from a consolidated view of transactional data and ref/master data models</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Decisional data corresponds with information used in the field of Datawarehouses and Datamarts. These data are both ref/master data and transactional data, most of the time designed through an Operational Data Store (ODS). The more your decisional data models are aligned with ref/master and transactional data models the more your mark should be raised. In other words, when you have a good command of dependency links between ref, master and transactional data models (upstream data sources) and decisional data models, then your mark is high. When these dependency links are not well-managed, the mark should be decreased.
			No real reuse of ref/master and transactional data models to establish ODS	Lack of metrics but you suppose a partial reuse of ref/master and transactional data models to establish ODS	Reuse of transactional data models only to establish ODS	Reuse of ref/master data models only to establish ODS	Complete reuse of ref/master and transactional data models to establish ODS	Main criteria to be considered for rating: alignment with EA applied to ref/master and transactional data
	<p>DT-KN-01-4 Data flow Enterprise Data Architecture is applied to data flow. Frequently data structures handled within ETL/EAI/ESB are IT oriented with huge concerns about the management of integrity rules. The purpose of EA applied to data flow is to reuse ref/master, transactional and decisional data models within ETL/EAI/ESB directly. To achieve this goal, usual IT pivot formats should be replaced by new ones more business oriented.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data flow corresponds with data conveyed at the level of the integration layer between distributed systems both internal and external. These data are both ref/master, transactional and decisional data. Then, similarly with decisional data, your score depends on the alignment of data flow models with ref/master and transactional data models. In other words, data flow should be designed and maintained by benefiting from EA applied to ref/master and transactional data. If this is not the case then your mark should be 'initial'.
			No real reuse of ref/master, transactional and decisional data models to establish data flow models	Lack of metrics but you suppose a partial reuse of ref/master, transactional and decisional data models to establish data flow models	Reuse of transactional data models only to establish data flow models	Reuse of ref/master data models only to establish data flow models	Complete reuse of ref/master, transactional and decisional data models. It means that the pivot format used at the level of systems integrations stems from transactional, ref/master and decisional data models	Main criteria to be considered for rating: alignment with EA applied to ref/master and transactional data.

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<p>How to assess unstructured data? Even though the IS Rating Tool is focus on structured data first, you can take into consideration unstructured data as supplemental information added to business objects. It means that no information should be existed outside business objects boundaries.</p> <p>How to assess meta-data? Meta-data are gauged when assessing ref/master data. Let's take an example in the field of Service Oriented Architecture. A repository describing relationships between providers and consumers must be established. There are a lot of meta-data defining services and stakeholders, including service level agreements and security policies. With help from a good data model, all meta-data structures are well-defined and then implemented to the MDM. Therefore, meta-data values are managed as usual ref/master data. It means that if you attain a good mark about the 'DT-KN-01-1 Reference and Master Data' then you should be able to manage all meta-data in a right way.</p>	<p>DT-KN-01-5 Unified Data Architecture All types of data (ref/master, transactional, decisional and data flow) share a unified Enterprise Data Architecture relying on common concepts such as Business Objects gathered through Domains of Business Objects</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All types of data complement each other, which means that ref/master, transactional, decisional and data flow live together and share the same business objects. For example, the Business Object "Product" holds both ref/master data (its description) and transactional data (e.g. its quantity). It is also reused when conveying data product at the level of the integration layer and reused when statistics are computed by the datawarehouse. To succeed in deploying a Unified Data Architecture, dedicated and suitable modeling procedures must be used. These procedures are aimed at defining and sharing key concepts such as Business Objects, Domains of Business Objects and Data Category (as described in UML by Grady Booch to define business topics). To get further information about these modeling procedures we invite you to visit the MDM Alliance Group (MAG). The MAG delivers modeling procedures supporting a complete Unified Data Architecture foundation (mdmalliancegroup.com)
				Lack of shared data modeling procedures. Every project redefines its own data modeling approach depending on its requirements	First level of shared data modeling procedures but without reusing business concepts at the whole scale of the system. For example, business objects are designed with shared procedures but their data structures are not reused within projects	Existing of shared data modeling procedures with partial reuse of business concepts such as business objects	Complete shared data modeling procedures enforcing key business concepts and their reuse by every project except for systems developed by third parties	Complete shared data modeling procedures enforcing key business concepts and their reuse by every project including systems developed by third parties	Main criteria to be considered when rating: data modeling procedures enforcing key business concepts at the whole scale of the system
<p>DT-KN-02 Basic Data Modeling Business Dictionary and data modeling procedures should be enforced to succeed in the field of the Basic Data Modeling.</p> <p>If the Basic Data Modeling is not enforced sufficiently then it is difficult to achieve goals related to the Semantic Data Modeling (DT-KN-03). It means that your mark about the Basic Data Modeling should be 'medium' at least before starting the Semantic Data Modeling</p>	<p>DT-KN-02-1 Business Dictionary One or several business dictionaries are used to gather key business concepts with definitions of terms, taxonomy, synonyms, etc.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The business dictionary should be connected with data models. In other words, documentation of data models (class, attributes...) should be retrieved from the business dictionary directly. Then, if you have a shared business dictionary without linking it to data models then your mark should be 'medium' or 'advanced' only because of the lack of connection with data models. Conversely, the more your business dictionary is shared at the whole scale of the company and reused within your data models the more your mark is raised and should be 'optimized'.

