Queens University Belfast

The Importance of Data Governance and its place within Academic Institutions

Queen's University Belfast

LIV ROBERTS

- Head of Student Services & Systems
- Responsible for the Student Registry functions
- Student System Support & Development
- 20 years IT experience

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CONTENTS

- How it all started
- What We Discovered
- Addressing The Problems
- Advice
- Challenges
- Some Thoughts On Data
- Questions

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QUEEN'S UNIVERSITY BELFAST

- Established by Queen Victoria in 1845.
- Today, the University is an international centre of research and education rooted at the heart of Northern Ireland.
- The University is a member of the Russell Group of 24 leading UK research-intensive universities, providing world-class education underpinned by world-class research.
- There are approximately 23,000 students including two related teacher training colleges.

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WHERE IT ALL STARTED FOR US

- At a meeting with the Registrar I was asked why the Student System (Qsis) was blocking students from getting into their research labs…….??!
- After some investigation it turned out a scheduled overnight process had failed and a separate process feeding data to the Estates Access Control system also failed.
- My team were completely unaware this process was in place.
- It was a fairly minor blip, quickly resolved, but looking at the ‘how’ and ‘why’ led to a major review……

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DEFINING DATA GOVERNANCE

- Short Version:

  "Data Governance is the exercise of decision making and authority for data related matters"

- Longer Version:

  "Data Governance is a system of decision rights and accountabilities for information related processes, executed according to agreed upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods."

- Interesting (intimidating!) Version:

  The process by which an organisation formalises the **fiduciary duty** for the management of data assets critical to its success. (Forrester)

DATA GOVERNANCE – WHAT IS THE FOCUS?

- Policy, standards & strategy for data
- Data quality
- Security and compliance with legislation
- Architecture and integration (Warehouses and BI)

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DATA GOVERNANCE – WHAT ARE THE GOALS?

- To define, approve, and communicate data strategies, policies, standards, architecture, procedures, and metrics.
- To track and enforce conformance to data strategies, policies, standards, architecture, and procedures.
- To sponsor, track, and oversee the delivery of data management services.
- To manage and resolve data related issues.
- To understand and promote the value of data assets.

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DATA GOVERNANCE – WHAT IS THE POINT?

Protect!! – the Institution

Protect!! – the Customers

Protect!! – the Staff

- Legal – breaching the DPA is a significant problem.
- Reputational – the consequences of the potential reputational damage are hard to evaluate … but certainly not appealing.
- Financial – as well as imposed fines, loss of revenue is likely from the reputational damage.

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REALLY, WHAT IS THE POINT?

- Data Protection Act 1998
  - essentially access to data can only be granted to those with a legitimate right.
- Statutory Guidance 2011
  - clarified obligations under the DPA and ‘recommended’ best practice.
- Potential for fines.
- Misappropriation of personal data impacts institutional reputation.

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WHERE WE STARTED…..

- Almost every other system in a university needs a subset of the data from the Student System.
- Ascertained the extent of the problem & the types of satellite systems/data transfers in place:
  - Individual meeting with 20 Schools, 7 Directorates and various third parties, and is still on-going……
- The second step was to establish our statutory and legal obligations and whether these were being met.
- We took the “No need to boil the ocean’ approach
  - It is reasonable just to have a starting point and to be making progress.
  - This is also defensible from an audit perspective…

WHAT WE DISCOVERED

- Satellite systems / data transfers
  - Quantity – a large number of known and unknown systems using data originating from the Student System
  - Types - Applications, databases, spread sheets, Word docs

- Operational ineffectiveness
  - Using the wrong data for the wrong purposes
  - Changes to Qsis impacting on unconnected areas of business
  - Inaccurate data in reports

WHAT NO-ONE KNEW

- Access to data
  - Who had access to it?
  - For what purpose the access was required?
  - Where did the data go?

- Security
  - If the access was restricted?
  - If the data was stored, or disposed, of securely?

THE PAINFUL TRUTH

- Satellite Systems / data transfers
  - More than 110 identified from small niche usage to major University systems.
  - Many established and maintained on an ad-hoc basis.
  - No standardisation of interface.
  - Found cases where the wrong data was being used for a given purpose.
  - Instances of data being maintained outside the Student System and being used for KPI reporting.

