State of the Sector Data Maturity

In the Not-for-Profit Sector

2020

Written and researched by Sian Basker and Matthew Gosling. July 2021

info@dataorchard.org.uk | www.dataorchard.org.uk

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You can read this report online at:
www.dataorchard.org.uk/data-maturity-nfp-sector-2020-report

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EXECUTIVE SUMMARY

Data maturity is the organisational journey towards improvement and increased capability in using data. We've created a framework which describes seven key factors for success (Leadership, Uses, Data, Analysis, Culture, Tools and Skills) across a five stage journey (Unaware, Emerging, Learning, Developing and Mastering).

In October 2019 we launched the world's first free online data maturity assessment tool for the not-for-profit sector. The tool is specifically designed to encourage and engage multiple users from the same organisation in the assessment process. Our premium version, launched in March 2020, makes this very straightforward and offers more functionality for larger organisations.

Key to the terms under which the tool is used, for all users, is contribution to understanding about data maturity in the not-for-profit sector. We are therefore pleased to present, for the first time, the findings on what the data says about data maturity in the sector.

ABOUT THE DATA

Data Orchard's Data Maturity Assessment tool has been used by thousands of people from all kinds of organisations and sectors, and from all over the world. This report focuses on data from 630 unique respondents from 249 validated organisations who used the tool during the first 15 months (between October 2019 and December 2020). We explore some comparisons across different sectors, though primarily focus on the 572 respondents from 202 not-for-profit sector organisations, for which the tool was designed.

It should be emphasised that Data Orchard's Data Maturity Assessment tool is a self-assessment tool. The results reflect what users say about data in their organisations. Users are self-selecting. Whilst we can make no claims about our data being precisely representative of the sector, we do monitor the profile of users to see how representative they are.

ABOUT THOSE USING THE TOOL

The not-for-profit users are defined as essentially non-commercial and include: non-governmental organisations like charities and social enterprises, public sector organisations, and universities. Those using our tool operate in 18 different activity areas of which social services, health and education are most common. Users primarily come from the UK, and all countries and regions within it, but also from a further 26 countries. The annual income levels of organisations using the tool range from less than £10K to more than £100M. The people who use the tool work in many different roles. Most commonly they are in strategy/planning, leadership and management, data management/analysis or service delivery roles.

HOW DATA MATURE IS THE SECTOR?

There's a lot of variation in data maturity in the not-for-profit sector. Most organisations are at the 'Learning' stage (46%), though a good proportion (33%) are in the more advanced 'Developing' stage. Meanwhile around 20% are lagging behind in the 'Emerging' stage.

There was little difference between sectors. Non-governmental organisations, commercial, public sector and universities were all overall in the 'Learning' stage with average scores ranging from 2.52 to 2.78 out of 5. Of course there are leaders and laggers in every sector.

Overall there wasn't much difference between the scores for the seven data maturity themes. Again, all were in the 'Learning' stage. The strongest themes were 'Data' and 'Culture'. The weakest were 'Skills' and 'Leadership'. However the averages hide a very wide variation in scores.

TEN KEY FINDINGS

The ten key findings in relation to not-for-profit sector organisations are:

1. The cost of data is huge, hidden, and often wasted.
2. Most leaders don't see the value of data.
3. Data quality is a big challenge.
4. A lot of data is still on paper.
5. People don't have good digital tools or don't use them effectively.
6. There's lots of counting but not enough meaningful analysis.
7. Only some are using data to question and challenge.
8. Some are vulnerable around data protection and security.
9. Most have major inefficiencies in their approach to data.
10. There's a lack of skills, responsibility and support around data.

FINDINGS FOR THE SEVEN KEY THEMES

The headline findings for the seven critical success factors for data maturity are as follows:

Uses

In relation to running and driving the organisation, unsurprisingly data is most used for regulator, funder and contract reporting (77% extensively or moderately). Great, or at least moderate, benefits are being derived from data and analytics in: strategic planning and decision making; income generation; credibility and influence; and improving impact. This is the case for at least 40-50% of organisations, though only extensively so for around 10%. Around one in three are seeing benefits in levels of knowledge and expertise and the strength of partnerships and networks. It is a concern that so many are NOT seeing even 'moderate' rewards from data and analytics in these areas.

