CIVICA



G-Cloud 13 Service Definition Document

Cloud Data Services



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1. Cloud Data Services

1.1. Introduction

This is the Service Definition Document for Civica UK Ltd (Civica) Cloud Data Services under the G-Cloud Framework.

1.2. Overview of Services

Civica offers the following services to help clients to plan and implement their cloud-based strategy.

Service	Service Description
Data Strategy, Roadmap and Data Maturity Assessment (DMA) Service	Defines data strategy for optimising information and data assets aligned with business objectives. DAMA or Central Digital & Data Office (CDDO) data maturity assessment (DMA) baselines current capabilities and derives actionable insights. A complementary roadmap synchronises practical steps to improve governance, architecture, literacy, business intelligence, MDM, integration, metadata and quality.
Data Governance Service	Civica's proven framework will help you establish governance structures ensuring your data is effectively managed as a critical business asset. The governance framework includes maturity, change management, roles (data owners, stewards, custodians), responsibilities, literacy, training, education, communications, principles, policies, standards, processes, procedures, ethics, compliance (e.g., GDPR / DPA18 and ISO27001).
Data Architecture & Modelling Service	Civica's proven framework includes rich set of reference models to accelerate production of data models (conceptual, logical, physical), relationship matrices, business glossaries plus data integration architectures for operational and analytical use cases. Civica Data Architects hold TOGAF and DAMA CDMP certifications and use Visio, ER-Studio, Sparx EA, ArchiMate modelling tools.
Data Quality Management Service	Proven framework-based approach, aligned with DAMA DMBoK, implements best practice Data Quality (DQ) tools, techniques, processes for ISO8000 compliance, enabling you to measure, monitor and improve quality of data. Civica works with you to define business and DQ rules and utilises most appropriate profiling and cleansing tools for your needs.
Data Conversion and Migration Service	A secure, end-to-end, legacy data and document migration and conversion service for cloud and on-premises data sources. Civica's proven framework encapsulates industry best-practice to simplify, de-risk, accelerate the migration and conversion lifecycle from strategy development, planning, design, data profiling and cleansing, ETL implementation and testing, to live migration and reconciliation.
Master Data Management Service	Civica's Framework covers all aspects of MDM from readiness assessment, technology selection and implementation to establishing effective governance roles and processes to create Golden Records for a reliable Single View, including matching and survivorship rules plus workflow for data stewards. Single or multi-domain MDM for operational or analytical use cases.

1.3. Use of Subcontractors and Partners

The above services are delivered by Civica UK Ltd. Depending on the customer requirement, we may operate with other Civica group companies including Civica NI Limited. Civica NI Limited is registered in Northern Ireland at 10 Weavers Court, Belfast, BT12 5GH.



2. Detailed Descriptions

Civica offers the following services to help clients to plan and implement their cloud-based strategy.

2.1. Data Strategy, Roadmap and Data Maturity Assessment (DMA) Service

Service Features and Benefits

Features

- Benchmark with DAMA DMBoK or CDDO Data Maturity Assessment (DMA)
- Guidance for accountability, leadership and delivery structure for data maturity
- Scalable questionnaire-based assessment or expert led interviews for depth
- Reviewed area results versus strategic, operational and corporate priorities
- Professionally qualified staff with DAMA CDMP certification and Security Clearance
- Data governance based on principles, policies, processes, procedures, and standards
- Master data management (MDM) for single views across subjects, assets
- Tried and tested frameworks for data quality, governance, and migration
- GDPR DPA18 compliance assessment and roadmap to achieve regulatory alignment
- Advise how data management enables strategic, tactical, and operational reporting

Benefits

- Foundations for digital transformation, improving customer experience and operational excellence
- Senior stakeholders engaged with a business case to demonstrate ROI
- Measurable benefits realisation model focuses on delivering strategic objectives
- Transparent data ownership and assignment of data lifecycle responsibilities
- Enhanced analytics and insight, improved data quality and integration
- Supported by data migration, data quality and business intelligence services
- Implementation of secure, effective GDPR DPA18 compliant, citizen centric services
- Cost efficiencies through tackling duplication and waste across services
- Improved partner interactions through the adoption of standards
- Develop internal expertise to own/develop the running of future assessments

Scope



The Data Strategy and Roadmap Service delivered by Civica ranges in scope from data management to data protection assessments, including a series of recommendations to assist with the implementation of an actionable roadmap.

Civica has developed data strategies for a wide range of clients in the private and public sectors, across all of our core markets and at all scales. We start with an understanding of your business strategy and objectives and apply our expertise in all aspects of data management to recommend best practices that are relevant, are achievable for you and which we know will work in practice.

Civica's data maturity assessment frameworks are aligned with the DAMA DMBoK (Data Management Body of Knowledge) and the Central Digital & Data Office (CDDO) Data Maturity Assessment guidelines.

We are a long-term supporter of DAMA, our consultants helped to found the UK chapter and our Consultancy Director chairs the DAMA UK committee. Civica's data management consultants typically hold the DAMA CDMP (Certified Data Management Professional) certification at Practitioner or Master Level.



Project Approach

This will include:

Phase	Description
Initial Workshop	 Presentation covering various elements of a sector-specific Data Strategy and our capabilities.
	Brainstorming to match needs of customers to elements of Data Strategy.
	Write up of meeting with proposal for next steps.
Data Maturity Assessment & Benchmarking	 Assess the customer's capability and appetite for different elements of data strategy.
	 Perform Data Maturity Assessment against Civica DAMA or the Cabinet Office's CDDO-based guidelines to assess maturity and literacy across the organisation at scale. This is achieved via questionnaires, combined with consultant-led interviews with targeted groups of stakeholders for in-depth assessment.
	Document strengths and weaknesses of current state.
	Produce a qualitative scoring based on impact and difficulty to implement.
Strategy Development	 Follow up from Data Maturity Assessment / Benchmarking to prioritise Data Management Strategy elements based on customer's current state, needs, ambitions and ongoing projects and plans.
	Prepare high-level cost / benefit analysis for investment case.
	Optionally prepare short, medium, and long term views of the strategy.
Roadmap Development	Develop a high-level roadmap laying out recommended activities by data management function for short to medium term.
	 Integrate with other plans, roadmaps and align with business strategy and objectives. Prepare more detailed cost and benefit analysis.
	 Typically, high-priority recommendations will be used to recommend scope for next stage, which may involve undertaking several activities that deliver immediate business value or satisfy tactical concerns, while at the same time developing a more strategic target operating model, architecture, and roadmap for data management.