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ENTER THE SCAROGRAM…….

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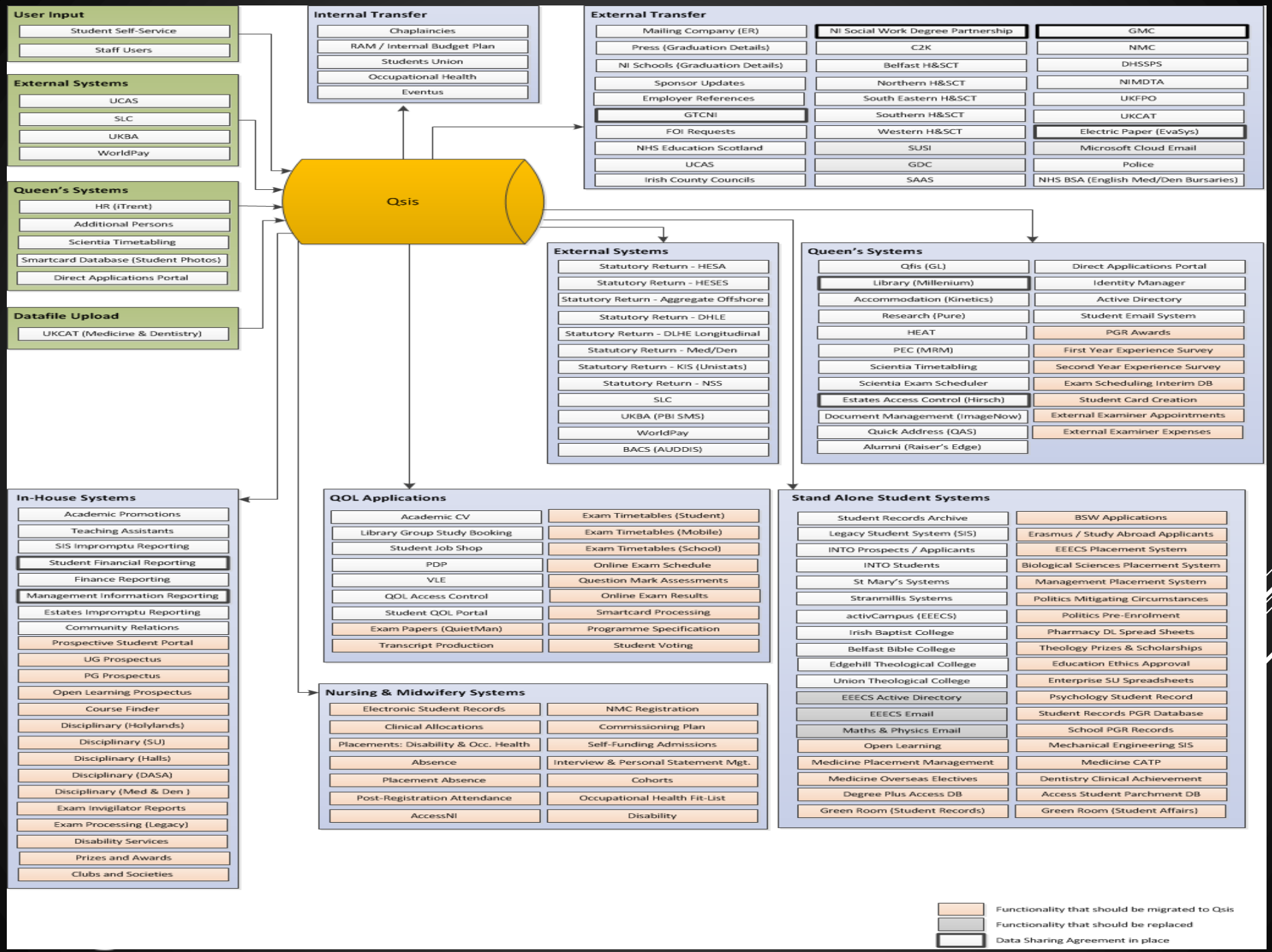
User Input
Student Self-Service
Staff Users
External Systems
UCAS
SLC
UKBA
WorldPay
Queen's Systems
HR (iTrent)
Additional Persons
Scientia Timetabling
Smartcard Database (Student Photos)
Direct Applications Portal
Datafile Upload
UKCAT (Medicine & Dentistry)
Internal Transfer
Chaplaincies
RAM / Internal Budget Plan
Students Union
Occupational Health
Eventus
External Transfer
Mailing Company (ER)
Press (Graduation Details)
NI Schools (Graduation Details)
Sponsor Updates
Employer References
GTCNI
FOI Requests
NHS Education Scotland
UCAS
Irish County Councils
NI Social Work Degree Partnership
C2K
Belfast H&SCT
Northern H&SCT
South Eastern H&SCT
Southern H&SCT
Western H&SCT
SUSI
GDC
SAAS
GMC
NMC
DHSSPS
NIMDTA
UKFPO
UKCAT
Electric Paper (EvaSys)
Microsoft Cloud Email
Police
NHS BSA (English Med/Den Bursaries)
Qsis
External Systems
Statutory Return - HESA
Statutory Return - HESES
Statutory Return - Aggregate Offshore
Statutory Return - DHLE
Statutory Return - DLHE Longitudinal
Statutory Return - Med/Den
Statutory Return - KIS (Unistats)
Statutory Return - NSS
SLC
UKBA (PBI SMS)
WorldPay
BACS (AUDDIS)
Queen's Systems
Qfis (GL)
Library (Millenium)
Accommodation (Kinetics)
Research (Pure)
HEAT
PEC (MRM)
Scientia Timetabling
Scientia Exam Scheduler
Estates Access Control (Hirsch)
Document Management (imageNow)
Quick Address (QAS)
Alumni (Raiser's Edge)
Direct Applications Portal
Identity Manager
Active Directory
Student Email System
PGR Awards
First Year Experience Survey
Second Year Experience Survey
Exam Scheduling Interim DB
Student Card Creation
External Examiner Appointments
External Examiner Expenses
In-House Systems
Academic Promotions
Teaching Assistants
SIS Impromptu Reporting
Student Financial Reporting
Finance Reporting
Management Information Reporting
Estates Impromptu Reporting
Community Relations
Prospective Student Portal
UG Prospectus
