I-INTELLIGENCE

Developing a Data Strategy

Chris Pallaris | Working with Big Data | June 2022

Preliminaries

Preliminaries

- Introductions
  - About you
    - Your role and responsibilities
    - The data-related challenges you face
    - How do you hope to improve data management in your organisation?
  - About me

Preliminaries

- Workshop Objectives
  - To outline the steps needed to develop a data strategy for your organisation
  - To clarify the data needed to fight fraud in Europe
  - To discuss the principles of data modelling
  - To discuss the principles of data quality

Preliminaries

- I welcome…
  - Questions
  - Comments
  - Mutual respect
  - Your feedback

Preliminaries

- Before we begin…
  - I don’t have enough time to argue over definitions
  - Every theory, model and concept is presented in its simplest form. Prior knowledge of, experience in, data management is not assumed
  - There are no one-size fits all approaches to data management. You will need to develop your own per your needs
  - As ever, the richer the toolkit, and the more sophisticated your knowledge, the greater your scope for action

Preliminaries

- On Big Data
  - Big Data denotes large, compex data sets that defy traditional (mostly human) approaches to analysis. Such data sets are the result of:
    - Online queries yielding unstructured results
    - Automated data collection, monitoring and alerting
    - Automated data creation
    - Manual data creation / entry
    - Data processing and analysis
    - Data integration
    - Digital exhaust

Preliminaries

- On Big Data
  - Buzz words aside, the challenge of managing big data is no different to that of managing small data, namely:
    - Data structure
    - Data management
    - Data quality
    - Data integration
    - Data analysis

Preliminaries

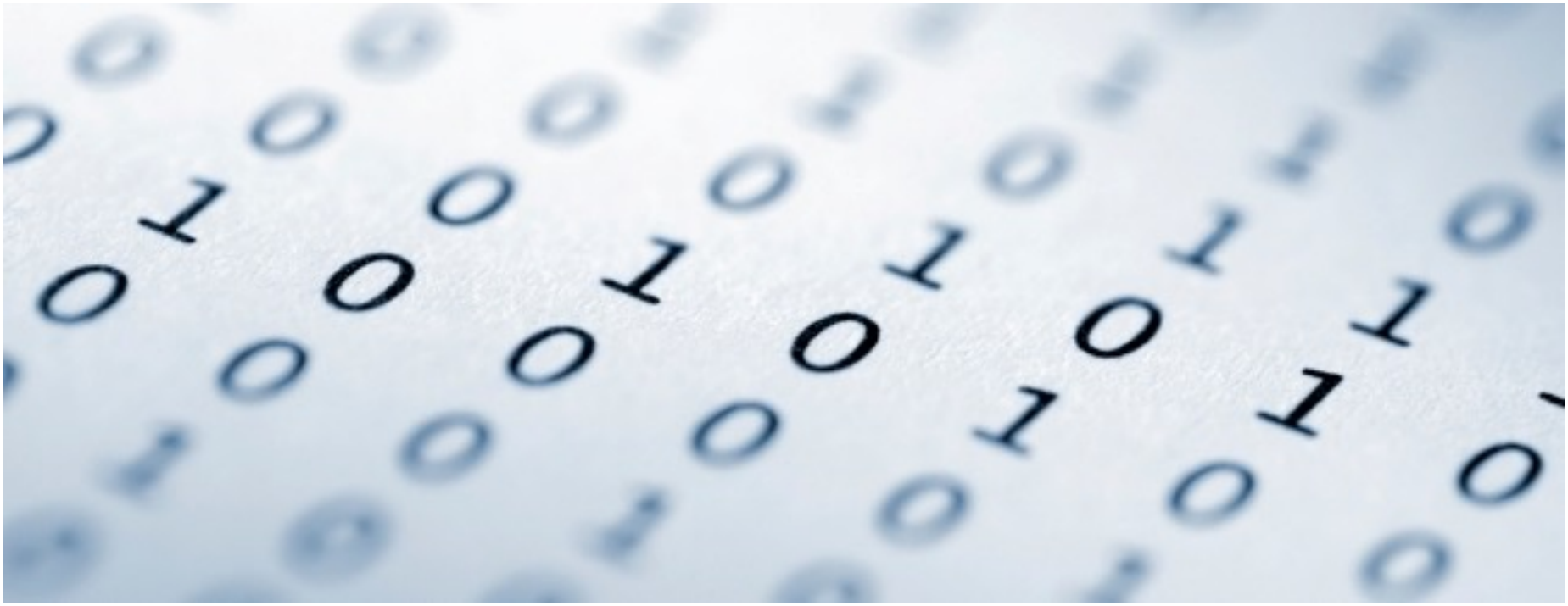
- Lessons Learned
  - Most of the organisations I work with…
    - Do not know what information they need or what they will do with it
    - Do not know what information they already have in their organisation
    - Do not have a team dedicated to data management issues
    - Do not have data quality guidelines
    - Provide no guidance on personal information management (PIM)
    - Assume the right tool (if it can be bought) will solve all their problems

First Principles

First Principles

- Working hypotheses
  - Data management is a process
  - All processes can be improved
  - Therefore data management can be improved

First Principles



First Principles

- Understanding data
  - Data is an asset
  - Data has purpose
  - Data has sources and targets
  - Data has deadlines
  - Data has consumers
  - Data carries risks
  - Data carries obligations
  - Data takes many forms
  - Data demands accountability