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modeling.			Lack of shared business dictionary	First level of business dictionary but not shared, not really usable by all IS Stakeholders and with potential duplications of terms and definitions	Shared business dictionary not applied at the whole scale of the system, partially usable by all IS Stakeholders and without being connected to your data models	Shared business dictionary applied at the whole scale of the system, fully usable by all IS stake-holders but without being connected to your data models	Shared business dictionary applied at the whole scale of the system, fully usable by all IS stake-holders and connected to your data models	Main criteria to be considered for rating: shared, comprehensiveness, connected with data models.	
	DT-KN-02-2 Business point of view Business data models are available and maintained regardless of physical implementations and databases schemas	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Business data models describe information regardless of IT issues. All business objects should be fully described including all their relationships. Indeed, the more relationships between business objects are described the more valuable data models are. To enforce a sustainable data knowledge, a formal and shared notation should be used such as UML or other DSL depending on the company's culture. The more these business models are shared, known and readable by all IS stakeholders the more your mark should be raised.
			Lack of business data models because of an IT approach when modeling information. Moreover, business data are described through an unstructured representation mainly, without formal notation such as UML or other DSL	First attempt of business data modeling. Data models include some relationships between business objects but with a lack of commitment to achieve this goal. A formal notation is partially used with unstructured description	Business data models are partially described because relationships between business objects are not well-established. Even though it exists a real commitment to achieve this goal, Business Data models still remain readable by IT specialists mainly	Business data models are fully described, including relationships between business objects but still remain readable by IT specialists mainly. Even though it exists a real commitment to achieve this goal, Business data models are not seen as a real IS Asset	Business data models are fully described in meaningful terms for all IS Stakeholders, describing relationships between business objects with help from a formal notation such as UML or other DSL. Business data models become a real IS Asset	Main criteria to be considered for rating: shared, meaningful for IS stakeholders, comprehensiveness, relationships between business objects, formal representation.	
DT-KN-02-3 Logical point of view Logical data models are derived from business data models. They establish the logical point of view of the data architecture		1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Logical data models rely on IT database architecture styles such as relational oriented approach, object oriented object, hierarchical oriented approach or a mix of the three. These data models are independent of physical databases schemas. Logical data models are established by using derivation rules from business data models. In other words, these models should be the result of a translation of business data models into logical terms. They are represented with help from a formal notation, such as UML or other DSL. They rely on formal and shared logical naming rules. These data models are not meaningful for business users.	

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			Lack of real logical data models because every project uses its own representation with possible confusions with physical databases schemas	Logical data models are established but without real derivation rules from business data models. Therefore the business-logical data models alignment is rough	Logical data models are established with help from derivation rules defined by every project, not applied at the whole scale of the system	Derivation rules are well established to drive translation of business data models to logical data models. They are applied at the whole scale of the system but without shared and formal logical naming rules	Derivation rules are well established to drive the translation of business data models to logical data models. These rules are associated with logical naming rules enforced at the whole scale of the system	<i>Tip: use this column for vertical scroll</i> Main criteria to be considered for rating: Derivation rules from business data models to logical data models, formal logical naming rules
DT-KN-03 Semantic Data Modeling The richness of data is revealed through their business lifecycles, their relationships and their business rules. Business lifecycles describe core business behaviours of data, not organizational processes such as data approval workflows. These processes are assessed within the Process Assessment part of the IS Rating Tool. The Basic Data Modeling (DT-KN-02) doesn't tackle these issues as it remains focus on static modeling only.	DT-KN-03-1 Business Objects' lifecycles The real semantic of data is revealed through business objects' lifecycles. Indeed, modeling behaviours of business objects allows for establishing rich, reliable and sustainable data models. Without this approach, data models remain static and cannot express the richness of information. Beyond the data modeling procedures, this question copes with the mechanism used to really manage business objects' lifecycles as a real IS Asset, which means using the MDM to manage business objects' states values as master data.	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data modeling must encompass Business Objects' lifecycles in a formal representation with help from state machines, decision tables or other patterns. For example, the business object 'Product' holds several states defining its lifecycle and declared as an enumeration data: to be negotiated, negotiated, deprecated, updated, etc. These states are used to enforce data integrity constraints. For example: updating attributes of the product depends on its current state value; changing the state of the product depends on its current state, etc.
			Business objects' lifecycles are not established	Business objects' lifecycles are established within some projects only	Business objects' lifecycles are established systematically but without shared and formal models. Sometimes it is represented as informal specification only	Business objects' lifecycles are modeled with help from a shared and formal representation but not managed as master data. In other words, business states are not managed as enumeration data within the MDM	Business objects' lifecycles are modeled with help from a shared and formal representation and managed as master data. These master data are automatically used when enforcing integrity constraints? In other words, business states are managed as enumeration data within the MDM	Main criteria to be considered for rating: shared and formal design, managed as master data.