In relation to services, much of the data collection focuses on capturing and recording activities with clients (84% do this extensively or moderately) with many also monitoring service quality and performance (54%). For 40-55%, data and analytics is having at least a

moderate influence on: enabling targeting (who), reach and engagement (where and how), evidencing needs and problems (why), design and delivery of services and products (what), and client outcomes (the difference they make). Around 10% say they are benefiting extensively in these areas.

Data

Around two thirds say they collect the right data. However when it comes to data quality there's a very mixed picture. 41% tend to agree their data is complete, accurate and where necessary kept up to date, whilst 39% tend to disagree. Meanwhile one in five say they don't know the quality of the data they collect. Indeed many don't know what data assets they have or what state they're in.

The sector makes good use of data available from external sources. 83% use publicly available external research (e.g. government or academic) either regularly or occasionally. A good proportion (68%) commission their own research and evaluation, and just over half use shared measures and benchmarks with other organisations.

Data versatility remains out of reach for many though. This means data is often being collected for a single purpose, project or team. Only 44% have rich data they can use and re-use for different internal and external stakeholders.

Analysis

Aligned with the findings on 'Uses', the findings suggest there's a lot of basic counting going on (90%) and descriptive analysis of historic data (summarising what happened, and looking at averages and past trends). Far fewer (44%) are analysing more deeply around causes, patterns, differences and correlations. Only a small proportion of organisations are using more advanced predictive and prescriptive types of analytics (22% and 11% respectively).

Just over half say they analyse data in meaningful and useful ways. A similar proportion say they present and communicate data in accessible ways to different audiences. 31% say they use data to explore and test assumptions about the difference they make. A similar proportion say they run pilots or trials to explore how best to act in the future.

Only around 1 in 20 are bringing data together from different sources and analysing it in automated ways to provide a strategic overview. 42% say data is manually collated in reports from different sources and 37% have a partially manual/partially automated approach. Meanwhile 16% either don't bring their data together at all or people verbally report on it as part of strategic discussions.

Leadership

Only one in twenty organisations has leadership that prioritises data as a vital resource and understands how to use it to improve what the organisation does. In 63% of organisations respondents say the leadership is not convinced about the value of data. However, a third

say their leadership is engaged and supportive, ask the right questions of the data, and are active in harnessing its value.

Just 3% are using past, present and forward looking data to support decision making (including forecasting, modelling, prediction and optimisation). 17% are using real-time monitoring in the present along with past trends. Most use data about what happened in the recent past (last quarterly/annual reporting periods) and verbal accounts of what's happening (39%). A further 33% do this along with some longer term trends analysis. 8% say leadership don't use data for decision making at all.

Only 28% say they have people with data analytics expertise within their leadership and only 24% say leaders invest enough in data related resources i.e. people, skills, learning and tools.

Culture

Almost all organisations say they share data internally (97%) though only one in three say data is easily available and accessible to staff when they need it. Moreover just because data is shared doesn't mean it's actually used by intended audiences e.g. only 40% say people in different teams/levels of seniority regularly discuss data and how to act on it. Opinions are divided when it comes to using data internally to ask difficult questions and challenge practices. 36% say their organisation is comfortable with this, though 40% say they are not.

There is also a lot of data sharing externally. 84% share data with partners, networks and stakeholders; two thirds share data with clients; and 60% openly publish their own data and analysis. However it should be noted that data sharing tends to be more occasional than regular and the same question remains about whether it is being used and acted upon.

Overall, and perhaps due to the introduction of the new data protection legislation in 2018 (including GDPR), a good proportion of organisations appear to be doing quite well in terms of policies and practices, managing access to sensitive and personal data, and overall security. However around one in five are not doing so well in this area.

Tools

Organisations use a wide range of tools for collecting, storing, analysing and reporting data. Most don't think their tools are very good especially for enabling them to bring together, analyse and report data.

Just under half say they have good tools for collecting data, yet only 39% say their organisation collects data in consistent and efficient ways. Databases/CRM systems and websites feature most strongly among the digital tools for collecting data. However it's notable that non-digital approaches (i.e. the use of paper forms and questionnaires) remain widespread. More than half say they collect data from clients and stakeholders on paper either moderately or extensively.