Source: The Digital Clarity Group

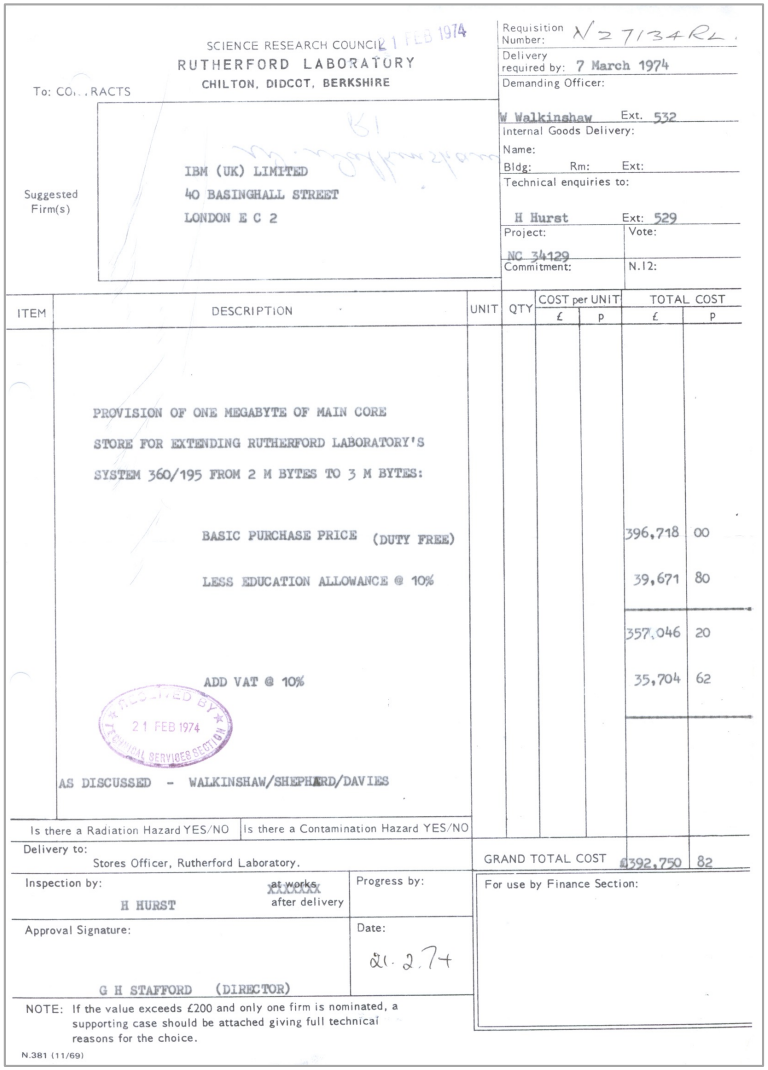
First Principles

- Data's Uniqueness
  - In the 1980s Harlan Cleveland argued that data would become the dominant factor in human affairs because of its unique properties
    - It can be in more than one place at a time
    - It expands as it is used
    - It is substitutable; it can replace land, capital and labour
    - It is not consumed with use
    - It is shared, never exchanged
    - It is increasingly transportable
    - It is diffusive; it tends to leak

Adapted from: Harlan Cleveland, *Leadership and the Information Revolution*

First Principles

First Principles



SCIENCE RESEARCH COUNCIL
RUTHERFORD LABORATORY
CHILTON, DIDCOT, BERKSHIRE

21 FEB 1974

Requisition Number: N27134RL
Delivery required by: 7 March 1974
Demanding Officer:
W Walkinshaw Ext. 532
Internal Goods Delivery:
Name:
Bldg: Rm: Ext:
Technical enquiries to:
H Hurst Ext: 529
Project: Vote:
NC 34129
Commitment: N.12:

To: CO...RACTS

IBM (UK) LIMITED
40 BASINGHALL STREET
LONDON E C 2

Suggested Firm(s)

ITEM	DESCRIPTION	UNIT	QTY	COST per UNIT £	COST per UNIT p	TOTAL COST £	TOTAL COST p
	PROVISION OF ONE MEGABYTE OF MAIN CORE STORE FOR EXTENDING RUTHERFORD LABORATORY'S SYSTEM 360/195 FROM 2 M BYTES TO 3 M BYTES:						
	BASIC PURCHASE PRICE (DUTY FREE)					396,718	00
	LESS EDUCATION ALLOWANCE @ 10%					39,671	80
						357,046	20
	ADD VAT @ 10%					35,704	62
	AS DISCUSSED - WALKINSHAW/SHEPHARD/DAVIES						

RECEIVED BY 21 FEB 1974 TECHNICAL SERVICES SECTION

Is there a Radiation Hazard YES/NO | Is there a Contamination Hazard YES/NO

Delivery to: Stores Officer, Rutherford Laboratory.

GRAND TOTAL COST £392,750 82

Inspection by: H HURST — at works / after delivery

Progress by:

For use by Finance Section:

Approval Signature: G H STAFFORD (DIRECTOR)

Date: 21.2.74

NOTE: If the value exceeds £200 and only one firm is nominated, a supporting case should be attached giving full technical reasons for the choice.