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	<p>DT-KN-03-2 Relationships between Business Objects The semantic of a data is revealed through relationships between business objects. These relationships must be managed as a real IS asset rather than poor cardinalities frozen when establishing data models. These cardinalities become real assets when managing them as master data.</p> <p>Beyond the data modeling procedures, this question copes with the mechanism used to really manage cardinalities as a real IS asset, which means using the MDM to manage data cardinality as master data</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cardinalities between business objects are managed as master data. In other words, minOccurs and maxOccurs defining links between data are not frozen when establishing data models. Therefore, minOccurs and maxOccurs can be fed to adapt data models depending on requirements and contexts of use. For example, a Product could be associated to three Factories when it is sold by the headquarters whereas this relationship becomes one Factory only when it is sold by a subsidiary. Here, the headquarters and the subsidiary are two different uses contexts of the same data models. Then rather than freeze cardinalities within data models or complement them with a hard-coding of integrity rules, a more agile approach is established by viewing and managing data cardinality as master data. This is an effective way to parameterize data models and to enforce a real semantic data modeling.
			Relationships between business objects are frozen when establishing data models. There are no modeling procedures to set up integrity rules required to check data cardinality, which means hard-coded developments	Relationships between business objects are frozen when establishing data models. Modeling procedures exist to set up integrity rules required to check cardinalities	Relationships between business objects are not frozen when establishing data models. Every project uses its own approach to implement integrity rules required to check cardinalities	Relationships between business objects are not frozen when establishing data models. However, cardinalities are not managed as master data. This is parameters only used by business rules that complement with data models. Every project uses this shared approach to implement integrity rules	Relationships between business objects are managed as master data. Changing cardinalities is established by parameterization within the Master Data Management. In other words, MDM is used to check cardinalities between business objects. Every project uses this approach to implement integrity rules	Main criteria to be considered for rating: cardinalities frozen or not, shared implementation of integrity rules, cardinalities managed as master data
	<p>DT-KN-03-3 Business Rules applied to data When a data element is updated a rules set can be executed to check its integrity. These rules are a part of the Semantic Data Modeling. It is important to keep in mind that this question copes with business rules applied to data elements only, not other business rules spanning a large data scope or organizational rules required to conduct processes.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Business rules applied to data should be gathered through a repository of rules, such as a BRMS (see also Rules Assessment part). With help from this repository, business IS Stakeholders are able to author rules or at least consult them. It is easier to manage their versions and execute them to test the system. Moreover, a link between data models and the rules repository is then established. Business rules applied to data should be collected as follows: rules independent of business objects' states, rules having pre- or post-conditions relying on business objects' states, rules updating business objects' states. This approach means that designing business rules within Enterprise Data Architecture is achieved by taking into consideration business objects' lifecycles.

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			Business rules applied to data are not managed through a rules repository. Only informal descriptions are enforced without a real portfolio of rules	Business rules applied to data are declared through a portfolio of rules but their descriptions still remain informal	Business rules applied to data are declared through a portfolio of rules and their descriptions rely on a formal grammar even though neither a business requirements tool nor a BRMS is used	Business rules applied to data are designed with help from a formal language and declared through a portfolio of rules, but it is not a BRMS. This is a tool managing business requirements. Therefore version management, rules authoring by business users and ability to execute rules are very limited	Business rules applied to data are designed with help from a BRMS, relying on a formal description readable by all IS Stakeholders. This rules repository is connected to data models and allows for distinguishing rules depending on business objects' states. When data models are shared at the whole scale of the system, then business rules are shared at this scale also		Main criteria to be considered for rating: portfolio of rules, Business rules repository, ability to execute business rules, connection between data models and rules Note: the portfolio provides rules descriptions without any added-value feature to manage rules over time: version, permission, query, test, etc.
DT-KN-04 Ability to act This part is aimed at assessing the ability to establish a sustainable funding for Enterprise Data Architecture and the ability to estimate the replacement value of data models. The ability to act doesn't cope with the maturity of organizations to deliver an effective Enterprise Data Architecture. Indeed, the IS Rating Tool tackles the IS Intrinsic Value(1) only which means that organization issues are not measured here. Therefore, you should use complementary tools such as CobiT and CMMi to assess maturity levels of organizations. (1) Before using the IS Rating Tool we invite you to find out the definition of IS Intrinsic Value and its differences with IS Use Value and IS Business Value (see our website).	DT-KN-04-1 Funding A budget is established to support the Enterprise Data Architecture	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		The decision to raise a funding is dependent on the ROI. Spending time to rebuild data models and improve data documentations is not sufficient to guarantee a real ROI. This is the reason why data models should be reused to set up added-value data governance features to IS Stakeholders. Using a MDM is valuable to transform data models into ROI since real data governance features are brought by the MDM (see DT-GV section). However, this approach is dedicated to ref/master data only. Regarding transactional data, it is less easy to raise funds as the question is: what will we do with new transactional data models if we cannot restructure existing transactional systems? Here, MDM is not usable and data governance features are not really required. This is the reason why the marks 'Medium' and 'Advanced' are reached whereas ref/master data funding is enforced only.
			No real budget dedicated to Enterprise Data Architecture	Partial budgets are identified depending on projects requirements related to ref/master, transactional or decisional data	A complete budget is established to support Enterprise Data Architecture at the level of ref/master data but applied to a subset of the system only	A complete budget is established to support Enterprise Data Architecture at the level of ref/master data applied at the whole scale of the system	A complete budget is established to support Enterprise Data Architecture with key indicators to measure results. It covers ref/master, transactional and decisional data at the whole scale of the system		Main criteria to be considered for rating: complete budget, applied to ref/master data, applied to the whole scale of the system

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	<p>DT-KN-04-2 Replacement value Ability of your organization to (re)design data models from scratch (blank page)</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The replacement value must be gauged regardless of any financial issue. You must estimate it without any limitation as this is a theoretical assessment only. However when answering this question you have to provide detailed information explaining your score. When data documentations are up-to-date and teams have a good command of data modeling procedures then your score is high. Conversely, when it is difficult to gather data knowledge because of poor documentations and/or lack of specialists in data modeling, then your score should be decreased.
			The effort to redesign is too high. It would be impossible to do this work	It should be possible to do this work within a subset of the system, less than 30%, but we cannot estimate it. Doing this work at a large scale of the system is impossible	We are able to estimate the work of redesign but applied to less than 50% of the system	We are able to estimate the work of redesign applied to a large scale of the system, more than 50%	We are able to estimate the work of redesign applied to the whole scale of the system, at least more than 80% of the scope	Main criteria to be considered for rating: scope of possible redesign, ability to estimate the work
	Intermediary mark Mastering Data Knowledge	0	out of	130	0,0%			