Half say they have good tools for storing and managing data and most are using centralised and cloud based tools to physically store their data. Whilst over two thirds say their files and documents are centrally and securely stored, just one in three say their digital files and documents are well organised and managed. This aligns with the finding that in a third of organisations staff can't easily search for and find the information they need.

41% say they have good tools for analysing and reporting data. A wide range are in use, of which spreadsheets remain the most universal of them all (90% use them extensively or moderately). Finance software and Database/CRM tools are the next most commonly used extensively or moderately by 72% and 63% respectively. More advanced business intelligence tools are relatively uncommon, and advanced specialist data science tools even less so.

Just over two-thirds say their files and documents are centrally and securely stored, primarily in the cloud and they make use of cloud-based software systems. Only one in three say their files and documents are well organised and managed, and that staff find it easy to search for and find the information they need.

Around one in five say there's no central management of digital tools and systems.

Skills

Skills is the weakest of the seven themes. One in three say they have appropriate numbers of staff managing and developing their data capabilities. More than half don't think they have the right skills to maximise use of their data. Only a quarter tend to agree that most staff are data literate, almost half disagree.

Just over a third say their organisation supports staff to develop their data and analytics knowledge and skills. The picture is better where we focus specifically on data protection and security training (62% say their staff receive induction and regular training on this).

Access to knowledge and expertise is also a weak area. Only 31% say they have access to external data and analytics support and advice from experts they trust.

CONCLUSIONS

We recognise the sample of validated organisations is small and it's early days since the launch of the online data maturity assessment tool. It's possible the findings overstate where the sector is realistically at i.e. those disinterested in data are less likely to take an assessment and those very interested are more likely to. Regardless, the findings reflect a range of different stages of data maturity across the sector. Perhaps the most important finding is that so much resource is already being invested in data with such differing degrees of reward and benefit.

It's encouraging that there are those at the forefront who prioritise and invest in their data capabilities and are reaping fruitful rewards in advancing their organisation's cause. However the weaknesses in skills and leadership for others may explain their inability to

harness rewards and benefits. This relates both to the purposes for which data is used and the thinking around how it is analysed and acted upon. We look forward to monitoring change in confidence and practices for the seven key themes over time in relation to this. In particular it will be interesting to monitor whether more digital approaches to data are adopted following the Covid 19 pandemic.

We especially look forward to discussing these findings, as a shared problem space, and how to act on them with our Data4Good partners in the UK and internationally. Data Orchard's own plans include creation of more educational tools and resources, more sharing of stories of real-life data maturity journeys in not-for-profit organisations, and wider promotion and uptake of the assessment and benchmarking tool among the sector and our partners.

1. INTRODUCTION

Data Orchard has been researching organisational data maturity since 2015. You can read a brief history here. In October 2019 we launched an online data maturity assessment tool. This report shares what the data from its use in the first 15 months tells us about data maturity in the not-for-profit sector.