Added Value and Innovations



In our experience, many organisations operate in siloes and deploy point solutions with the result that data is fragmented rather than integrated and it is difficult to unlock its full potential. Our approach starts with an understanding of the business strategy and objectives before looking at how current data management practices help or hinder those objectives and then recommending solutions that will have an impact.

Data Management, Data Architecture and Business Insight are core competencies of Civica's Consulting practice. Most of our consultants hold certification against CDMP (Certified Data Management Professional). We helped to establish the UK Chapter of DAMA and we have maintained our commitment to supporting DAMA through board level representation ever since.

Civica has extensive experience in successful projects that must comply with UK Government protective marking, operating at, and above, Official-Sensitive levels of requirement and satisfying NCSC cloud security principles.

Civica is able to provide advice and guidance on how to address the outputs from the data maturity assessment in line with CDDO guidelines. This includes making prioritised decisions to accurately roadmap improvements to data maturity, developing internal data SMEs, rallying support from leadership and raising stakeholder awareness.



Expected Customer Outcomes

These include:

- A data strategy that is tailored to the customer's business strategy and objectives.
- Current data maturity benchmarked against either DAMA DMBoK or CDDO data maturity assessment guidelines.
- A set of findings, recommendations and how-to guidance on how best to address the findings from Data Maturity Assessment in line with mandated Government direction.
- An understanding of how data management techniques can be applied in practice.
- A business case with costs and benefits to evidence positive ROI.
- A realistic roadmap that is aligned with ongoing projects and other initiatives.
- Gap analysis and roadmap for regulatory compliance including GDPR.

2.2. Data Governance Service

Service Features and Benefits

Features Built on our proven DAMA-aligned Data Improved control and risk management Governance Framework Controls put in place to manage data as an asset Based on DAMA Data Management Body of Knowledge (DMBoK) Provides a roadmap and Data Management Maturity Assessment recommendations for increasing data Baselines As-Is and establishes To-Be management maturity Implements defined ownership and Target operating model designed to accountability of business data complement existing governance structures Organisational design for effective data Data management professionals are management, centralised/federated models trained and educated in best practice Implementation roadmap developed for data A scalable solution to enable governance and data management functions organisational wide compliance Data governance team, Data Governance Trusted data foundation for Artificial Council/Board, working groups established Intelligence (AI), Machine Learning (ML) Roles and responsibilities are defined, Ensures that data management activity is business glossary is established directed by agreed principles Training provided to data owners, data Activity to standardise business and stewards and data custodians technology terms is initiated. Enables data governance to meet DPA18 and Identifies and addresses data literacy GDPR compliance needs/gaps through training needs analysis.

Scope



Our Data Governance Service is built upon best practice as defined by the Data Management Association (DAMA) DMBoK and ensures that customers manage their data as an asset throughout its lifecycle. DAMA puts Data Governance at the centre of all data management activities. This is because there are a set of roles, responsibilities and accountabilities that are absolutely critical to ensuring that data management is conducted in a coherent and effective manner.



Our Data Governance Framework (DGF) can be tailored to any size of customer to ensure that the implementation of Data Governance is appropriate to their strategy and resources. If required, we can conduct a maturity assessment and help to build the business case for Data Governance.

Once a Data Governance programme has been established, our DGF identifies the existing data management roles and implements a governance regime that formally recognises these roles and provides appropriate support. The DGF seeks to avoid increasing headcount and looks to fulfil the appropriate number of Data Owner, Steward, and Custodian roles with minimal impact to other business activities. Principles, policies, standards, processes, and procedures are created as necessary to enforce the Data Governance regime.

To support the Data Governance team as they grow and develop, Civica can deliver specific training interventions for Data Owners, Stewards and Custodians and will provide ongoing coaching and mentoring. We also work with customers to develop a Communications Strategy and Plan for raising awareness across the entire workforce and have a model for addressing Data Literacy in terms of both data producers and data consumers. Finally, our DGF has a specific component that targets DPA18/GDPR compliance and is designed to ensure that customers can demonstrate an adequate level of compliance to the Information Commissioner's Office.

Project Approach

A typical Data Governance project consists of five stages each with four activities.

Phase	Description
Assess	 Establish the scope for Data Governance and identify all stakeholders. (Note that we recommend starting with a single entity such as a product, implementing an end-to- end Data Governance solution and then rolling out further).
	 Identify what the customers' business drivers, vision and objectives are for improving data management. Data Governance is typically the starting point for improving Data Quality, implementing Master Data Management, or driving better Business Intelligence and Analytics.
	 Assess the baseline data management maturity in order to understand current strengths, weaknesses, and priority areas for improvement.
	 Establish the target level of data management maturity to inform subsequent stages of the DGF.
Design	By the end of this stage the customer will have a Data Governance Office in place.
	 Establish requirements and constraints to understand a realistic level of Data Governance. Typically, this will come down to available budget and resources.
	 Tailor Civica's DGF to understand to what degree each component of the framework needs to be implemented.
	 Identify Target Operating Model that will minimise the impact on existing governance structures.
	Design the Implementation Roadmap.
Build	 Define the six to ten Data Principles that will drive all data management activity going forward (framed as statements with rationales and implications in accordance with TOGAF best practice).
	 Define the new organisational structure and associated roles (i.e., Data Owners, Stewards and Custodians plus Data Governance Council, Data Working Groups).
	Define the Terms of Reference and accountabilities for the above.
	 Define Data Governance policies, standards and processes that will ensure adherence to the Data Principles.