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Mastering Data Governance Features		For each question check one choice ONLY						
Reminder: organizational issues are out of the IS Rating Tool scope								
DT-GV-01 Reference and Master data Data governance features are the business functions used by IS Stakeholders to manage ref/master data. This is a list of business features brought by the MDM, such as data version management, authoring of data, querying, etc. The way of these functions are used through processes and organizations are not measured here. Indeed, the IS Rating Tool copes with the IS Intrinsic value which means the list of data governance features, not the quality or maturity levels of organizations to use them. Amongst these features, a detailed assessment is required to measure the ref/master data version management function. A focus on data quality is also integrated to measure how data governance should improve data quality processes.	DT-GV-01-1 Unified ref/master data governance Ref/master data benefit from unified and shared governance functions used by all IS Stakeholders, not only by IT specialists	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All reference and master data are managed through unified and shared governance functions such as: collaborative authoring data, version management, traceability of data, right management, query, data approval workflow, etc. These functions are applied to any type of ref/master from simple enumerations data to complex data structures such as product configuration, chart of accounts, structure and organization, pricing configuration, customer information, parameters of business regulations, etc. From an IT point of view, data governance functions are brought by a MDM tool which is generic enough to manage all types of data. This is a Model-driven MDM (see also the part 'Mastering IT Approach to manage data') Main criteria to be considered for rating: shared and unified data governance functions, use of spreadsheets, Model-driven MDM
				Data governance functions are not unified. Every system and/or type of data used its own data governance functions with discrepancies from other systems and types of data	Lack of metrics that less than 50% of ref/master data share some governance functions without using MDM	About 50% of main ref/master data share governance functions brought by a Model-driven MDM applied to a subset of the system. The rest of ref/master data is managed through heterogeneous functions including spreadsheets	More than 50% of ref/master data share governance functions brought by a Model-driven MDM applied at a subset of the system. The rest of ref/master data is managed through heterogeneous functions including spreadsheets	

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Criteria	Explanation							
	DT-GV-01-2 Ref/master data version management Amongst data governance functions, the version management is a significant feature requiring a specific assessment	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The version management of ref/master data is vitally important to enforce a real data governance. It should be possible to create versions applied to any scope of data. A scope can be a data element or a set of business objects linked each other through their relationships. Every version is located to a branch. This mechanism allows for living together several versions of a same data scope located to different branches.</p> <p>For example, a first branch could exist for a production environment and a second branch could be applied to a data matching process. Therefore, a same data scope is both used in production and managed by a data quality process. After executing this process, the data governance allows to compare and merge data scope between its version within the production environment and its version within the data matching environment.</p> <p>This data version management is used to enforce a lot of key data governance processes such as: data staging (deploying data within IT environments like development, integration, UAT, production, etc.), data approval (temporary version of data awaiting for validation by processes), data archiving when legal compliance is required, data matching (comparing records and merging), data publishing (branches/versions to ESB and the opposite way), Data-Rules alignment (merging a version of data with a version of rules declared as ref data), etc.</p>
			No unified and full data version. Every project establishes its own mechanism, including basic copies of data without real governance	Version management is enforced by adding dates of validity to every data element. Therefore it is difficult or impossible to manage versions spanning a scope of several data elements. Most of the time, this version management is used by IT specialists only and required a strong IT knowledge	Version management is enforced at the scope of every business object only, which means without managing relationships between business objects and without using the branch concept. To go beyond this first level of version management, IT specialists must implement hard-coded software	Unified and full data version management is available but without the branch concept. Therefore it is difficult or impossible to make live together several versions of the same data scope. This version management is usable by all IS Stakeholders	Unified and full data version management relying on version and branch concepts, usable by all IS Stakeholders. All types of ref/master data benefit from this version management with help from a Model-driven MDM applied to the whole scale of the system. Therefore all data governance processes benefit from the ability to compare and merge versions located to different branches	Main criteria to be considered for rating: version, branch, compare and merge of version, usable by all IS Stakeholders

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		Mark->	weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
				1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation								
	<p>DT-GV-01-3 Active data quality Ref/master data quality is an acute issue because of heterogeneous existing databases and data duplications. However, when having real data governance functions as seen in DT-GV-01-1 and -2, it becomes easier to tackle this problem in an efficient way.</p>	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The data cleansing process is established by benefiting from the data governance functions brought by the MDM. It means that rather than clean data within data databases with poor data structures, an active data quality process is achieved by using the MDM data model. For example, when adding a new address to the system, its validity is checked by the MDM holding the shared data model about Geography business concepts. This address is validated both in terms of its data structure, its integrity rules and potential duplications. Once the data quality is checked through the data model and its integrity rules, then the address can be transformed if needed and pushed to target databases. During this active data quality process, the new address is stored within a dedicated version and branch avoiding conflicts with current version. The compare and merge data governance functions brought by the MDM allow for deciding which version is the right one. If needed, the MDM can use some data quality functions brought by specialized data quality tools such as: relocation addresses, postal address check, product compliance, etc.
			No real data quality process. Every project established its own approach	Some data quality tools are used to clean data within existing databases directly. There is not a unified ref/master data repository	Some data quality tools are used and connected to the ref/master data repository but without governance features allowing a real active data governance, such as versions and branches management	Full active data quality process applied to a subset of the system only. It means that the MDM repository is used as the foundation to achieve data quality. This MDM brought all data governance features needed, including versions and branches management	Full active data quality process applied to the whole scale of the system. It means that the MDM repository is used as the foundation to achieve data quality. This MDM brought all data governance features needed, including versions and branches management	Main criteria to be considered for rating: use of data governance to streamline data quality processes	