PG Prospectus
Open Learning Prospectus
Course Finder
Disciplinary (Holylands)
Disciplinary (SU)
Disciplinary (Halls)
Disciplinary (DASA)
Disciplinary (Med & Den)
Exam Invigilator Reports
Exam Processing (Legacy)
Disability Services
Prizes and Awards
Clubs and Societies
QOL Applications
Academic CV
Library Group Study Booking
Student Job Shop
PDP
VLE
QOL Access Control
Student QOL Portal
Exam Papers (QuietMan)
Transcript Production
Exam Timetables (Student)
Exam Timetables (Mobile)
Exam Timetables (School)
Online Exam Schedule
Question Mark Assessments
Online Exam Results
Smartcard Processing
Programme Specification
Student Voting
Nursing & Midwifery Systems
Electronic Student Records
Clinical Allocations
Placements: Disability & Occ. Health
Absence
Placement Absence
Post-Registration Attendance
AccessNI
NMC Registration
Commissioning Plan
Self-Funding Admissions
Interview & Personal Statement Mgt.
Cohorts
Occupational Health Fit-List
Disability
Stand Alone Student Systems
Student Records Archive
Legacy Student System (SIS)
INTO Prospects / Applicants
INTO Students
St Mary's Systems
Stranmillis Systems
activCampus (EEECS)
Irish Baptist College
Belfast Bible College
Edgehill Theological College
Union Theological College
EEECS Active Directory
EEECS Email
Maths & Physics Email
Open Learning
Medicine Placement Management
Medicine Overseas Electives
Degree Plus Access DB
Green Room (Student Records)
BSW Applications
Erasmus / Study Abroad Applicants
EEECS Placement System
Biological Sciences Placement System
Management Placement System
Politics Mitigating Circumstances
Politics Pre-Enrolment
Pharmacy DL Spread Sheets
Theology Prizes & Scholarships
Education Ethics Approval
Enterprise SU Spreadsheets
Psychology Student Record
Student Records PGR Database
School PGR Records
Mechanical Engineering SIS
Medicine CATP
Dentistry Clinical Achievement
Access Student Parchment DB
Green Room (Student Affairs)
Functionality that should be migrated to Qsis
Functionality that should be replaced
Data Sharing Agreement in place