N.381 (11/69)

- March 1974: The cost of 1MB storage from IBM was £392,750.82
- Allowing for information that's equal to £4 million today (approx. US$8 million) today

First Principles

- Structured vs. Unstructured Data
  - Data generally falls into two categories, structured and unstructured
    - Structured data has a high degree of organisation and is relatively easy to search. Information in a databases is considered structured
    - Unstructured data is the exact opposite. It lacks a coherent structure or is not ordered in a relational database or other information system
  - The job of the data manager is to create as much structure and order as possible in the information assets under their control

Establishing a Data Strategy

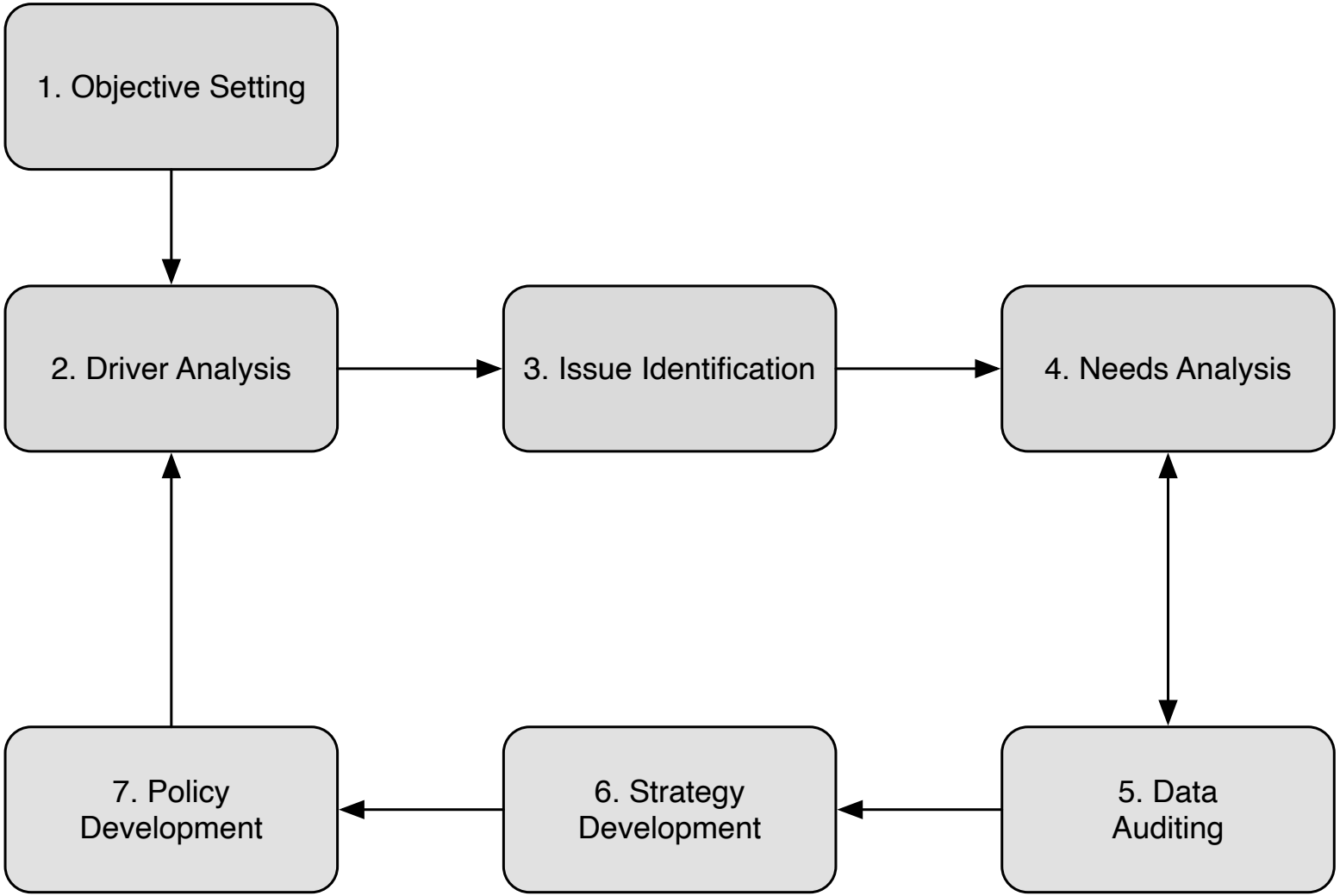
Establishing a Strategy

- Why Establish a Data Strategy?
  - If data is the lifeblood of an organisation, your strategy should:
    - Acknowledge its strategic and operational importance
    - Sanction its effective use across all steps of the information lifecycle
    - Identify where and how data will be used to create value
    - Clarify how people, policies and technologies will be aligned
    - Identify and control the risks to your data assets

Establishing a Strategy

- Process
  - Strategy development is a complex, iterative endeavour, exactly because of the number of variables one should consider
  - The more you learn, the clearer your strategy will become. That said, the process of learning, ideation and iteration must be controlled
  - We advocate working to a structured process model such as the one in the next slide. Feel free to adapt this to meet your needs

Establishing a Strategy



Establishing a Strategy

Process Step	Definition
Objective Setting	• Define what you want to achieve and why. Think outcomes, not just outputs
Driver Analysis	• Understanding the drivers that compel an organisation to improve its management and use of data
Issue Identification	• Establishing an initial As Is / To Be evaluation
Information Auditing	• An assessment of an organisation's data usage and flows to support objective setting
Needs Analysis	• An assessment of an organisation's data needs to inform service development and delivery
Strategy Development	• The formal development of the organisation's data strategy
Policy Development	• The development and communication of those policies and processes needed to support strategy implementation

Objective Setting

Objective Setting

- To begin…
  - The purpose of any strategy is to realise one's objectives
  - These objectives should be clearly stated and inform all other activities
  - The purpose of a data strategy is not just to collect more data
  - It is to generate *outputs* that yield the right *outcomes*

Objective Setting

- Exercise

1. Let us assume we want to develop a database that aggregates the many instances of fraud and corruption affecting EU interests

2. What would our secondary objectives be vis-à-vis:

    - Source management?
    - Data collection?
    - Data integration?
    - Data management?
    - Data quality?
    - Data analysis and reporting?
    - Data security and disposal?