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		Mark->	weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
				1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation								
DT-GV-02 Transactional data	DT-GV-02-1 Data governance applied to applications oriented data Data governance functions established for ref/master data can be reused to enforce an unified management of transactional data within applications oriented data.	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A lot of applications oriented data exist within information systems. These are either spreadsheets handling transactional data such as funding allocations, inventory measures... or light applications designed with help from Rapid Application Development tools (RAD) whose the foundation is the data model itself (e.g. Access). To enforce a full governance of these data without slowing down the delivery of light applications, it is helpful to use the Model-driven MDM and its data governance features rather than spreadsheets and RAD tools. Indeed, these data governance features are not provided by spreadsheets and RAD tools: collaborative data authoring, permission management, version management, querying data, tracking data, complete traceability and auditability, data approval workflows, etc.
			Lack of unified approach to deliver applications oriented data. Every project establishes its own solution from spreadsheets to light developments using RAD tools (Rapid Application Development). Therefore, data governance features still remains weak	Only a few applications oriented data are established with help from the data governance functions brought by the Model-driven MDM	Less than 50% of applications oriented data are established with help from the data governance functions brought by the Model-driven MDM	More than 50% of applications oriented data are established with help from the data governance functions brought by the Model-driven MDM	Most of applications oriented data are established with help from the data governance functions brought by the Model-driven MDM. Therefore, the number of spreadsheets and light applications decrease for the benefit of a more secure and sustainable approach	Main criteria to be considered for rating: number of oriented data applications, use of Model-driven MDM	
DT-GV-03 Decisional data	DT-GV-03-1 Data governance applied to datawarehouses Datawarehouses use ref/master data coming from operational systems but also defined within their own scopes. These latter should be managed by benefiting from data governance functions brought by the MDM.	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Datawarehouses should get ref/master data from the MDM repository gathering ref/master data synchronized with operational systems. Other ref/master data established within the scope of datawarehouses directly should be managed with help from data governance functions brought by the Model-driven MDM.
			Lack of a real data governance at the level of dataware-houses. Every project established its own approach	Only a few dataware-houses reuse data governance brought by the Model-driven MDM	Less than 50% of dataware-houses reuse data governance brought by the Model-driven MDM	More than 50% of dataware-houses reuse data governance brought by the Model-driven MDM	All datawarehouses reuse data governance features brought by the Model-driven MDM	Main criteria to be considered for rating: reuse of data governance brought by the Model-driven MDM	

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		Mark->	weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
				1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation								
DT-GV-04 Data Flow	<p>DT-GV-04-1 Data governance applied to data flow To give to business users an autonomy in their daily data flow management, data governance functions must be applied to data flow as well.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Data flow are both internal data conveyed between systems and external data exchanged with third parties (B2B). Most of the time, these data flows gather a lot of data elements coming from scattered databases within the whole scale of the system. This means that controlling integrity rules between data is very complicated. To fix this problem, data flows should be stored within a Model-driven MDM holding a Common Information Model encompassing all integrity rules and bringing all data governance features useful to track and audit data flows.</p>
				<p>Data flow management is enforced by an IT approach only at the level of integration layer. Integrity rules applied to data flow are hard-coded and the audit trail is meaningful for IT specialists only</p>	<p>Data flow management is enforced by a pivot format established at the level of the integration layer. There are not data governance functions and the audit trail still remains IT and usable by IT specialists only</p>	<p>Only B2B data flow management is enforced by using data governance features brought by the Model-driven MDM. It means that internal data flow don't benefit from data governance</p>	<p>More than 50% of data flow management is enforced by using data governance features brought by the Model-driven MDM. This approach is applied to both external (B2B) and internal data flow</p>	<p>More than 80% of data flow management is fully enforced by using data governance features brought by the Model-driven MDM. All integrity rules applied to data flow are well-established and the audit trail is easy-to-use by all IS Stakeholders. This means that the integration layer (ETL, EAI, ESB) is connected with the MDM repository</p>	<p>Main criteria to be considered for rating: reuse of data governance brought by the Model-driven MDM</p>
DT-GV-05 Security information	<p>DT-GV-05-1 Data governance applied to security policies Every information system needs a lot of data defining security policies. The management of these data should also benefit from data governance functions</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>All data defining security policies applied to data, rules and processes should be designed through semantic data models and enforced with help from a Model-driven MDM. In other words, these data should be considered as meta-data and then benefit from the data governance features brought by the Model-driven MDM. Following this approach, it is easier to set up shared and unified functions to manage security policies such as: permission management applied to security policies, collaborative data authoring, querying, data version management, etc.</p>

