

**To the Chair and Members of the  
AUDIT COMMITTEE**

**Data Quality and Information Management Update**

Relevant Member(s)	Cabinet	Wards Affected	Key Decision
			No

**EXECUTIVE SUMMARY**

1. The purpose of this report is to provide an update to the strategic risk identified around data quality in the Council.

**EXEMPT REPORT**

2. Not Applicable

**RECOMMENDATIONS**

3. The Audit Committee are asked to note the comments in this update report.

**WHAT DOES THIS MEAN FOR THE CITIZENS OF DONCASTER?**

4. Good data quality is essential to ensuring that the Councils capacity and performance is accurately managed across all services. The impact and future delivery of services is based on information from many different sources and good data quality will result in better informed decision making and reporting.

**BACKGROUND**

5. A Council strategic risk around Data Quality was identified as follows:-

*“Failure to improve Data Quality will prevent us from ensuring that data relating to key Council and Borough priorities is robust and valid. The Council continues to be at risk of making decisions using data that is not always as robust as it should be. In order to commission properly, make good decisions and ensure vulnerable people are safe, and then the quality of data within its systems must be of good quality”*

Data Quality is important to the Council to support:-

- accurate and timely information to manage services and accountability
  - good information to manage service effectiveness
  - business decisions prioritise and ensure the best use of resources
6. A new *Data Quality Strategy* is being developed that will set out the vision for data quality for the next four years and will provide specific actions that will improve data quality across the Council. A working group has been established by the Strategy and Performance Unit and a detailed work plan developed outlining key activity with a targeted completion date of 30<sup>th</sup> September 2016, details of the work plan is attached in the Appendix. Key themes identified as part of the scoping of the strategy includes:
- legislation and regulation
  - data quality key principles
  - culture and engagement
  - areas of focus (identification of key systems and risks)
  - skills and knowledge
  - measuring things that matter
  - horizon scanning
7. The Data Quality Strategy Action Plan will provide a more detailed review of current systems and will identify priorities and a plan for improving data quality. Engagement across all Council departments will be required to ensure that improvements are made quickly and appropriately. Actions will be developed and agreed as part of consultation and be defined under:
- information governance and quality assurance of systems and data used to produce statutory returns
  - identification of master data “sets” that will be authoritative for the Council
  - development of the single customer record as the ‘Golden Record’– any systems referencing customers should reference this system
  - the LLPG information will be the default look up for address data
  - current systems will be reviewed and priorities agreed for analysis, cleansing, establishing validation and monitoring

Whilst the Data Quality Strategy is being produced, agreed actions to improve data quality will continue. The Data Quality Strategy Development group will:-

- Identify any systems that require urgent cleansing to support planned systems integration work.
- Investigate tools and processes that might help with data cleansing operations to support any recommendations in the Data Quality report.
- Carry out work to identify and update the list of current ICT systems and Data System Owners of those systems.

8. The Council maintains an Information Asset Register, reviewed annually that currently records 192 individual systems in use across the Council. Each of these assets has an identified *Systems Owner*, at Heads of Service level and an *Information Asset Administrator* that will be responsible for the day to day running of the system.
9. Common data quality issues across systems typically include on or a combination of the following problems:
  - Duplicate records
  - Orphaned Data
  - Unexpected values or formats
  - Missing Information
  - Hidden Data
  - Spelling Mistakes
  - Misapplied business rules

The process for tackling data quality issues is generally represented as an iterative cycle of activities as follows:-



These activities include:-

- Discovery
  - Identify particular issues with the system
- Analysis
  - Are issues significant/high impact on business or statutory requirements?
  - Options to address issues
- Cleansing
  - Treat the data to improve quality
- Validation
  - Confirm fixes delivered the improved quality expected
- Monitoring
  - Tools and procedures to monitor quality of data
  - Periodic reports on specific systems

10. Measuring and assessing data quality across the Council has previously not been robust enough. System Owners have “self-audited” completing a questionnaire and asked to indicate their view on the data quality of their system. The last survey was carried out in 2015 where 86 assessments were completed following the submission of statutory returns from the single data list. The results were generally that data was of a good quality, where 6 assessments were scored as medium risk and the remaining 80 as low risk.