Rollout

- Establish transition readiness and risk ensuring that the area in scope for Data Governance implementation is prepared for the rollout and, critically, is bought into the change required and keen to improve data management.
- Fill the Data Governance roles and establish the new structures.
- Implement Data Governance policies and processes.
- Train those with Data Governance roles in their responsibilities and provide communications to wider workforce to ensure that they are aware of the change and the impact it will have on them.

Operate

- Expand the training provision to cover the whole workforce and maintain the drumbeat of communications.
- Measure the performance of Data Governance regime to ensure that the processes have been embedded and activity is occurring as expected. Plan for future maturity assessments.
- Expand the scope of Data Governance to other entities or domains, implementing a feedback loop for continuous improvement.
- Build on Data Governance and plan to develop other data management functions such as DQM or MDM.

Added Value and Innovations



A team of Data Management consultants, most of whom are Certified Data Management Professionals (CDMP), deliver Civica's Data Governance Services. This team of experts guide and assist customers in the implementation of the data management best practices that underpin successful digital transformation and cloud adoption. Our DGF and methodology is based upon the Data Management Body of Knowledge (DMBoK) produced by the Data Management Association (DAMA) and

combined with decades of hands-on practical experience. Our consultants helped to establish the UK Chapter of DAMA, and we have maintained our commitment to supporting DAMA through board level representation ever since.

Civica consultants are experts in all aspects of Information and Data Management, covering the complete Information Value Chain from the ingestion or creation of raw data through to insight and analytics. Therefore, we can advise and assist customers not just on the specific Data Service they have procured, but how that Data Service relates to other areas of Information and Data Management that they perhaps have not considered. So, for example, DQM is dependent upon effective Data Governance, Data Architecture and Metadata Management being in place and will enable MDM, Data Integration and Interoperability, Business Intelligence and Insight and Analytics. This is the holistic view that our consultants bring by deploying the DMBoK.

Our collaborative approach to working with our customers ensures that customer staff are upskilled in Information and Data Management techniques and practices. Our consultants, with their decades of knowledge and experience, coach, and mentor customer teams so that when the engagement is over the customer is completely self-sufficient.

Expected Customer Outcomes

- Individuals fulfilling the Data Governance roles follow processes and procedures, and comply with the principles, policies, and standards.
- Effective communication with end users is in place to ensure awareness of Data Governance principles, policies, standards, processes, and procedures.
- Monitoring of the timeliness of data providers.
- Data validation issues are addressed to ensure data is corrected at source.
- Monitoring of quality metrics and management of end users to ensure that data is being managed as an asset.



- Customers' data and information management maturity is increased, and their in-house capabilities improved to leave them self-sufficient.
- Data management best practice is in place and underpins successful digital transformation and cloud adoption initiatives.

By utilising our DAMA aligned Data Governance service we ensure that customers have the necessary controls and processes in place to manage their data as a key corporate asset. We help our customers grow and develop their Information and Data Management capability so that we can handover all activities to effective client teams. Ultimately, we help customers to assure their data which reduces costs, drives better decision making and enables insight to be gained.

2.3. Data Architecture & Modelling Service

Service Features and Benefits

Features	Benefits	
Enterprise Data Model defines data required to support the business	Common definitions ensure decisions are made on unambiguous data	
 Define business rules to support development of data quality rules 	Data is consistently sourced from the correct, authoritative systems	
 Define data entities (Business Glossary) to support consistent business terminology 	Understand data lineage and establish user data ownership	
 Identify personal data for GDPR and business-critical master data 	Trusted data foundation for Artificial Intelligence (AI), Machine Learning (ML)	
 Creation of consistent conceptual, logical, and physical data models 	Common data references enable consistent data quality measurement and tracking	
Visualise data flows between core systems to identify data lineage	 Shared data taxonomy promoting understanding across all stakeholders 	
 Define Data Architecture Principles to support the governance of change 	Support application rationalisation through identifying applications processing the same	
 Integrate data architecture with business process and application architectures 	dataConsistent modelling standards and access	
Creation of canonical data models to support data integration	to re-usable data architecture artefacts Identify where improved data integration would bring benefits	
Develop a Target Data Architecture and Roadmap	would bring benefitsSupport and align to any existing Enterprise Architecture activity	

Scope



Data Architecture & Modelling services delivered by Civica cover a wide scope and are focussed on the following scenarios:

- As part of an Enterprise Data Management Programme to define the data within scope, provide consistent definitions, expose business rules, and support identification of appropriate governance roles.
- To support a Transformation Programme that requires the development of a Target Data Architecture.
- As part of a Business Intelligence Programme to identify and define critical attributes and to support the design of data warehouses.



- To support an existing Enterprise Architecture function that is either weak on, or doesn't have, a Data Architecture capability.
- To support Architecture and Programme Governance ensuring new systems are integrating
 with the correct master data sources and ensuring duplicate master data sources are not
 created.
- To support a Master Data Management initiative identifying master data and systems that require integrating.
- To support Application Rationalisation identifying systems mastering and processing the same data.

Project Approach



The approach taken to delivering this service will be dependent on the scope and objectives of the Data Architecture and Modelling engagement. The phases described below cover all possible activities, but the actual approach used will be tailored to the customer's objectives.