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		weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
			1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation							
			Lack of unified and shared solution to manage security policies. Every project establishes its own implementation	Many solutions are used to enforce the security policies management. Then there is a lack of unified and shared data governance features. A lot of discrepancies exist between these different solutions	Only some strategic security policies are managed through the Model-driven MDM and then benefit from its data governance features	More than 50% of security policies is managed through the Model-driven MDM and then benefit from its data governance features	More than 80% of security policies is viewed as meta-data and fully managed through the Model-driven MDM. It means that these data benefit from all data governance features. This approach enforces a more secure and sustainable way to manage security information at the whole scale of the system	Main criteria to be considered for rating: reuse of data governance brought by the Model-driven MDM
DT-GV-06 Managing Data as a real Asset Data is a real IS Asset changing over time both in terms of data models and data values. It is significant valuable to measure trends rather than an occasional performances only, which means that key indicators should be defined and measured regularly. Moreover, once ref/master data are well-managed through a unified data governance approach, it is valuable to set up business rules overseeing data values. This approach allows to throw alerts in real time when needed. At last, as a real IS Asset, all ref/master data access should be tracked through a unified business audit trail.	DT-GV-06-1 Data Asset measurement Key indicators should be defined to follow data assets over time	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A lot of key indicators could be defined to follow data assets. You should distinguish key indicators applied to data models and those applied to data values. These indicators should be useful to all IS Stakeholders, not only within IT department. Depending on the company's culture, key indicators related to data assets can enrich an IT scorecard and/or contribute to establish a more global scorecard at the whole scale of the system. Defining key indicators is not easy to achieve as it requires a good level of maturity in the management of systems. However, the accuracy of key indicators are less important than their variations over time. It means that you should be interested in trends rather than occasional performances only. Examples of key indicators: - all marks computed with help from the IS Rating Tool could provide a good first level of key indicators - other key indicators applied to data models: rate of data structures duplications, number of business objects, number of business objects' lifecycles, etc. - other key indicators applied to data values: rate of ref/master data misaligned with business regulations, number of version for every business object, rate of data modification by data domains, etc.

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Criteria	Explanation	Mark-> weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
			1	3	5	7	10	
			Lack of key indicators to follow data assets. Therefore an informal knowledge of data assets is enforced only and still remain in hands of some key people within the system	Some key indicators about data assets are established but they don't rely on a structured approach such as the IS Rating Tool. Therefore, these key indicators are used mainly within IT department, without a real involvement of all IS Stakeholders and without possible bench-learning with other organizations	A first level of key indicators about data assets is established and rely on a structured approach such as the IS Rating Tool. As these indicators are not fully detailed, they are used within IT department mainly	A rich set of key indicators about data assets is established and rely on a structured approach such as the IS Rating Tool but they still remain IT oriented only. This set of key indicators is updated over time and allows IT department for managing its own risks. This is a good foundation to deploy a further extended approach encompasses business key indicators	A rich set of key indicators about data assets are followed closely by different IS Stakeholders, not within IT department only. These key indicators are updated over time to compute trends. They rely on a structured approach such as the IS Rating Tool. Correlations between key indicators allow for making some forecasts and then contribute to risks management at the whole scale of the system	Tip: use this column for vertical scroll
	DT-GV-06-2 Data Asset overseeing Beyond key indicators applied to Data Assets (see DT-GV-05-1), Business Rules used to oversee some key data values should be established	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Overseeing ref/master data and data flow is targeted first as other transactional data should benefit from the supervision enforces by business transactions within applications. When ref/master data repository and data flow are managed with help from a Model-driven MDM, it is easier to set up business rules over the data repository to oversee data values in real time (see DT-GV-01-1 and DT-GV-03-1). For example, overseeing a customer's address could be very complicated when this address is duplicated within several databases without a real master repository. Conversely, when using a Model-driven MDM to manage customers' addresses in complement with existing databases, it is easier to set up business rules over the MDM repository, such as: when the customer's address is updated more than three times within a month then send a real-time alert to the sales department. Applied to a financial classification, such a rule could be: financial classification codes mustn't be updated more than X times within a certain period of time. If this rule is not fully enforced then a real-time alert is thrown to executive managers. To implement these rules as real IS Assets, it is recommended to use a BRMS (Business Rules Management System) and/or a CEP (Complex Event Processing) (see also Rules Assessment part of this IS Rating Tool).

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Criteria	Explanation	Mark->	weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
				1	3	5	7	10	
				Lack of unified approach to set up business rules overseeing ref/master data and data flow. Every project establishes its own solution depending on requirements	Some business rules are defined to oversee ref/master data and data flow but they are hard-coded within opaque software, not meaningful for all IS Stakeholders. It means that BRMS and CEP are not used	Some rules are defined to oversee ref/master data and data flow through a BRMS and/or a CEP. However, as these rules still remain limited, IS Stakeholders are not involved	A rich set of business rules are established over the MDM repository to oversee ref/master data and data flow in real time, but limited to less than 50% of the system. These rules are authored and executed through a BRMS and/or a CEP to avoid the approach of hard-coding	A rich set of business rules are established over the MDM repository to oversee ref/master data and data flow in real time, at a large scale of the system. These rules are authored and executed through a BRMS and/or a CEP to avoid the approach of hard-coding. IS Stakeholders are fully involved in managing these rules	<i>Tip: use this column for vertical scroll</i>
	DT-GV-06-3 Data Asset tracking All data access should be tracked in order to enforce IS traceability.		1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ensuring the tracking of all access to ref/master data and data flow is targeted first as other transactional data should benefit from traceability mechanisms established within applications. When ref/master data repository and data flow are managed with help from a Model-driven MDM, a unified business audit trail should be available directly. This audit trail is used to keep track all data access stemming from actors and systems. Query features of the Model-driven MDM allow all IS Stakeholders for seeking and consulting the audit trail, depending on their permissions.
				Lack of unified approach to ensure traceability of data. Every project establishes its own audit trail mechanism	A unified solution to ensure an audit trail of ref/master data is established but without taking benefit from the Model-driven MDM. Therefore, governance features brought by the MDM are not available. This solution still remains IT and business IS Stakeholders are not really involved	Audit trail of data is established with help from the Model-driven MDM at a subset of the system, less than 50% only. It copes with ref/master data only which means that data flow don't benefit from the audit trail brought by the Model-driven MDM	Audit trail of data is established with help from the Model-driven MDM, at a subset of the system, less than 50% only. It copes with both ref/master data and data flow	Audit trail of data is established with help from the Model-driven MDM, at the whole scale of the system, including both ref/master data and data flows. It means that all IS Stakeholders are able to use the audit trail, depending on their permissions	Main criteria to be considered for rating: using Model-driven MDM to establish a unified audit trail of data, involvement of IS Stakeholders
Intermediary mark Mastering Data Governance				0	out of 100	0,0%			