ICT activity around system integration, (trying to access and review data held in systems) and the Councils Internal Audit team have contradicted this view. The findings can be summarised:-

- System configuration issues – systems set up with unclear fields, limited error tracking/field verification to capture incorrect input. Evidenced in duplicate records
- Lack of reporting features – due to limited functionality or lack of specific skills, data is extracted from the system and spreadsheets created and set up to manage and manipulate data outside of the system. This leads to duplication and errors between different sets of data with no consistent single version of the data
- Ineffective use of exceptions reporting – while some systems do utilise exception reports few have implemented effective reporting for data quality purposes.
- Staff entering the data not being aware of what the information will be used for and not identifying wider data collection and input issues to address the problems.
- Lack of cross referenceable field data across systems. Many systems have “evolved” over a number of years and the smaller systems designed for a single purpose with little integration functionality. For example most systems will have some form of address field. These will be stored individually in the systems and are often open text fields where information is typed in directly. As well as a risk of misspellings there are frequently missing post codes, the mixing of Rd, Road and St, Street across the systems. Integration with the Local Land and Property Gazetteer (LLPG) to select address field information would have ensured that these addresses were consistent across the Council
- Data used for Performance Indicators – this can range to errors in mathematical calculations based on the data to a lack of understanding and capturing all the data mapping and processes that generate the performance indicator.

11. The Digital Council team has carried out Data Quality improvement activities across several systems, predominately datasets that are integrated with the Councils Customer relationship management system (CRM). The team is also developing the Single Customer record that captures customer information from several systems into a single view of transactions and activities. Tools and measurements to assess the quality of data are being evaluated and options to automate and report consistently and periodically on the data to ensure that any changes to data quality are identified and action to correct taken.

## OPTIONS CONSIDERED

12. Not Applicable

## REASONS FOR RECOMMENDED OPTION

13. Not Applicable

## IMPACT ON THE COUNCIL'S KEY OUTCOMES

14.

	Outcomes	Implications
	<p>All people in Doncaster benefit from a thriving and resilient economy.</p> <ul style="list-style-type: none"> <li>• <i>Mayoral Priority: Creating Jobs and Housing</i></li> <li>• <i>Mayoral Priority: Be a strong voice for our veterans</i></li> <li>• <i>Mayoral Priority: Protecting Doncaster's vital services</i></li> </ul>	<p>The establishment of consistently good quality data supports the whole Council in delivering the key outcomes and accurate measurement of the organisations performance</p>
	<p>People live safe, healthy, active and independent lives.</p> <ul style="list-style-type: none"> <li>• <i>Mayoral Priority: Safeguarding our Communities</i></li> <li>• <i>Mayoral Priority: Bringing down the cost of living</i></li> </ul>	
	<p>People in Doncaster benefit from a high quality built and natural environment.</p> <ul style="list-style-type: none"> <li>• <i>Mayoral Priority: Creating Jobs and Housing</i></li> <li>• <i>Mayoral Priority: Safeguarding our Communities</i></li> <li>• <i>Mayoral Priority: Bringing down the cost of living</i></li> </ul>	
	<p>All families thrive.</p> <ul style="list-style-type: none"> <li>• <i>Mayoral Priority: Protecting Doncaster's vital services</i></li> </ul>	
	<p>Council services are modern and value for money.</p>	

	Working with our partners we will provide strong leadership and governance.	
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## **RISKS AND ASSUMPTIONS**

15. Not Applicable

## **LEGAL IMPLICATIONS**

16. The Council has a legal duty as found in several acts including the Data Protection Act 1998 to ensure that the data it holds is corrects. As set out in the body of the report, taking decisions based upon inaccurate data is a strategic risk for the Council.

## **FINANCIAL IMPLICATIONS**

- 17 There are no direct financial implications relating to this report.

## **HUMAN RESOURCES IMPLICATIONS**

18. There are no specific HR implications related to the content of this report however the content of the Data Quality Strategy may have implications so this should be revisited upon its completion.

## **TECHNOLOGY IMPLICATIONS**

19. There are no technology implications to this update report however in implementing the recommendations from the Data Quality Strategy there are likely to be significant technology implications ranging from software and hardware to analyse data to technical resources to help construct reports and procedures to cleanse and automate data quality tasks.

As part of the Councils ICT Strategy, Business Intelligence was identified as one of the key requirements and projects for the Council. Data Quality is one theme within the scope of this project.

## **EQUALITY IMPLICATIONS**

20. There are no equality implications for this report.

## **CONSULTATION**

21. Consultation activity is planned in the Data Quality Strategy Work Plan which will involve Senior Leadership, Elected Members, SIRO Group and Information Asset Owner and will provide direction to the development of the Strategy and Action Plan.

## **BACKGROUND PAPERS**

22. Appendix – Data Quality Strategy Work Plan.

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