Phase	Description
Establish Customer Goals/Objectives	Workshop to ensure goals and objectives are agreed so that Civica can prioritise our efforts on delivering to these goals and be able to demonstrate and communicate the benefits.
Agree Tools and Notation	Agree with the customer what software tool is used for data modelling. As the customer needs to maintain the models in the longer term, it's important our consultants use a tool the customer is comfortable with. We can also make recommendations on tools if requested.
Develop a Subject Area Model	The Subject Area Model groups similar types of data within the organisation. It also provides a useful reference point for the enterprise data modelling activity and provides a convenient way of managing and tracking progress of the work.
Develop Conceptual Data Models	Conceptual Data Models represent the things (business entities) that are important to the organisation. The business entities are independent of technology and implementation concerns. The business entities within a subject area will be derived through meetings and workshops with subject matter experts within the relevant business areas.
Develop Matrices	Matrices are developed to visualise the relationship between business entities and other architecture components such as systems, functions, and processes. The most common is the system/entity matrix which can be used to identify where data is mastered and used.
Develop Logical Data Models	Logical Data Models are constructed, identifying the critical attributes and keys, Data Quality workshops will typically uncover critical attributes used to define data rules and data quality measures. Similarly, Business Intelligence will identify critical attributes to support KPIs on reports and dashboards. Both these activities benefit from a consistent model and definition of the attributes concerned.
Develop and Maintain a Business Glossary	A Business Glossary is developed to provide a single definition for all business terms used across all subject areas. Where existing definitions/glossaries exist, these will be referenced and used. Appropriate data governance needs to be put in place where people take ownership for these definitions and agree any changes to them.
Publish/Share Data Architecture Artefacts	The Data Architecture artefacts (data models, matrices, and business glossary) are published so that they are widely available and communicated in a consistent way. Some more advanced modelling tools may have dedicated publishing portals that can be used.



Develop Target Architecture	The Target Data Architecture describes the ideal state that all initiatives and projects should move the organisation towards. Usually, several different future States are created (transition architectures), representing different time points. Civica will use its best-practice reference architecture models to identify the classes of data architecture components that you would expect to achieve specific business objectives.
Develop Target Architecture Roadmap	A Roadmap is developed that describes the projects and initiatives that are required to move the organisation from its current-state to its target-state architecture along with any transitions in between. Any internal or external dependencies and existing projects will also be identified.

Added Value and Innovations



Our extensive experience of using this framework within many companies (public and private) has enabled us to develop a rich set of reference models that can be used to accelerate our approach. Our consultants are experienced in the use of modelling tools ranging from Visio through to more sophisticated data modelling tools such as Idera ER/Studio, Sparx EA and ArchiMate.

Data Architecture and Modelling are core competencies of Civica's Consulting practice. Many of our consultants hold TOGAF 9 certification and/or CDMP (Certified Data Management Professional). Civica actively supports standards and excellence in Data Management with board level representation at the DAMA UK chapter.

Expected Customer Outcomes

The delivery of this service can bring about significant business benefits. When implemented effectively the customer can expect the following outcomes:

- A consistent view and definition of data throughout the organisation.
- Improved project governance through challenging solution data architectures against data architecture principles and target architecture.
- Improved business intelligence through providing clearly defined data sources.
- Accelerated Project Discovery activity through the availability of current-state data architecture artefacts.
- Exposing and removing data siloes and in turn reducing maintenance costs.
- Improved data modelling standards and re-use resulting in more effective and better communicated data designs.
- Improved data quality through identifying and resolving data integration issues.

2.4. Data Quality Management Service

Service Features and Benefits

Features	Benefits	
Uses our proven DAMA aligned Data Quality Management Framework	Better decision making enabled by trusted data	
 Based on the DAMA DMBoK (Data Management Body of Knowledge) 	 Assures data for exploitation by MDM, BI, insight, and analytics 	
Data Quality Audit to assess the health of data	 Delivers a sound foundation for data migration 	
Organisational design for effective data quality management	 Reduces rework downstream caused by data errors 	



- Access to a broad range of profiling and cleansing tools
- Development of data quality reports and dashboards
- Formal data quality return on investment (ROI) assessment
- Implementation of business aligned data quality metrics and indicators
- Solutions compliant with ISO8000
- Processes built upon ISO9001 QMS and ISO27001 ISMS accreditation

- Quality is managed from the point of data capture/creation
- Data is actively managed by data stewards
- Issues are investigated and resolved early in the data lifecycle
- Rectifying errors early reduces operating costs
- Improved regulatory compliance
- ROI tracking confirms tangible benefits

Scope



For customers to be able to exploit their data with new cloud services, the data has to be fit for purpose. Data Governance is part of the answer, but a Data Quality Management (DQM) solution applies Total Quality Management techniques and practices to enterprise data to ensure that it conforms to user requirements. Civica's DQM Service is built upon best practice as defined by the Data Management Association (DAMA) and enables customers to assure the quality of their data assets

throughout their lifecycle thus enabling effective Master Data Management, Business Intelligence, Insight and Analytics, and, ultimately, optimal decision making. We have a proven framework for implementing DQM which can be ISO8000 compliant if requested by the customer. Our Data Quality Framework (DQF) can be tailored to any size of customer to ensure their implementation of DQM is appropriate to their strategy and resources, focusing on the data that is key to business performance.

Civica's DQF begins by implementing the foundations required on which to build a robust Data Quality (DQ) capability, though some elements may be in place if the customer has already established Data Governance. This component of the framework assesses the customer's level of maturity and establishes the initial scope for DQ activity (which should be a burning DQ issue the resolution of which will grab attention). We also work with the customer to set the right DQ project team in place for them and put a plan in place to move from a Proof of Concept, through the Pilot phase to a full rollout. The remainder of our DQF then addresses for critical areas:

- Establishing the DQ organisation.
- Developing a hierarchy of dimensions, measures and indicators that can be coded or entered into the DQ toolset of choice.
- Designing and implementing the DQM processes, from the profiling of data through to issue resolution.
- Designing the reporting mechanisms required by different stakeholder groups.

Civica is tool agnostic when it comes to DQM, so our service tailors our dimensions, measures, and indicators methodology to the customer's chosen tool set. Finally, our DQM service builds on Data Governance to implement new roles, processes, and procedures.

Typical Project Approach

A typical DQM project consists of five stages consisting of the following activities:

Phase	Description
Assess	 Establish the scope for DQM and identify all stakeholders remembering that the aim of DQM is not to try and encompass all enterprise data, but to focus on the data with the greatest impact.
	 Understand the current approach to DQM (there are usually pockets of uncoordinated DQ activity being undertaken).