1.1 What is data maturity?

Data maturity is defined as the journey towards improvement and increased capability in using data.
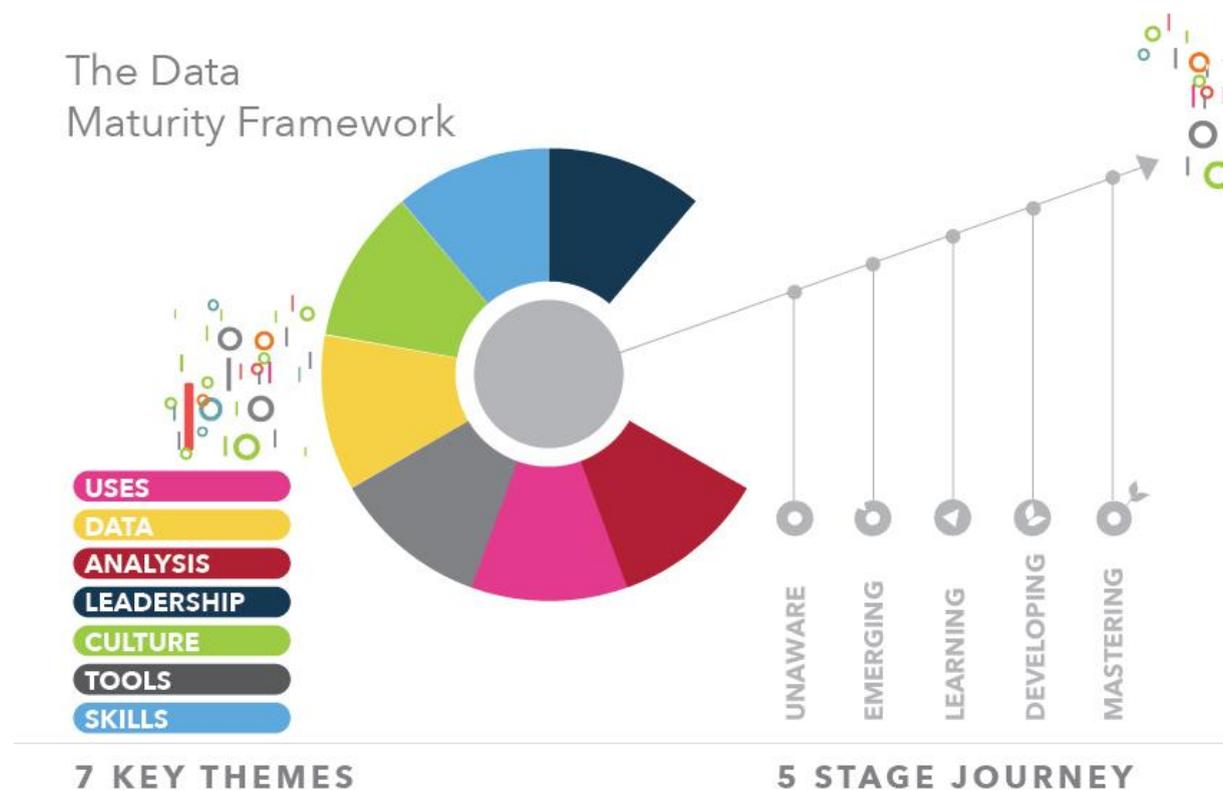
We've created a framework model which describes data maturity on a five stage journey. This progresses from 'Unaware' through to 'Mastering' across seven key themes: Uses, Data, Analysis, Leadership, Culture, Tools and Skills.

The framework is available for non-commercial use, licensed under Creative Commons Licence CC BY-NC-SA 4.0, and can be downloaded here
dataorchard.org.uk/resources/data-maturity-framework

The online Data Maturity Assessment involves users answering a series of questions related to each of the seven themes described in the chart below.

Data Maturity Themes

USES
- Purposes for collecting and analysing
- Benefits and rewards

DATA
- Collection
- Quality
- Sources
- Assets

ANALYSIS
- Type
- Technique
- Joining
- Presenting

LEADERSHIP
- Attitudes
- Plans
- Capability
- Investment

CULTURE
- Team approach
- Self-questioning
- Openness
- Protection

TOOLS
- Collection
- Storage
- Organising and managing
- Analysis and reporting
- Integration and architecture

SKILLS
- Capacity
- Skills
- Training
- Access to knowledge and expertise

At the end of the assessment users receive a report with their results. The report identifies:
- where their organisation is on the five stage journey
- how they score in each of the seven themes
- where their strengths are
- priority areas to focus on.

In addition, users can
- compare how they're doing with the sector through benchmarks,
- explore more about their current and next stage for each theme.

An example report is shown below.

You scored your organisation in the Learning Stage

Your overall score, based on the average across the seven themes, was **2.2** out of **5**. You have scored your organisation strongest in **Skills**, **Tools**, **Culture**. Your responses indicate priority areas to focus on are likely to be **Data**, **Leadership**, **Analysis**.