THE IMPACT OF THIS

- Data Quality in Related Systems
  - Particularly accuracy and definitions.
  - Reporting outputs giving seemingly contradictory results – core Student System blamed!
  - Data changed in core Student System without being aware of effect in a satellite system but, even worse…….
  - Data changed in satellite system but not being reflected back to the core.

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CULTURE

- Requests for new data transfers being directed to the IT department rather than the business owners … and sometimes satisfied.
- Data supplied to one system for a valid purpose sent on to another system for a different purpose, and on and on…...
- Data sent to external organisations without proper safeguards.
- Data transferred on an informal basis with no documentation and differing understandings of security obligations.

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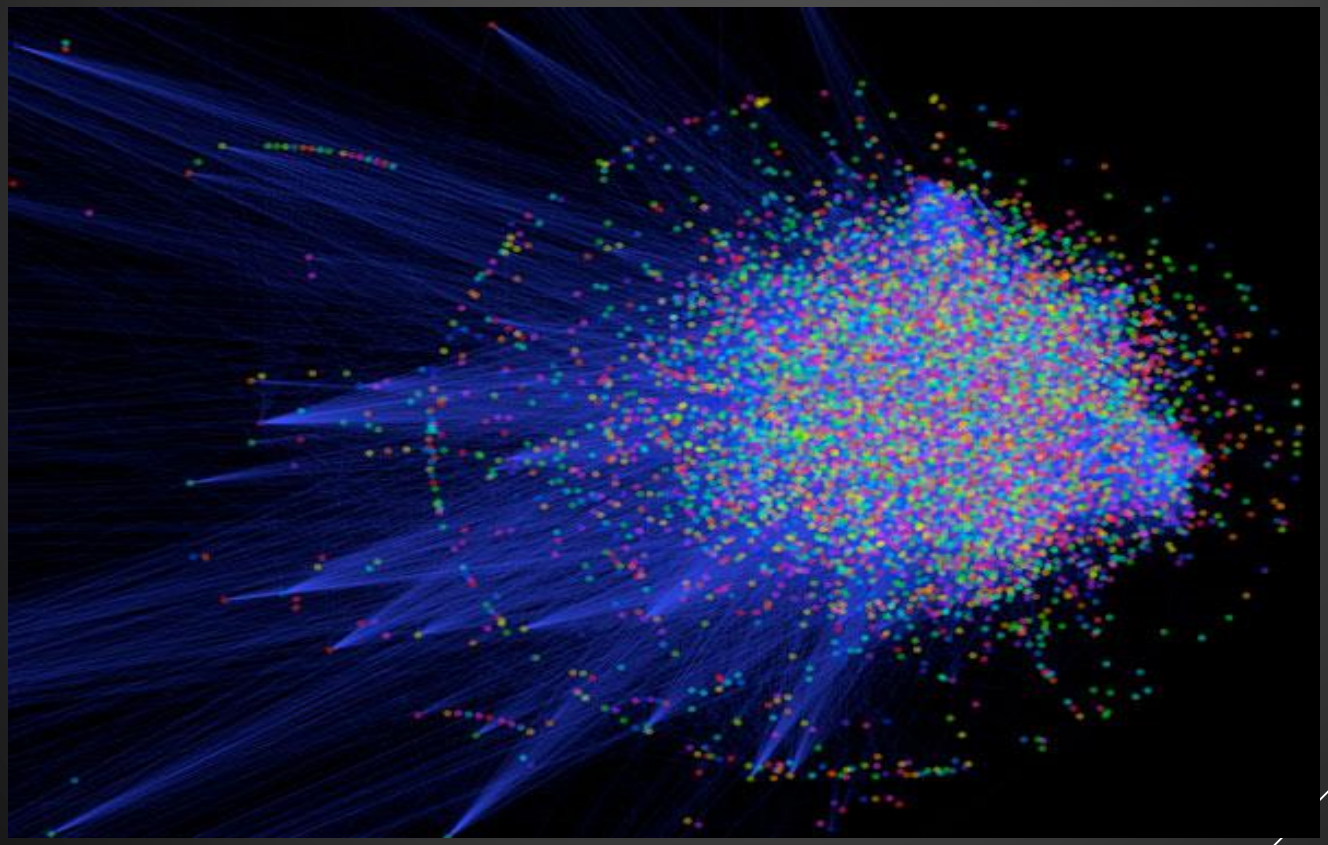
WHAT WE REALLY DISCOVERED