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Mark->		weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
			1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Mastering IT Approach To Manage Data		For each question check one choice ONLY						
DT-IT-01 Reference and Master Data repository	<p>DT-IT-01-1 Model-driven MDM To enforce agility and scalability of ref/master data repository, it is recommended to use a Model-driven MDM rather than a vertical MDM.</p> <p>A Model-driven MDM is able to manage any type of data, from basic enumerations data and parameters to complex data structures (Product configuration, Structure and Organization, Chart of Accounts, Customer Information, etc.). These data models take benefit from a rich representation of knowledge, which means they enforce all capabilities brought by the semantic data modeling, as described in DT-KN-03.</p> <p>Using a Model-driven MDM tool allows to generate user interface and services (CRUD)(1) automatically. To achieve this goal, the MDM must combine relational oriented approach with object oriented and hierarchical approaches. It means that the MDM shouldn't rely on a relational approach only (RDBMS/OLTP with poor SQL data description language) but it should take benefit from relational, object and hierarchical data management approaches at the same time. In other words, it should bring ORM (Object Relational Mapping) features over usual RDBMS like Oracle, DB2, SQL-Server... with a rich data description language taking benefit from XML Schema.</p> <p>Note: data governance features brought by the MDM are assessed within "mastering data governance" part of the IS Rating Tool.</p>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Amongst Model-driven IT capabilities, two features should be available in priority: Many to many relationships managed as objects Many to many relationships between business objects shouldn't rely on join tables but should benefit from the object oriented approach. It means that multi-valuated attribute is used to set up lists of foreign keys joining business objects each other. Join tables still remain an IT concept that business IS Stakeholders haven't to understand. It means that data models using join tables are not semantic because they are meaningful to IT specialists only. Furthermore, when generating user interface to manage information through data models, join tables cannot be kept. Therefore an heavy IT process development is required to build user interface hiding these join tables.</p> <p>Conversely, when using a Model-driven MDM taking benefit from the object oriented approach, then generating user interface automatically is easier and cost-effective.</p> <p>Cardinality of relationships managed as master data Cardinality (minOccurs, maxOccurs) shouldn't be frozen within data models. They should be managed as master data and then being set up depending on contexts where data models are used. For example, a maxOccurs cardinality between Product and Factory could be initialized to "one only" for the Headquarters context and "one to many" for a Subsidiary context. Rather than using an approach of hard-coding rules to enforce integrity over minOccurs and maxOccurs, it is more valuable to manage them as master data directly within the MDM repository. The more the contexts of use are numerous and diversified the more the integrity rules over cardinalities are extended and should benefit from a management by the MDM.</p>
			Lack of model-driven MDM. Only vertical MDM are established relying on a pure relational approach. It means that an heavy IT development is required when modifying data models since no real automatic generation of user interface and CRUD services is possible	Use of a partial model-driven MDM as it relies on a weak object oriented approach. For example, data cardinalities are not managed as master data. They are either frozen within models or they required additional hard-coded rules	Full Model-driven MDM applied at a first scope of the system, less than 50%. Applied to this scope, it brings a complete model-driven architecture to generate user interface and CRUD services automatically. It means that 'what you model is what you get'	Full Model-driven MDM applied at a subset of the system, at least 50%. Applied to this scope, it brings a complete model-driven architecture to generate user interface and CRUD services automatically. It means that 'what you model is what you get'	Full Model-driven MDM applied at the whole scale of the system. It brings a complete model-driven architecture to generate user interface and CRUD services automatically. It means that 'what you model is what you get'	Main criteria to be considered for rating: object oriented approach, model-driven architecture

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		Mark->	weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
				1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation								
DT-IT-02 Rules integration	DT-IT-02-1 MDM with rules repository (BRMS)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Rules used to enforce data integrity should be implemented through a business rules repository (BRMS) rather than an approach of hard-coding only. It means that all data governance features brought by the Model-driven MDM should be also available to manage business rules.</p> <p>To achieve this architecture, a generic IT interface should be established from the MDM to the BRMS. When rules are triggered by the MDM, it should send a data flow describing the context of execution without any information about rules to execute. It means that the connection from MDM to BRMS enforced the loose coupling architecture pattern. Therefore, when rules are updated there are no impacts to the MDM repository. Furthermore, it is easy to configure a new context of execution within the MDM and author new rules for this context with the BRMS. Thanks to the loose coupling pattern, this configuration can be enforced without any hard-coded software.</p>
			<p>Rules applied to ref/master data are hard-coded. When the number of rules increases it brings troubles in term of development and maintenance. The traceability and auditability of the system is weak due to a lack of business rules management</p>	<p>A subset of rules applied to ref/master data relies on parameters allowing their adaptations depending on contexts of execution. Even though BRMS is not used, a first level of agility is enforced through this parameterization mechanism. Every rule is listed to the MDM repository so as to keep their knowledge</p>	<p>The Model-driven MDM is connected with a BRMS in a loose coupling architecture. Only a few rules benefit from this integration, less than 20%. Adding new rules to the BRMS doesn't impact on the MDM. As the BRMS brings governance features applied to rules it complements with the MDM. The system is really traceable and auditable</p>	<p>The Model-driven MDM is connected with a BRMS in a loose coupling architecture. This integration is achieved to less than 50% of rules. Adding new rules to the BRMS doesn't impact on the MDM. As the BRMS brings governance features applied to rules it complements with the MDM. The system is really traceable and auditable</p>	<p>The Model-driven MDM is fully connected with a BRMS in a loose coupling architecture. This architecture is achieved to more than 50% of rules. Adding new rules to the BRMS doesn't impact on the MDM. As the BRMS brings governance features applied to rules it complements with the MDM. The whole system is really traceable and auditable</p>	<p>Main criteria to be considered for rating: loose coupling, scope of rules managed through BRMS</p>	
	DT-IT-02-2 MDM with events management (CEP)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>CEP (Complex Event Processing) is complementary to BRMS. It allows to enforce an active overseeing of data in real time. The BRMS waits for an invocation coming from the MDM, whereas the CEP listens to the MDM repository and executes rules depending on data behaviours. The added-value of this mechanism has been measured in DT-GV-05-02. From an IT point of view, the integration of CEP with MDM depends on the ability of the MDM to publish in real-time a full data log containing a detailed description of modifications applied to the repository.</p>