	 Conduct a gap analysis to map the customer's existing capability to Civica's best practice DQM model in order to understand where they are deficient.
	 Identify which DQ building blocks are required, providing the customer with a clear plan for what needs to be done in their organisation to implement an effective DQM capability.
Design	By the end of this stage, the customer will have their chosen DQ toolset in place:
	 Design new or revised DQM processes to implement Civica's proprietary FIRM approach to DQM (Find, Investigate, Remedy and Monitor).
	 Design the Target Operating Model and identify the associated training requirements.
	 Translate the business rules the data needs to conform to into DQ Indicators that software can use to assess the data.
	 Identify potential reporting solutions and design an agreed solution to meet the customer's requirements.
Build (the Pilot)	 Implement the new or revised DQM processes that were developed in the previous stage.
	Establish structure and roles required to execute and maintain DQM capability.
	Implement and test the initial set of DQ Indicators.
	Implement and test the proposed DQ reporting suite.
Rollout (the	By the end of this stage the Pilot will have been signed off
Pilot)	 Train and educate Data Stewards and Data Custodians in DQM (this builds on Data Governance activity).
	 Establish the initial schedule for undertaking DQM assurance, an audit programme covering the full scope of the pilot.
	 Establish a DQ Community of Interest as a forum to primarily support the Data Stewards and to share best practice and lessons learned as the capability develops.
	 Begin raising awareness of DQM across the workforce as a fundamental aim of DQM is to increase the quality of data and this requires, amongst other things, those who create and update data to pay due care and attention to what they do.
Operate (as business as usual)	 Expand the scope of DQM activity as per the plan into new business areas or data domains.
	 Train the wider workforce in the fundamentals of DQ and ensure a regular drumbeat of communications.
	 Refine the DQM capability as lessons are learned ensuring continuous improvement.

Added Value and Innovations



A team of Data Management consultants, most of whom are Certified Data Management Professionals (CDMP), deliver Civica's DQM Services. This team of experts guide and assist customers in the implementation of the data management best practices that underpin successful digital transformation and cloud adoption.

Our Data Quality Management framework and methodology are based upon the Data Management Body of Knowledge (DMBoK) produced by the Data Management Association (DAMA) and combined with decades of hands-on practical experience. Our consultants helped to establish the UK Chapter of DAMA and we have maintained our commitment to supporting DAMA through board level representation ever since.



Civica consultants are experts in all aspects of Information and Data Management, covering the complete Information Value Chain from the ingestion or creation of raw data through to insight and analytics. Therefore, we can advise and assist customers not just on the specific Data Service they have procured, but how that Data Service relates to other areas of information and data management that they perhaps have not considered. For example, DQM is dependent upon effective Data Governance, Data Architecture and Metadata Management being in place and will enable MDM, Data Integration and Interoperability, Business Intelligence and Insight and Analytics. This is the holistic view that our consultants bring by deploying the DMBoK.

Our collaborative approach to working with our customers ensures that customer staff are upskilled in Information and Data Management techniques and practices. Our consultants, with their decades of knowledge and experience, coach, and mentor customer teams so that when the engagement is over the customer is completely self-sufficient.

Expected Customer Outcomes

These include:

- Easy detection, identification of risk and prioritisation of DQ issues.
- Formal handling of DQ issues through to their resolution and the prevention of recurrence, reducing or removing their negative impact and associated costs.
- Organisation wide visibility of the health of the data including trends (i.e., is DQ getting better?) with the ability to compare business units.
- Automated monitoring of key data assets with the ability for ad-hoc audits if required.
- A culture of continuous DQ improvement.

Ultimately by utilising our proven DQF customers will assure the quality of data their organisation receives, creates, and maintains.

2.5. Data Conversion and Migration Service

Service Features and Benefits

Features

- Supports COTS, bespoke and SaaS including Microsoft Dynamics365, Office365, SharePoint
- Source to target data mapping, data gap analysis
- Data quality and retention assessment, rule generation, data quality remediation
- Data modelling and data analysis to define data requirements
- Multi-level testing to assure reliable and complete data migration
- Processes built upon ISO9001 QMS and ISO27001 ISMS accreditation
- Data reconciliation design, build, testing, data archiving and retirement planning
- Data migration review and consultancy services

Benefits

- Delivers risk reduction during critical business change periods
- Problems solved effectively with minimal cost and high success rates
- Secure end-to-end data migration service across planning, analysis, delivery, testing
- Client data treated as a valuable asset and managed accordingly
- Supported by master data management, data quality and BI services
- Tried and tested framework approach and strategy to accelerate projects
- Approach independent of source/target system, migration tools, or industry
- Minimal disruption to organisations



- Data migration and conversion strategy development, implementation approach
- Data stakeholder management and governance
- ETL vendor agnostic: including Microsoft SSIS, Talend, Informatica, Kingswaysoft, tcVision
- Database agnostic: including Microsoft SQL Server, Oracle, Mainframe, Open Source

Scope



Data migration solutions delivered by Civica range in scope from a complete end-toend managed data migration service to a self-service model in which tools and user documentation, training and support services are provided for clients wishing to retain primary responsibility for migration activities.

Civica has supported and performed the migration of data and documents from a multitude of legacy systems with different data formats into cloud-based and SaaS solution. In each case we have applied our established Data Conversion Methodology and tailored our professional services and consultancy offering to meet client needs through an appropriate blend of:

- Data migration strategy and best-practice consultancy.
- Data migration planning and leadership.
- Data landscape and architecture analysis.
- Data mapping and conversion.
- Data profiling and data quality measurement / monitoring.
- Data retention and data cleansing.
- Matching and merging to facilitate single view of customer / citizen / critical business entity.
- Hands-on migration development, delivery, and test resources.
- Expert advice on data formats, load tools and utilities from our technical subject matter experts (SMEs).