Your overview in comparison to the sector

Benchmark

	Unaware	Emerging	Learning	Developing	Mastering

Uses

Data

Analysis

Leadership

Culture

Tools

Skills
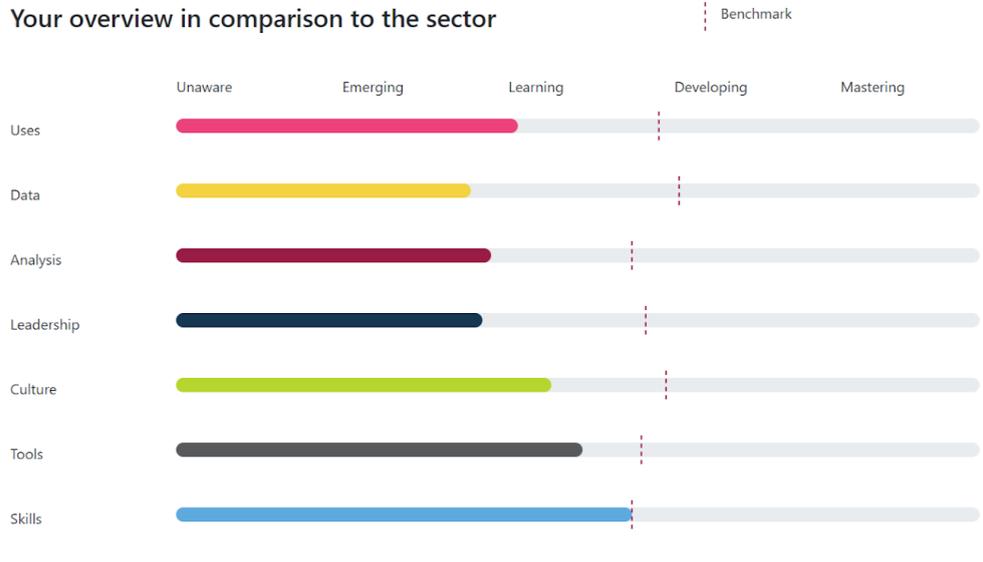
Overview by theme

Uses

2.1 out of **5**

Learning

Purposes for collecting and analysing. Benefits and rewards.

FIND OUT MORE

Data

1.8 out of **5**

Emerging

Collection. Quality. Sources. Assets.

FIND OUT MORE

Analysis

2 out of **5**

Emerging

Type. Technique. Joining. Presenting.

FIND OUT MORE

Leadership

1.9 out of **5**

Emerging

Attitudes. Plans. Capability. Investment.

FIND OUT MORE

Culture

2.3 out of **5**

Learning

Team Approach. Self-questioning. Openness. Protection.

FIND OUT MORE

Tools

2.5 out of **5**

Learning

Storage. Type. Quality. Sharing. Integration.

FIND OUT MORE

Skills

2.8 out of **5**

Learning

Capacity. Skills. Training. Access to Knowledge and Expertise.

FIND OUT MORE

Invite your colleagues

The Data Maturity Assessment is more accurate if it's completed by multiple people in your organisation. You can share the link for colleagues to complete individually, complete the free version again together as a small group, or consider our paid organisational version, which allows all staff to take an assessment and provides you with a collated report.

FIND OUT MORE

1.2 About the data

The source data for this report comes from users of the online Data Orchard Data Maturity Assessment. The raw dataset for users between 4th October 2019 and 31st December 2020 included 2,119 responses.

It should be emphasized that Data Orchard's Data Maturity Assessment tool is a self-assessment tool. The results reflect what users say about data in their organisations. Users are self-selecting. Whilst we can make no claims about it being a precisely representative of the sector we do monitor the profile of users to see how representative they are.

1.2.1 Different types of assessment

There are two main types of assessment available, the taster version and the full assessment. Of the 630 respondents from the not-for-profit sector, 20% completed the taster assessment and 80% completed the full assessment. Those completing the full assessment will have either used the free single user version or the premium organisation version.

For most of the analysis in this report we focus only on those completing the full assessment. However where we explore individual questions in more detail we include all responses where the question appears in both the taster and full assessment.

1.2.2 Cleaning and validation

We excluded users using apparently personal email addresses (such as gmail or yahoo) or where the email address they provided was not valid. Where users provided organisational addresses we sought to confirm that the organisation existed. For UK organisations we accessed public registers such as Companies Houses, the Charity Commissions for the different parts of the UK and the FCA Mutuals Register. For organisations apparently based outside of the UK or where we could not identify them on a UK register we relied on information provided on their public website.

After cleaning and validation the dataset used for this report included 630 complete unique responses (of either the taster or full assessment). Where respondents completed both a taster and full assessment we used only the full assessment data to avoid duplication.

In total the number of validated organisations using the tool during this period was 249. For UK based charities and companies we identified the sector, type, age, turnover, location, and number of employees from the aforementioned publicly available records.