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Criteria	Explanation	Mark-> weight for your rating	Bad	Basic	Medium	Advanced	Optimized	Guidelines
			1	3	5	7	10	
			Integration between MDM and CEP is not possible because the data repository is a black box and/or don't publish in real-time its data logs. Therefore, overseeing data in real time is a big trouble	Some rules are hard-coded to oversee data in real time. It means that implementing a new rule requires a heavy hard-coding to catch events. Over time this approach brings maintenance troubles and slows down the ability to oversee data in a real-time approach	na	na	Integration between MDM and CEP is fully established by using data logs published in real-time by the data repository. Overseeing ref/master data in real time is enforced at the whole scale of the system	<i>Tip: use this column for vertical scroll</i>
DT-IT-03 IT Data integration	DT-IT-03-1 MDM integration with the rest of the system	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To streamline the MDM integration with the rest of the system, business objects' lifecycles should be used when throwing synchronization events through the integration layer (ETL, EAI, ESB). It means that when a data is updated within the MDM its synchronization with the rest of the system can depend on business objects' states. Then rather than throwing atomic events for every modification occurring within the MDM repository, higher events are used depending on business objects' states. This architecture helps to streamline and secure data integration. To succeed in business objects' lifecycles modeling, you should take into consideration the semantic modeling (DT-KN-03).
			Lack of unified architecture to ensure the MDM integration with the rest of the system. Every project establishes its own solution depending on its requirements. Business objects' lifecycles are not really used to streamline data integration	Unified architecture is defined to streamline the MDM integration with the rest of the system, but it doesn't take benefit from business objects' lifecycles. Therefore, it remains a partial streamlining	Even though an unified integration architecture is defined and takes benefit from business objects' lifecycles, its implementation remains partial. Indeed, Business objects' lifecycles are not always designed. Every project makes the choice to design business objects' states or not	Business objects' lifecycles are used to conduct data integration when it makes sense. This is an unified architecture pattern enforced at a subset of the integration system only, at least 50%. It means that the MDM repository encompasses business objects' states	Business objects' lifecycles are fully used to conduct data integration when it makes sens. This is a unified architecture pattern enforced at the whole scale of the integration system. It means that the MDM repository encompasses business objects' states	Main criteria to be considered for rating: use of business objects' lifecycles

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				1	3	5	7	10	<i>Tip: use this column for vertical scroll</i>
Criteria	Explanation								
	DT-IT-03-2 Data mapping		1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To streamline the data mapping required when conveying data flow between systems, a pivot format should be established. If this pivot format is IT oriented only then it cannot be used as a real shared and common data model usable at the whole scale of the integration scope. In this situation, a lot of hard-coded developments are required to enrich the pivot format, which means an heavy IT development for every data mapping and troubles when updating existing ones. To fix this problem, semantic data models should be used as pivot formats to conduct data mapping. In other words, this is a model-driven approach applied to the data mapping. When deploying a semantic data modeling (see DT-KN-03) it is valuable to reuse data models as pivot formats. From an IT point of view, it is needed to use a semantic data integration tool able to manage rich data models designed with the semantic data modeling. Semantic data integration tool brings all mapping features needed but also a version management of mapping configurations and tests/debugs functions.
				Lack of unified architecture to tackle data mappings. Every project establishes its own solution depending on its requirements	A pivot format is used but it still remains IT oriented. Therefore a lot of hard-coded software is required to implement data mappings. This architecture is not cost-effective and raises troubles when updating existing data mappings	A rich pivot format is established but without a global semantic data modeling approach. Therefore, this pivot format is not generic enough to be sustainable. Over time, troubles to maintain this common and rich pivot format appear because of lack of enterprise data architecture	Semantic data models are fully reused as the pivot format to conduct data mappings. This architecture is enforced to a subset of the integration data, less than 50%. A semantic data integration tool is used to enforce this architecture and then streamline data integration in a cost-effective way	Semantic data models are fully reused as the pivot format to conduct data mapping. This architecture is enforced at the whole scale of the system. A semantic data integration tool is used to enforce this architecture and then streamline data integration in a cost-effective way	Main criteria to be considered for rating: reuse of semantic data models as rich pivot formats
Intermediary mark Mastering IT approach to manage Data			0	out of	50	0,0%			

Performance Level Percentage about your IS ability to manage Data as a real asset	0,0%
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