Project Approach



Our established Data Migration Methodology encapsulates industry best-practice and has been refined through many years of experience gained in delivering data migrations ranging in scale from large, complex, business-critical transformation and cloud enablement programmes to more modest application modernisation initiatives.

A typical end-to-end Data and Document Migration engagement consists of:

Phase	Description
Scope	Perform stakeholder analysis to identify data owners and business/technical SMEs.
	Identify legacy on-premises or cloud-hosted data stores.
	Understand data landscape and topography.
	Develop data migration strategy.
	Key deliverables: Migration Strategy; Legacy Data Store List.
Plan	Perform an issue and risk assessment.
	Develop migration schedule.
	Develop reconciliation and audit approach.
	Develop and test dress-rehearsal approach (dry-run).
	Establish migration sign-off acceptance procedure.



	Specify roles and responsibilities.
	Key deliverables: Business Data Model & Glossary; RAID log; Migration Schedule.
Discover	Profile data sources.
	Establish data quality metrics.
	Develop data retention and cleansing plan.
	Understand in-flight scenarios.
	Analysis legacy batch processes and data integration and interface patterns.
	Perform source and target data model gap analysis.
	 Key deliverables: Source/Target Data Models & Data Dictionaries; Data Quality Reports; Data Retention & Cleansing Plan; Volumetrics & Timing Models; Gap Analysis.
Design	Specify and design migration environments.
	Design data mapping specifications.
	Develop migration Runbook and rollback plan.
	Develop test, audit, and reconciliation plan.
	 Key deliverables: High-level Architecture & Design; Data Mappings; Migration Runbook; Test & Audit & Reconciliation Plan.
Build	Build migration environments.
	Build & test data flows.
	Build & test audit and reconciliations.
	Test and tune performance.
	Key deliverables: Data flows (ETL).
Test	Perform migration user acceptance testing.
	Execute migration dry run(s).
	Execute migration dress rehearsal(s).
	 Key deliverables: Test, Audit & Reconciliation reports; End-to-End Execution timings.
Execute	Migrate data and documents.
	Reconcile.
	Execute acceptance process.
	Key deliverables: Migration Sign-off and Go-live.

At the other end of the scale, we can provide a service which allows the client to retain primary responsibility for the majority of data migration activities. In this model, we provide comprehensive target data models, data dictionaries and data integrity and verification rules which clients can use to design and develop data extraction, conversion, and cleansing processes, with assistance from our professional services, consultancy and subject matter experts if required. We typically retain responsibility for loading the extracted and cleansed data into the cloud hosted / SaaS solution.



Added Value and Innovations



In our experience cloud enablement, application modernisation and digital transformation initiatives which require data migration present an ideal opportunity to make a transformational step-change in data quality and enterprise information management capabilities. Our services include comprehensive master data management, data quality, data governance and enterprise information management which can be applied across an enterprise to build a foundation and roadmap for a

personalised customer experience, deeper business insight, automation, and operational efficiency.

Data Management, Data Migration and Data Architecture are core competencies of our Consulting practice. Many of our consultants hold TOGAF 9 certification and/or CDMP (Certified Data Management Professional). Our consultants helped to establish the UK Chapter of DAMA and we have maintained our commitment to supporting DAMA through board level representation ever since.

Additionally, we have extensive experience in successful projects that must comply with UK Government protective marking, operating at, and above, Official-Sensitive levels of requirement and satisfying NCSC cloud security principles.

Expected Customer Outcomes

These include:

- De-risked and accelerated business critical data and document migrations.
- Comprehensive multi-layered security protecting data and documents in transit and at rest throughout the data migration lifecycle.
- No unplanned disruption or degradation to business operations.
- Improved data quality and data management capability.
- Solid foundation for personalised customer experience, deeper business insight, automation, and operational efficiency.

2.6. Master Data Management Service

Service Features and Benefits

Features Benefits MDM readiness assessment with practical Creation of golden record/single view for core roadmap for implementation business entities MDM implementation roadmap integrated with • Operational MDM consistently shares and business, technology, and data strategies updates master data across systems Identify authoritative sources of master data Ensures accurate data is leveraged in all (systems of record) business processes Best practice MDM governance covering Analytical MDM improves insight with principles, policies, processes, and roles complete picture and single view MDM business case evaluation including ROI Support for "tell us once" and "know your calculation customer" processes Implement match, merge, and survivorship Data Protection by design and by default rules, plus data stewards' workflows Assured compliance with data quality Implement Single View, 360-degree view, and standards 720-degree view solutions Aligned with DAMA DMBoK best practice Data Protection Impact Assessment to ensure Realise benefits of multi-agency data sharing • GDPR DPA18 compliance Provides a common data backbone for digital

Solutions supported: Civica Multivue,

Informatica, SAS, Talend and Microsoft

transformation initiatives



Scope



We have developed a suite of MDM Frameworks that cover the following phases of the MDM lifecycle: Readiness assessment; Technology selection; MDM implementation and creation of a reliable Single View; Establishing effective MDM governance and processes. Our frameworks are suitable for:

- Operational MDM whereby the "golden record" is propagated back to operational systems so that operational business processes are using the best possible data for core entities.
- Analytical MDM whereby data from disparate systems feeding systems of insight are dynamically resolved so that all relevant facts are correctly linked to the same entities improving the quality of reporting and analytics.

Project Approach

In practice MDM implementations are based on a subset of the following activities. It is not intended for the activities to be executed strictly sequentially. The method is tailored for each customer and data subject area and some degree of iteration and parallelism is expected to take place.

In parallel with the MDM implementation, it is often necessary to assess, design, build, rollout and operate a data governance framework, to exercise the required level of control over the data being mastered.