Objective Setting

- Exercise

3. Use the data lifecycle and / or other categories to orient your thinking

4. Use the matrix in the next slide to organise your objectives

Objective Setting

Activity	Objectives
Source management	
Data collection	
Data integration	
Data management	
Data quality	
Data sharing	
Data analysis	
Data reporting	
Data security	

Objective Setting

- Remember…
  - Secondary objectives are typically less glamorous but more important
  - They reveal our ignorance and accelerate our learning
  - They are critical to ensuring effective data outcomes

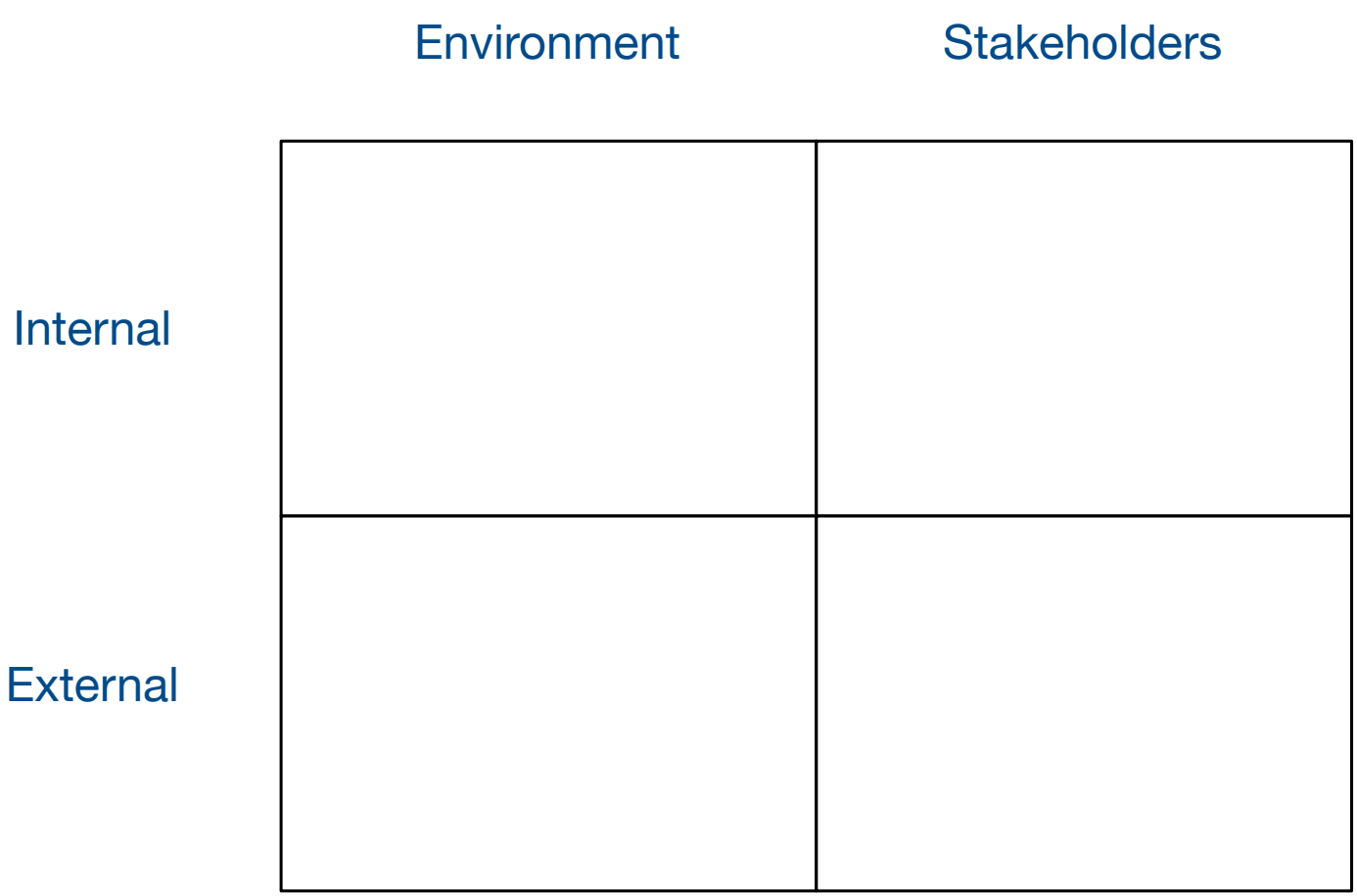
Driver Analysis

Driver Analysis

- Process

1. Identify the drivers for improved information management
2. Organise these into an ESIE matrix. Thus:
    - List the internal environmental factors obliging you to improve DM
    - List the external environmental factors obliging you to improve DM
    - List the internal stakeholder-related factors obliging you to improve DM
    - List the external stakeholder-related factors obliging you to improve DM

Driver Analysis



Driver Analysis

- Process

3. In a separate table, identify the impacts each driver is likely to have on your organisation, specifically with regard to DM

4. Analyse the impacts and give each driver a rating of 1-5 (with 5 being the highest)

Driver Analysis

Driver	Impacts on DM

Issue Identification

1. Identify Data-Related Issues

- Data strategies are developed to enhance an organisation’s performance and its ability to generate value
- It follows that the process of issue identification should be as rigorous and as holistic as possible
- Why? Because data informs every facet of an organisation's work. It does not exist, nor is it used, in a vacuum
- The following list of data elements is used to support brainstorming and issue identification. Feel free to extend it as necessary

Issue Identification

- Issue Identification Elements
  - Organisational mission and objectives
  - Data assets
  - Data value
  - Data quality
  - Data security
  - Data services
  - Data policies
  - Technology support
  - Legal and ethical compliance
  - Roles and responsibilities
  - Training and development

Issue Identification

Element	Key Questions
Mission and Objectives	• Is your organisation's mission clearly defined and understood? • Does the mission inform your DM efforts? If not, why not? • How might your mission and data strategy be better aligned?
Data Assets	• Has your organisation identified and evaluated its information assets? • Does every asset have a set of guidelines governing its use? • Do your assets enable your ability to deliver value to stakeholders? • Do your assets enable your ability to realise your organisation's mission?
Data Value	• How valuable is your data to your current strategy? • How valuable is it to your future strategy? • How much value does your data generate? • How many opportunities does your information generate? • Does your data help you complete routine operational tasks? • Does your data help you resolve routine stakeholder requests? • Does your data have untapped value? • If yes, how might your data be better exploited?