Unknown unknowns…….

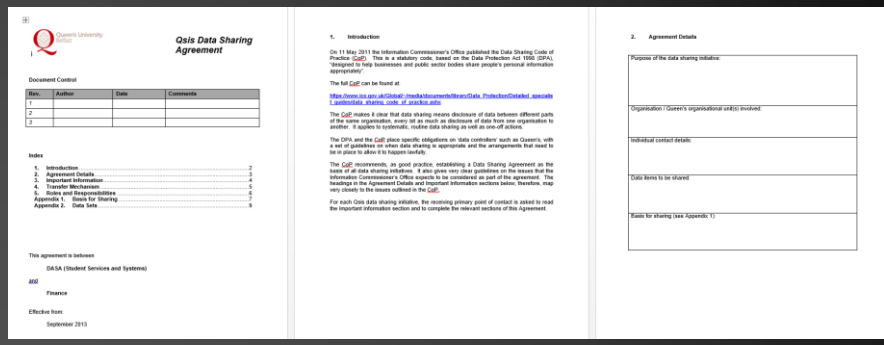


WHAT DID WE DO?

- Sought expert advice on legal and statutory obligations from the Data Commissioners Office and Internal Audit
- Risks and responsibilities communicated to all stakeholders through University Operating Board and Audit Committee.
- All those involved in new developments informed of need to consider data access and security
- Place holders for data, security and legal considerations included in all project development templates

DEVELOPED DATA SHARING AGREEMENTS

- A Data Sharing Agreement (DSA) based on statutory guidance from the Information Commissioner's Office has been created



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Qsis Data Sharing Agreement

Document Control

Rev.	Author	Date	Comments
1			
2			
3			

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This agreement is between

DASA (Student Services and Systems)

and

Finance

Effective from:

September 2013

1. Introduction

On 11 May 2011 the Information Commissioner's Office published the Data Sharing Code of Practice (CoP). This is a statutory code, based on the Data Protection Act 1998 (DPA), "designed to help businesses and public sector bodies share people's personal information appropriately".

The full CoP can be found at:

https://www.ico.gov.uk/Global/~/media/documents/library/Data_Protection/Detailed_specialist_guidance/data_sharing_code_of_practice.ashx

The CoP makes it clear that data sharing means disclosure of data between different parts of the same organisation, every bit as much as disclosure of data from one organisation to another. It applies to systematic, routine data sharing as well as one-off actions.

The DPA and the CoP place specific obligations on 'data controllers' such as Queen's, with a set of guidelines on when data sharing is appropriate and the arrangements that need to be in place to allow it to happen lawfully.