Phase	Description
Establish Business Requirements	Conduct workshops with process contacts to identify concepts and associated definitions in the subject area. Use the results to develop / extend outline business requirements.
Analyse Source Systems	Refine inventory of Systems of Entry and consuming systems and collect additional required system details. Collect and catalogue relevant metadata associated with the identified systems and conduct data quality assessments against all potential Systems of Entry.
Model Data	Conduct workshop(s) with system contacts to agree attributes, rules, definitions, and prioritisation for use in the logical data model. Review the conceptual data model and either develop a bespoke logical model or extend the identified industry standard model.
System Requirements	Specify the data mappings and rules between attributes in the Systems of Entry and attributes in the System of Record. Specify the data mappings and rules between attributes in System of Record and attributes in the consuming systems. Analyse and record details of the impact on and necessary changes to all identified systems.
Select MDM Architecture and Toolset	Define the MDM Architecture to be used, and select tools to provide Data Integration, DQ and MDM capabilities - based on their ability to support the system requirements.
Build Data Sourcing Components	Develop the physical data model and plan, load and test the integration Master Data Environment. Plan and perform the initial population of the System of Record.
Build Data Distribution Components	Develop components that make data available to consuming systems. This can include components to update the Systems of Entry with enriched data.
Build Data Quality Components	Develop components to monitor DQ and develop Data Enrichment web services to be used by Systems of Entry in order to help end-users to improve data quality at the point of data entry.



Build User Interfaces and Workflows	Develop user interfaces and associated workflows for Data Stewards.
Conduct End-to-end Testing	Test the behaviour of the Master Data Environment with respect to the subject area, testing each data concept throughout its lifecycle from creation through to retirement.
Conduct Acceptance Testing	Define and execute the deployment plan for the Master Data subject area and perform acceptance testing.

Added Value and Innovations



Our MDM Frameworks are integrated with our other data management frameworks & aligned with the DAMA DMBoK. The frameworks are vendor neutral, but we have partnerships with:

- Civica MDM our own MDM solution, optimised for local government and healthcare sectors, creating single view of the citizen and household.
- Informatica an industrial strength, multi-domain solution for large scale, mission critical solutions.
- Talend an open source, multi-domain solution that is highly customisable.
- Microsoft a multi-domain solution that is fully integrated into the Microsoft stack;
 Civica is a Microsoft Gold Partner.

Data Management, Data Migration and Data Architecture are core competencies of our Consulting practice. Many of our consultants hold TOGAF 9 certification and/or CDMP (Certified Data Management Professional). We have helped to establish the UK Chapter of DAMA in 2002 and we have maintained our commitment to supporting DAMA through board level representation ever since.

Additionally, we have extensive experience in successful projects that must comply with UK Government protective marking, operating at, and above, Official-Sensitive levels of requirement and satisfying NCSC cloud security principles.

Expected Customer Outcomes

Civica is a full-service MDM partner not just a software solution vendor. As a result, we are able to ensure that customers realise the full benefits of effective Master Data Management, including:

- Creation of golden record and single view for core business entities.
- Operational MDM consistently shares and updates master data across systems.
- Analytical MDM improves insight with complete picture and single view.
- Ensures accurate data is leveraged in all business processes.
- Improved customer experience enabled by complete view of customer data.
- Better insight from analytical systems by connecting all relevant facts to core entities.
- Improved data quality for core data entities at the heart of the business.
- Reduced fraud.
- Regulatory compliance including GDPR/DPA18.
- Realise the benefits of multi-agency data sharing.



3. About Civica

3.1. Overview

Civica is one of the UK's largest software companies, with over 30 years proven expertise in delivering improved outcomes for public services around the world.

Civica helps organisations that deliver essential everyday services to rapidly transform customer experience and improve operational efficiency. Offering a complete digital solution, from strategy consulting and solution design to software development and ongoing managed services, our in-depth business and technology know-how is founded on the creation of secure business-critical systems. A user-centred approach means we start with customer needs, putting insights, data, and strategic thinking in the driving seat.

Civica is transforming services by working with over 2,000 public service organisations in the UK and internationally, covering local government, education, health and care, housing, and central government.

3.2. Civica Innovations

Civica identifies and develops technology innovations to complement its mission of transforming the way its clients work, enabling clients to move to new and more flexible ways of working. Examples include:

- Machine-based identity verification to improve the user experience in public sector pension management.
- Using advanced technologies to address voting decline by improving citizen engagement.
- CovidCertNI, developed by Civica in conjunction with Digital Health & Care Northern and other partners, made it easier and quicker for NI residents to access their Covid vaccination certificate.
- Our partnership with Belfast City Airport applied innovation Sens AI technology to improve passenger experience and safety, earning a shortlisting in the 'Most Innovative Cloud Product or Service - Edge Computing' category at the Cloud Excellence Awards 2021.
- Our NorthStar innovation lab has continued its key role as an innovation leader for public services through the acceleration and application of latest ideas and technologies. Civica NorthStar has helped promote and decode advanced technologies such as artificial intelligence (AI), machine learning (ML) and augmented and virtual reality (ARVR). Peergroup sessions with customers have similarly helped fuel the innovation focus, to mutual benefit.
- North West Anglia NHS Foundation Trust assisted analytics platform is generating £40m in additional cost savings by identifying cost anomalies in NHS Trusts and removing unwanted variation. Through a pilot undertaken with 6 NHS Trusts, the platform completed the equivalent of 13 years of analysis in under 24 hours. It identified a minimum of 3% additional costs savings for each NHS Trust.

3.3. Civica Awards

Civica was recognised as an employer of choice in each of our three key geographies and our products won a range of accolades, including "2021 Best Cloud Transformation in the Pandemic" at the Cloud Excellence Awards. This was for our work with Liverpool City Council and our Community Helper cloud solution.

We were "Highly Commended" in the Most Innovative Cloud Product or Service for NIDirect's, AccessNI service, enabling over 140,000 government disclosure applications to be delivered in the cloud. Harold de Neef, Group Director for Cloud revealed, "this level of external recognition acknowledges the effort that all of us are making to further establish our cloud leadership in public services."