Issue Identification

Element	Key Questions
Data Quality	• How good is the data your organisation generates or receives? • How much time do you spend cleaning or cleansing your data sets? • Does your organisation have clearly defined data quality metrics?
Data Security	• How secure is the data under your control? • Have the risks to your data assets been identified and controlled? • How might the security of these assets be improved?
Data Services	• Have your data services been identified and evaluated? • What improvements can be made to these services to increase their strategic or operational utility or value? • What additional services need to be developed to help you realise your organisation's mission?

Issue Identification

Element	Key Questions
Data Policies	• Does your organisation have a set of policy documents to support data management and its related activities? • Are these policies readily accessible? • Are they updated and reviewed at regular intervals? • How is policy compliance measured and evaluated? • How might policy compliance be improved, through incentives or punishments?
Technology Support	• Does your organisation have the technical infrastructure to support effective data management? • Do staff have the tools needed to enable effective data management?
Legal and Ethical Compliance	• What legal, ethical or statutory norms is your organisation required to observe? • Are these norms subject to routine compliance reviews? • Has your organisation identified and controlled ethical issues?

Issue Identification

Element	Key Questions
Roles and Responsibilities	• Have DM-related roles and responsibilities been clearly defined and understood? • Does the organisation have a dedicated DM team? • Are staff conscious of their personal responsibilities vis-a-vis data and records management?
Training and Development	• Do staff have the skills to manage data effectively? • Do staff have the skills to extract value from the information they generate or receive? • What level of training is needed to improve data management, data quality, etc.?

2. Develop a Data Strategy Matrix

– Strategy matrices can be used to extend our thinking on the issues identified. Specifically, they invite us to evaluate the following:

- As Is (Where are we?)
- To Be (Where do we want to go?)
- Actions (How do we get there?)
- Controls (How do we measure progress?)

– The matrix is intended to be a working document that supports the evolution of our eventual strategy

Issue Identification

As Is **(Where are we?)** • What is the current state of play? • What intelligence challenges does your organisation currently face? • What impact are these challenges having on your ability to deliver results?	**To Be** **(Where do we want to go?)** • What is your vision for your intelligence team? How should it inform your work? • What is your vision for the management and use of the organisation's data? • What objectives would you like to achieve?
Actions **(How do we get there?)** • What actions are needed to realise these objectives? • What projects should be initiated? • What resources are needed to realise these objectives?	**Controls** **(How do we measure progress?)** • What metrics are needed to monitor progress toward goals? • With what frequency should we report on these goals? • What corrective actions can we anticipate if things go wrong?

2. Develop an DM Strategy Matrix

- Organise the DM elements into your strategy matrix
- Conduct an initial assessment of each element
- Do not feel obliged to complete every column in the matrix. To begin, focus on the As Is / To Be columns only
- Keep the matrix to hand so that you can update and / or validate your initial As Is / To Be assessments during the course

Issue Identification

Element	As Is	To Be	Actions	Controls
Mission				
Assets				
Value				
Quality				
Security				
Services				
Policies				

3. Develop Your Strategy

– Having identified the issues affecting your organisation, as well as the desired outcomes, you can begin the process of:

- Extending your learning on data-related disciplines
- Validating your initial assessment
- Identifying the best practices you wish to adopt and implement
- Determine the controls needed to realise your strategy

Issue Identification

- Prerequisites for a Data Strategy
  - There is a clear and distinct vision of data as a corporate resource
  - There is a dedicated unit responsible for data and knowledge that is distinct from the information technology function
  - There is a well-defined strategy and action plan for improving the effectiveness of data use across the organisation
  - Data that is vital and necessary to make key decisions is always easily and readily available

Source: Evernden and Evernden (2003), *Information First*

Issue Identification

- Prerequisites for a Data Strategy
  - The necessary data is available in a consistent and integrated format
  - Management believes that there is considerable value to be gained from the effective management and use of data
  - Data management is seen as the responsibility of all staff
  - Information has a key role in all business processes

Source: Evernden and Evernden (2003), *Information First*

Issue Identification

- Prerequisites for a Data Strategy
  - Financial approval is readily available for investment in the data infrastructure of the organisation
  - Information is used to support innovation and creativity in product and service development, business processes and customer support

Source: Evernden and Evernden (2003), *Information First*

Information Needs Assessment

Information Needs Assessment

- Definition
  - An Information Needs Assessment is a systematic process for:
    - Identifying the information and knowledge needs of an organisation
    - Addressing the gaps that are identified

Information Needs Assessment

- Purpose
  - Information needs assessments are used to support:
    - Strategic / operational planning
    - Effective data management
    - Developing training programs

Information Needs Assessment

- Theory
  - A need is the difference between your current achievements and your desired accomplishments
  - Needs tend to fall into one of three categories:
    - Perceived needs are defined by what individuals think about their needs
    - Expressed needs have been clearly articulated by more than one person
    - Relative needs are concerned with equity and must consider different objectives, priorities, etc.