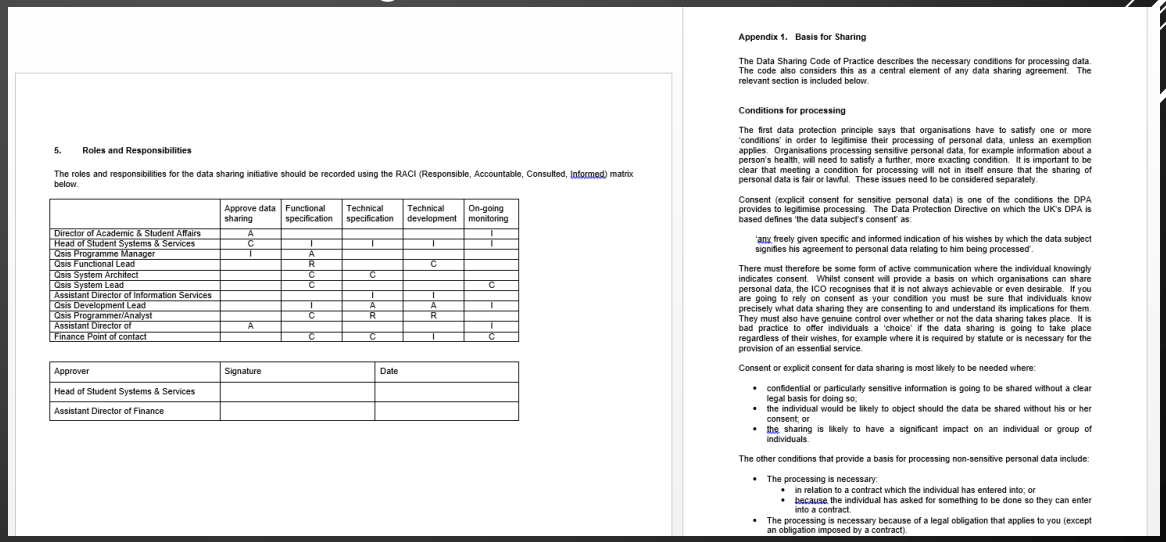
The CoP recommends, as good practice, establishing a Data Sharing Agreement as the basis of all data sharing initiatives. It also gives very clear guidelines on the issues that the Information Commissioner's Office expects to be considered as part of the agreement. The headings in the Agreement Details and Important Information sections below, therefore, map very closely to the issues outlined in the CoP.

For each Qsis data sharing initiative, the receiving primary point of contact is asked to read the Important Information section and to complete the relevant sections of this Agreement.

2. Agreement Details

Purpose of the data sharing initiative:
Organisation / Queen's organisational unit(s) involved:
Individual contact details:
Data items to be shared:
Basis for sharing (see Appendix 1):

- The DSA establishes: the basis for the data transfer's legitimacy; the necessary constraints on the data use by the recipient; and documents the details of the transfer mechanism, data set being shared, points of contact, etc.



5. Roles and Responsibilities

The roles and responsibilities for the data sharing initiative should be recorded using the RACI (Responsible, Accountable, Consulted, Informed) matrix below.

	Approve data sharing	Functional specification	Technical specification	Technical development	On-going monitoring
Director of Academic & Student Affairs	A				I
Head of Student Systems & Services	C	I	I	I	I
Qsis Programme Manager	I	A			
Qsis Functional Lead		R		C	
Qsis System Architect		C	C		
Qsis System Lead		C			C
Assistant Director of Information Services			I	I	
Qsis Development Lead		I	A	A	I
Qsis Programmer/Analyst		C	R	R	
Assistant Director of	A				I
Finance Point of contact		C	C	I	C

Approver	Signature	Date
Head of Student Systems & Services		
Assistant Director of Finance		

Appendix 1. Basis for Sharing

The Data Sharing Code of Practice describes the necessary conditions for processing data. The code also considers this as a central element of any data sharing agreement. The relevant section is included below.

Conditions for processing

The first data protection principle says that organisations have to satisfy one or more 'conditions' in order to legitimise their processing of personal data, unless an exemption applies. Organisations processing sensitive personal data, for example information about a person's health, will need to satisfy a further, more exacting condition. It is important to be clear that meeting a condition for processing will not in itself ensure that the sharing of personal data is fair or lawful. These issues need to be considered separately.

Consent (explicit consent for sensitive personal data) is one of the conditions the DPA provides to legitimise processing. The Data Protection Directive on which the UK's DPA is based defines 'the data subject's consent' as:

> 'any freely given specific and informed indication of his wishes by which the data subject signifies his agreement to personal data relating to him being processed'.