We were listed as a diversity leader in the 2022 UK Financial Times Diversity Leaders list (recognising our commitment to inclusion and a balanced workforce), maintained our Employer of Choice award win in 2021 at the Australian Business Awards and were certified in Aug 2021 as a Great Place to Work in India.

3.4. Full List of G-Cloud Services

This is the full list of services provided by Civica on the G-Cloud framework:

- Managed Hosting Services for Azure, UKCloud, Amazon and Civica cloud services.
- Cloud software including D365, M365, Microsoft Power BI, Master Data Management, Chatbots, Mobile Framework, SensAI, Dynamics-based Case and Grant Management and a suite of off-the-shelf software applications.
- Cloud professional services covering:
 - Cloud Research, Analysis, Design and Digital Inclusion Services
 - Cloud Alpha Beta Live Application Delivery Service
 - Cloud Change Management Service
 - Cloud Data Services
 - Cloud Analytics and Insight Services
 - M365 Services
 - D365 Services
 - Chatbot Service
 - Application & Platform Health Assessments
 - Collision Management & Reporting (CRaSH)

3.5. Other Crown Commercial Service Framework Agreements

Civica is a leading supplier of solutions and services to the public sector and operates through the following Crown Commercial Service frameworks.

Framework	Ref.	Lot details
Digital Specialists and Programmes	RM6263	Lot 1 - Capability-based services or delivery of multiple projects covered under an overarching strategic service objectives using PPM frameworks.
Software Design & Implementation	RM6193	Lot 1
Digital Outcomes & Specialists 6	RM1043	Lots 1 to 3.
Technology Services 3	RM6100	Lot 1 Technology Strategy & Services Design. Lot 2 Transition & Transformation. Lot 3 Operational Services. Lot 4 Programmes & Large Projects.
Data and Application Solutions	RM3821	Lot 1a Resource Planning & Management Solutions including Financial & Commercial.



	Lot 2a Business Applications.
	Lot 2c Citizen Services.
	Lot 3c Community Health & Social Care.
	Lot 5b Academic Scheduling & Management Solutions.

3.6. Social Value

As one of the UK's largest software providers, Civica takes social value very seriously. Our CEO and Board of Directors set its corporate CSR policies and procedures which are then governed by a set of compliance and improvement teams. These teams cover Civica's entire CSR agenda and cascade its operational policies and procedures into each Business unit, where a Managing Director oversees their use.

Civica has a range of social value initiatives which are aligned to all five areas of the Government's PPN 06/20 social value guidance model, a summary of which is listed below.

Theme	Ref.
Fighting climate change	Civica's Environment and Social Governance team provides clear focus for the ongoing development and implementation of our environmental policy, which is supported by our ISO14001 environmental standard. We are committed to working with our staff, customers, suppliers, and partners to recognise and reduce the impact we all have on the environment. This goes hand in hand with optimising our services to support environmental and community initiatives. We have a Carbon Reduction Plan in place and a commitment to achieve Net Zero by 2040 at the latest. We are reviewing our energy mix and the materials we use and working with partners to plant a Civica Forest.
Covid-19 recovery	We were an early signatory to the C-19 Business Pledge in 2020. We focused on safeguarding our people and communities and ensuring the successful ongoing provision of our business-critical software and services.
	Alongside business as usual for our customers, we have worked hard to support the national and local level response through practical, innovative, and updated software capability. We have delivered a range of new capabilities quickly, such as those listed below, and continue to provide system advice, configuration, and data insights to ensure effective action.
	We proactively provide guidance and support for our employees, from keeping remote workers engaged, to our mental health champions and free-to-access Employee Assistance programme. We have adopted a blended working model enabling colleagues to work safely and flexibly at various locations and hub offices, enhanced how we communicate, and continue to look for new ways to share ideas and inspiration.
Tackling economic inequality	Civica is committed to working with its customers to deliver value into the community by supporting young people, developing skills, and mentoring businesses to attract inward investment and growth that brings with it employment and skills. We support innovation through our NorthStar innovation lab, a companywide initiative focused on enhanced client outcomes by applying fresh ideas on data, automation, and new technologies. We work with our customers to co-create public services that are fit for today and for the future. Our Civica NorthStar innovation lab creates physical and virtual opportunities for us to jointly explore trends and technologies.
	We are a member of the 5% Club and aim to have 5% of its UK work force as either apprentices, graduates, or work experience students by the end of 2025. We



Theme	Ref.
	employ apprentices and graduates into a number of different disciplines and locations, with a focus on ensuring they are long term employees of Civica.
	We run our own Civica Academy for employee development and skills enhancement, which delivered over 220,000 hours of training during 2021.
Equal opportunity	Civica is a 2022 Financial Times Diversity Leader and is 'Gold' Investors in People accredited, demonstrating our commitment to promoting equal opportunity by tackling inequality in employment, skills and pay in our workforce. We proactively implement equal opportunities for employment and personal development among diverse groups and local areas and ensure rights for all staff are always protected. This is led by our Group Diversity and Inclusion (D&I) team, championed by our CEO who is also our Chief Diversity Sponsor.
	Our D&I team monitor the take-up, use and effectiveness of our measures, such as the number of new recruits from minority backgrounds, women, parents, and diverse groups, and provide statistics for our Annual Review on performance against targets. For example, we report on the number of people attending training sessions and the split of male to female attendees.
Wellbeing	Civica actively promotes a mentally healthy workplace and workforce through our 40+ Mental Health Champions (MHC) and our 'Health and Wellbeing' policy, encouraging a flexible and realistic work/life balance. We integrate mental health and general wellbeing in all that we do from recruitment and 'First Impressions' to appraisals and strategic management.
	We also support our customers' and communities' physical and mental wellbeing through: Employee 'Donate-a-Day' to local charities; Local events organised through "Charity Champions;" Directors providing guidance to local community health and wellbeing projects; Supporting social housing tenants to re-focus resources and provide vital support to tenants.

3.7. How to Obtain Further Information

For further information please see our website at www.civica.co.uk or contact us on 0333 321 4914.