Information Needs Assessment

- Process
  - There are various frameworks to help you identify your information needs. We will outline steps for the following:
    - The Information Needs Workshop
    - The Strategic, Operational, Tactical (SOT) Assessment
    - A Strategic, Operational, Support (SOS) Analysis
    - The Information Needs Continuum
    - Starbursting

Information Needs Assessment

- Limitations
  - Information needs assessments are often constrained by:
    - Staff not knowing what their information needs are
    - Staff being unable to articulate their information needs
    - Staff assuming it is not their job to define such needs, but rather to satisfy them

Information Needs Assessment

- Recommendations
  - Use a range of approaches to generate a more rigorous understanding of your organisation's information needs
  - Remember that every gap in your matrix is an invitation not just to find an answer to a question, but also to improve:
    - The delivery of data / information to your stakeholders
    - The quality of data / information in your organisation

The SOS Framework

The SOS Framework

- Definition
  - The SOS Framework offers a simple but rigorous approach to information needs identification and evaluation
  - Stakeholders are invited to identify their information needs according to the following categories:
    - Strategic needs
    - Operational needs
    - Support needs
  - The framework also invites you to determine whether these needs are being met and, if not, how to satisfy these requirements

The SOS Framework

Strategic	Operational	Support
• Internal performance management and control data • Information on internal strengths and weaknesses • Information on external threats and opportunities • Strategic intelligence	• Project-related information needs • Project monitoring and control data • Decision support requirements • Log files, compliance data • Operational intelligence	• Admin or logistical data • Policy guidance • Templates and forms • Knowledge management resources

The SOS Framework

- Process

1. Identify the stakeholders you wish to examine

    - Your stakeholders can be internal and / or external to the organisation

        – If internal, you may wish to index these needs by department

        – If team based, index these needs by individual members of staff

    - As ever, the more rigorous your analysis the better the outputs

The SOS Framework

- Process

2. Index these stakeholders in a matrix

3. Using your preferred data collection instruments, identify:

    - The stakeholder's strategic, operational and support-related information needs

    - Whether their needs are currently being met, and to what level of satisfaction

    - Their suggestions on how their information needs can be better addressed

    - Be prepared to conduct follow-up interviews if needed

The SOS Framework

Stakeholder	Strategic	Operational	Support	Needs Met?	Improvement

The SOS Framework

- Process

4. Compile your matrix and analyse the data collected

    - Are there common information needs?
    - Is work being duplicated to satisfy these needs?
    - Are there challenges in the way information is being delivered?

The SOS Framework

- Process

5. Evaluate stakeholder satisfaction

    - If this step hasn't been completed by the relevant stakeholder, evaluate whether their information requirements are currently being met, e.g. via:

        – A simple Yes / No assessment

        – A Yes / Partly / No assessment

        – A score of 0 to 5

    - Ideally, this assessment will be made by the stakeholders themselves

The SOS Framework

- Process

6. Identify remedial actions

    - Identify the actions needed to satisfy these requirements, e.g. via:

        – Improved stakeholder engagement

        – Improved requirements planning

        – Improved information delivery

        – Information service development

        – Better training and development

The SOS Framework

- Benefits
  - The SOS Framework:
    - Offers a holistic model for identifying and evaluating information needs
    - Contributes to the development of an IM strategy by obliging stakeholders to identify avenues for improvement
    - Engages stakeholders directly
    - In a simplified form, supports routine needs identification, e.g. via routine KIT (Key Intelligence Topics) exercises

The SOS Framework

- Limitations
  - Operational information needs are subject to rapid change. It follows that your matrix is likely to become redundant very quickly
  - Staff tend to prioritise current information needs rather than prospective ones
  - The Framework does not invite causal analysis. Thus, the causes of a stakeholder's satisfaction or dissatisfaction need to be clarified using other techniques

The Information Needs Continuum

Information Needs Continuum

- Definition
  - An organisation's information needs are never static. Taking time to map these needs across different criteria can be revelatory
  - We outline below a range of structured frameworks to help you identify your needs. Doing so will help you better operationalise them

Information Needs Continuum

- Continuum A
    - Urgent: Priority requirements that have to be addressed immediately
    - Ongoing: A continuous need that has to be satisfied on a day-to-day basis
    - Scheduled: A planned need that supports a specific action or outcome
    - Ad hoc: Routine, occasional, if unscheduled requirements
    - Potential: A potential need that reflects emerging changes in our operating environment but have yet to be formally articulated

Information Needs Continuum

Urgent	Ongoing	Scheduled	Ad Hoc	Potential

Information Needs Continuum

- Continuum B
  - The second framework invites you to think reflectively and proactively by inviting you to consider:
    - What information did we need yesterday?
    - What information do we need today?
    - What information do we need tomorrow?
    - What information do we need next week?
    - What information do we need next month?
  - As banal as this framework might appear, applying it every morning can help you anticipate and address operational challenges

Information Needs Continuum

Yesterday	Today	Tomorrow	Next Week	Next Month

Information Auditing

Information Auditing

- Definition
  - A systematic examination of an organisation's:
    - Information use
    - Information users
    - Information assets
    - Information flows
  - Audits are the first step toward establishing a proper information / data management function in any organisation

Information Auditing

- Purpose
  - Borrowing from Robertson and Henczel, an audit has three purposes:
    - Content review
    - Process review
    - Behavioural review
  - To elaborate...