There must therefore be some form of active communication where the individual knowingly indicates consent. Whilst consent will provide a basis on which organisations can share personal data, the ICO recognises that it is not always achievable or even desirable. If you are going to rely on consent as your condition you must be sure that individuals know precisely what data sharing they are consenting to and understand its implications for them. They must also have genuine control over whether or not the data sharing takes place. It is bad practice to offer individuals a 'choice' if the data sharing is going to take place regardless of their wishes, for example where it is required by statute or is necessary for the provision of an essential service.

Consent or explicit consent for data sharing is most likely to be needed where:

- confidential or particularly sensitive information is going to be shared without a clear legal basis for doing so;
- the individual would be likely to object should the data be shared without his or her consent; or
- the sharing is likely to have a significant impact on an individual or group of individuals.

The other conditions that provide a basis for processing non-sensitive personal data include:

- The processing is necessary:
  - in relation to a contract which the individual has entered into; or
  - because the individual has asked for something to be done so they can enter into a contract.
- The processing is necessary because of a legal obligation that applies to you (except an obligation imposed by a contract).

PUTTING THE DSA IN PLACE

- All Qsis developments that require either a new data feed, or a change to an existing feed, are required to complete a DSA as part of the project lifecycle

- Existing data feeds are part of a retrospective approval exercise, with agreements being established for each valid transfer

- DSAs have been signed with a number of external organisations including: the General Medical Council, the General Teaching Council (NI), Electric Paper (EvaSys), and the NI Social Care Council

OUR ADVICE

- Start the documentation process now
- Write the policies and procedures, plenty of advise out there.
- Get agreement, and buy in, from senior management.
- Describe the longer term plan (target about 3 years).
- Identify the stakeholders i.e. Schools, Directorates etc.

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DRAW YOUR OWN SCAREOGRAM!

- Start documentation with listing the set of data transfers you already know about – HESA, SLC etc.
- Visit every University School and Administrative Business unit (i.e. subject area / department) and ask where they store data and where they send it.
- Start to draw your Scareogram.
- Remember, it is a living document.

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CREATE YOUR DSA

- Draft one for both external and internal transfers.
- Keep them fairly brief, focus on ‘what data to whom and for what’ kind of questions.
- Outline responsibilities and limitations on use.
- Ensure they are signed by the recipient responsible for the receiving system first.

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DEAL WITH BIGGEST RISKS FIRST

- Focus on eternal transfers first
- Private companies … ahead of official bodies … ahead of government agencies etc.
- Look at transfer mechanisms – no FTP or floppy disc!

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MANAGING THE PROCESS

- Update development project lifecycle with a data governance gateway check to ensure new transfers have a DSA.
- Any changes to existing transfers must get a retrospective DSA.
- Keep communicating the need.

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THE MAIN CHALLENGES YOU WILL FACE

- “Its just student data”……
- Culture
  - It’s our data what is the problem?
  - Yes I can do that for you? (IT!)
  - We have always done it this way
  - New approach viewed as overly bureaucratic
- Effort Required
  - Documenting the current set up is a significant task
  - Putting systems in place to control the proliferation of feeds and new satellite systems requires focus

DON'T GIVE IN

- Accept that the task will never be finished.
  - Technology, the law, government initiatives, higher education, life – they all bring change that will affect how we do data governance.

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MAIN BENEFITS FOR US

- Legitimate grounds for saying ‘no’ to new requests.
- When accepted, new transfers are required to fit with the approved strategy and technologies.
- Secondary transfers brought to light (and stopped).
- The Student System is reinforced as the definitive source.
- Audit world is a happier place.
- Other University systems following suit.

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WHERE OUR FOCUS IS NOW

- No secondary transfers.
- Forcing ‘Push’ rather than ‘Pull’.
- Limiting / removing satellites.
- Joining the HEDIIP Advisory Panel
  - HE Data & Information Improvement Programme.

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FINAL THOUGHTS

- "Data is the raw material of the information age."

  Tayi & Ballou 1998

- "Data is the sludge of the information age."

  Bort 1995

How you govern its use determines which it is!

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QUESTIONS

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