Source: G. Robertson, S. Henczel, *Demystifying the Information Audit*

Information Auditing

- Content Review
  - From a content perspective, audits are used to identify:
    - The organisation's data / information assets
    - The actual and potential users of these assets
    - The location of these asset
    - The risks to these assets
    - The data that's needed but not available
    - The data that's available but not needed
    - The data that's available but not accessible
    - Data quality issues and requirements
    - Whether the assets and data are fit for purpose
    - The costs and benefits of your data management activities

Adapted from G. Robertson and S. Henczel, *Demystifying the Information Audit*

Information Auditing

- Process Review
  - From a process perspective, audits are used to:
    - Conduct task analyses - how do staff complete data-specific tasks?
    - Identify and evaluate data needs and how best to satisfy them
    - Identify data flows and how best to improve them
    - Identify opportunities for greater data / information sharing
    - Identify and scale operational best practices
    - Ensure compliance, accountability and good governance

Adapted from Graham Robertson and Sue Henczel, *Demystifying the Information Audit*

Information Auditing

- Behavioural Review
  - From a behavioural perspective, audits are used to identify:
    - Skills gaps with regard to data creation, discovery, delivery, access, transfer, utilisation and storage?
    - Those behaviours that influence effective information creation, discovery, delivery, access, transfer, utilisation and storage

Adapted from Graham Robertson and Sue Henczel, *Demystifying the Information Audit*

Information Auditing

- Purpose: IM Instruments
  - A rigorous information audit can also be used to generate a number of instruments to support data management, including:
    - An information asset register (IAR)
    - An organisational file plan
    - A data dictionary
    - Records management policies
    - Records retention and disposition schedules
    - A security classification schema for your records
    - A taxonomy or controlled vocabulary to organise your files

Information Auditing

- Process
  - There are no commonly accepted approaches to information auditing
  - That said, there are several tools to assist you, many of which can be used in combination. These include:
    - The structure-driven audit
    - The objective-driven audit
    - Information mapping
    - Surveys and interviews
  - We will experiment with a number of these techniques. In some case, the process will only be partially completed

Information Auditing

- Benefits
  - Properly implemented, an audit can contribute to:
    - Cost savings
    - The streamlining of operations
    - Smoother information flows
    - Improvements to your current information services
    - Opportunities for greater knowledge sharing
    - Improved data management policies
    - Improved governance

Information Auditing

- Limitations
  - Whichever approach you adopt, the process of auditing is likely to consume considerable time and effort
  - As such, we advocate that a dedicated team be established to manage this process to completion

Information Auditing

- Recommendations
  - Ensure all stakeholders are involved from the outset
  - Communicate regularly
  - Use carrots rather than sticks to generate the right level of buy-in
  - Ensure recommendations are properly implemented and communicated
  - Identify and implement quick wins to demonstrate the value of data

Information Auditing

- Recommendations
  - Conduct an audit every 18-24 months to ensure
    - Your systems and services are in line with staff requirements
    - Your policies, processes and SOPs remain relevant and resilient
    - Your staff have the necessary skills and training
    - Your

The Structure-Driven Audit

1. Define the structure of your organisation

   – Use the matrix that follows to:

      • Identify each team and department clearly

      • Include any inter-departmental working groups

2. Define each team's responsibilities

- What are their mandates?
- What are their ongoing responsibilities?
- What are their current or prospective projects?
- What legal norms do these entities have to observe?
- Who are their customers / stakeholders?
- Who do they correspond with?

3. Define each entity’s information footprint

   – What information does each entity generate?

   – What information does each entity receive?

   – Where is this information stored?

   – With whom is this information shared?

The Structure-Driven Audit

Entity	Responsibilities	Information Generated	Where Stored?	Shared With Whom?

4. Structure your research

– Evaluate your responses

- Are there any overlaps in responsibilities?
- Are there duplicate information needs?
- Are there duplicate or redundant information flows?
- Can the efforts of each department be streamlined in any way?

4. Reporting your findings

- Summarise your findings together with recommendations on:
  - How to better address the organisation's information needs
  - How to avoid the duplication of effort
  - How to improve access to existing information assets
  - How to improve information sharing between relevant teams

Information Mapping

Information Mapping

- Introduction
  - Information Mapping is a variant of mind mapping and encourages:
    - The clustering of data
    - The use of colours and symbols as memory aides
    - The value of reiteration

Information Mapping

- Process

1. Identify the different information assets in your organsation

2. Organise these by function or department, giving each cluster a separate colour

3. Identify actual or potential relationships between these assets and their owners using connecting lines. Thus:

    - Do different departments leverage the same asset?
    - Is ownership shared between different departments?
    - Is data from one asset sent or exported to another?

- Process

4. Catalogue the assets using the criteria that follows

    - The asset's name
    - The asset's location
    - The asset’s purpose
    - The relationships it has with other assets
    - Potential improvements to the asset

Information Mapping

Asset Name	Location	Purpose	Relationships	Improvements

Information Audit Surveys

Information Audit Surveys

- Introduction
  - Surveys are a convenient means of auditing your organisation's information assets
  - They are easy to develop and circulate. However, they do not always generate an adequate response
  - Even the best survey responses have usually to be followed up by structured interviews

Information Audit Surveys

- Recommendations
  - In general a good survey:
    - Has a clearly stated objective
    - Is short, with typically no more than 20 questions
    - Takes little time to complete (no more than 15 minutes)
    - Rewards participation

Information Audit Surveys

- Exercise
  - Working in a team, identify the questions you would like to ask your colleagues with regard to their:
    - Information needs
    - Information use
    - Information-related policies
    - Information-related processes
    - Information services
  - List as many questions as you can and then select the ten most important

Information Asset Register

Information Asset Register

- Definition:
  - An asset is any system, source or repository owned or contracted by the organisation to help it gather, analyse, process, manage or archive data
  - Such assets might include the organisation's information services, databases, research holdings, physical records, software, IP, etc.
  - An Information Asset Registers (IAR) is a tool to help organisations identify and manage these assets

Information Asset Register

- Purpose
  - IARs are commonly used to:
    - Support information auditing
    - Evaluate and improve service delivery
    - Improve risk management
    - Ensure compliance with an organisation’s information policies
    - Support the development of an information management strategy
    - Establish roles and responsibilities

Information Asset Register

- Purpose
  - More specifically, IARs are used to aggregate information on the assets':
    - Owner
    - Location
    - Users
    - Content
    - Security access controls
    - Retention criteria

Information Asset Register

- Process
  - There is no one best way to compile an IAR. The guidance that follows borrows from our experience and practitioner recommendations
  - Given the time and effort needed, we recommend that the work be completed as a collaborative effort
  - Understand that the process of developing an IAR is iterative in nature and will take considerable time and effort to complete

Information Asset Register

- Process

1. Identify the criteria you wish to collect information on

    - A “criterion” can be a data point, measure or question
    - Organise these criteria into groups
    - Organise these groups as blocks in an Excel spreadsheet along the X-axis

Information Asset Register

ID	General			Location		Security		Governance		
	A	B	C	A	B	A	B	A	B	C

Information Asset Register

- Process
  - Note the following:
    - The shorter your list of criteria, the easier the IAR will be to maintain
    - The longer the list of criteria, the more actionable your information will be
  - Either way, the value of the register will become apparent as you complete it
  - The information you receive will exposes trends, patterns, challenges and opportunities in your organisation's IM activities

Information Asset Register

- Process

2. Identify the assets in your organisation

    - Invite team leaders / department heads to index the assets under their control
    - Oblige them to be as exhaustive as possible in their audit
    - Organise these in your Excel spreadsheet along the Y-axis
    - Give each asset a short description detailing its purpose and the data contained within it

Information Asset Register

- Process

3. Analyse each asset according to the criteria selected

    - Conduct a rigorous assessment of each asset until the spreadsheet is complete
    - Not every criterion will apply to every asset. In such instances, enter NA in the relevant cell
    - If the criterion is relevant but you do not know (or have) the answer, leave the relevant cell blank
    - The more knowledge gaps you identify, the clearer your information management strategy will become

Information Asset Register

- Sample IAR Groups
  - General information
  - Location
  - Ownership and governance
  - Information
  - Technical details
  - Operations management
  - Security
  - Vendor details

Information Asset Register

- Sample IAR Criteria
  - Ownership
    - What team is the asset located in?
    - Who is the business owner (i.e. manager) responsible for the asset?
    - Who is the technical owner responsible for the asset's development?
    - Who is the records owner responsible for managing the data entered into the asset?

Information Asset Register

- Sample IAR Criteria
  - Location
    - What is the asset's physical location?
    - What is the asset's digital location (list the URL, file path, etc.)
  - Classification
    - Classify the asset's business criticality (high, medium, low)
    - Classify the confidentiality of the data contained within (high, medium, low, etc.)

Information Asset Register

- Sample IAR Criteria
  - Database Management
    - Who is the vendor?
    - What is the version number?
    - Is there a management or service level agreement associated with the asset?

Information Asset Register

- Sample IAR Criteria
  - Data Management
    - Does the asset have a specific set of policy guidelines?
    - Does the asset have a data quality standard?
    - If yes, is this asset consistently applied?
    - What was the date of the last data quality evaluation?
    - Does data contained within the system have a retention period?
    - Have all data objects and their attributes been properly defined in the Data Dictionary?

Information Asset Register

- Sample IAR Criteria
  - Security Management
    - Who is the system administrator?
    - Does the system have unique or shared accounts?
    - Who has access to the asset internally?
    - Who has access to the asset externally?
    - Does the asset have an access control regime?
    - Does the asset have a password regime?
    - When was the last security audit conducted?
    - Does the asset have a backup regime?
    - Does the asset have a business continuity plan?

Information Asset Register

- Sample IAR Criteria
  - Governance and compliance
    - Does the asset comply with:
      - The organisation’s Information Management Policy
      - The organisation’s Data Security Policy
      - Relevant legal / statutory norms

Information Asset Register

- Process

4. Determine the asset's value

    - IARs can also be used to evaluate your assets. If required, evaluate these using a scale of 1-5 and the following criteria

        - Criticality: The importance of the asset to your organisation
        - Value: The level of business value generated by the asset
        - Use: The use the asset among staff
        - Availability: The asset's availability (e.g. uptime) to staff
        - Data Quality: The quality of the data within the asset

    - Your data quality criteria can be more granular still to include relevance, timeliness, currency, etc.

Information Asset Register

- Process

5. Issue identification and resolution

    - The final two columns of your IAR should be used to

        – List known issues on each asset

        – Gather suggestions on how the assets can be improved

        – Suggest potential steps toward issue resolution

Information Asset Register

- Process

6. Asset analysis

   - Study the results of your register and consider the following questions:

     – Do you know enough about the assets under your control?

     – Are some assets redundant?

     – Do some assets need to be improved? If so, how?

Information Asset Register

- Process

7. When your asset register is complete:

    - Give each asset a unique ID number to assist with the ongoing management of this asset

    - Communicate your findings to staff and senior management as a means of galvanising change

Information Asset Register

- Process

8. Manage the register

    - The information eco-system of your organisation will continue to evolve. Routine updates to the IAR are therefore essential

    - Indeed, the IAR should become a central pillar of your information management activities

Information Asset Register

- Recommendations
  - Develop an IAR as part of your first Information Audit. Use it to inform routine information management activities
  - You can never know too much about your information assets, but you can know too little. Catalogue as many dimensions as possible
  - Ensure the IAR, like the File Plan, is accessible to all staff, regardless of rank or authority
  - Remember that the IAR is an asset in its own right. The more time and effort you invest in its development, the more valuable it becomes!

Thank You

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