Data preparation	Respondents	Organisations
All responses	2,119	?
After cleaning, matching and validation	630	249
After excluding commercial organisations	572	202
Not-for-profits taking the taster assessment only	112	69
Not-for-profits taking the full assessment	460	133

1.2.3 Multiple users

The Data Maturity Assessment was specifically designed to encourage and enable multiple people from the same organisation to take the assessment. This is in part to develop and share learning and understanding, to create a common language, and to mobilise people into thinking collectively about planning and action towards future improvements. Critically though it's about recognising that data is used, understood and applied in different ways by different people in different parts of an organisation. So to shift the whole organisation forward it is important to involve all those people and perspectives in the assessment process. Notably many of the organisations using the premium version of the tool invite large numbers of staff (sometimes all of them) to take part.

Number of respondents per Organisation (banded)
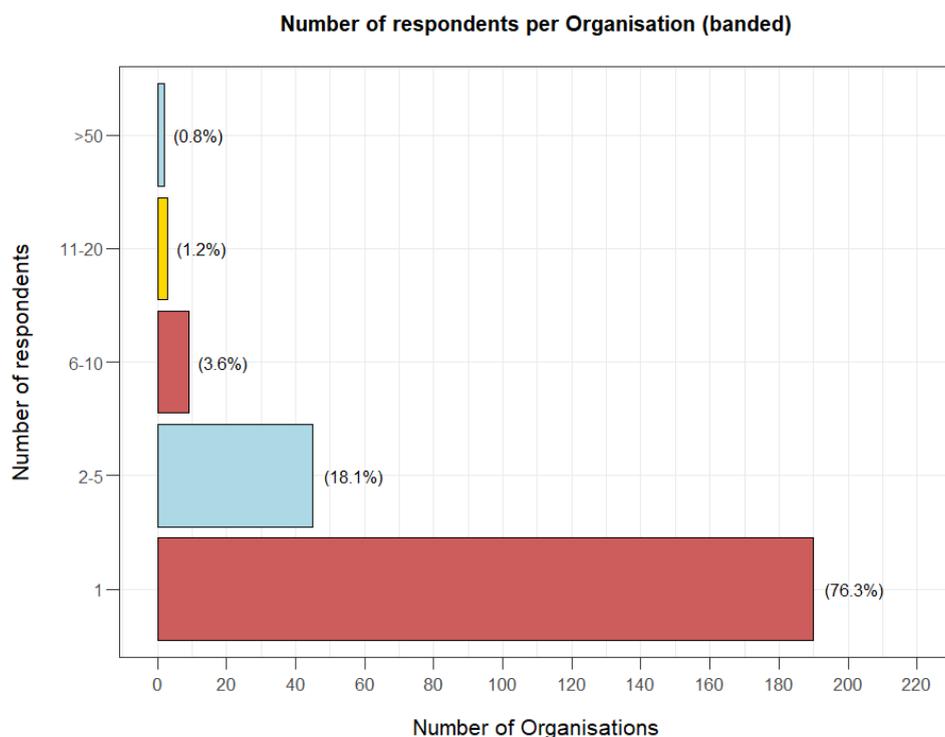
In the majority of cases a single response has been recorded for the organisation. Usually this is a single person on behalf of the organisation, though we know from our impact evaluation, it's not uncommon for multiple people to complete the assessment together as a group (especially in smaller organisations).

Over a quarter of organisations have had multiple users complete the assessment, and in some cases in large numbers. Where there have been multiple respondents from the same organisation, the results have been combined and averaged to give a single organisational score.

1.2.4 Defining the not-for-profit sector

As part of our data preparation process we needed to be quite specific about how we defined the not-for-profit sector. This is a well known challenge to data people trying to describe sectors. A full list of the legal types included in each category is included in the Appendix. In summary all validated organisations were grouped in four broad sectors based on their legal type as follows:

i) **NGO (non-governmental organisations)** – Trusts, charities, social enterprises, charitable incorporated organisations, constituted non governmental organisations with a social mission

ii) **Public sector** – local, regional, national government, education, health.

iii) **University**

iv) **Commercial** – public and private limited companies.

We defined the not-for-profit sector to essentially mean non-commercial organisations and included the first three on the above list: NGO, public sector and university.

1.2.5 Important terminology

Clients

This term refers to the people the organisation serves. We acknowledge different organisations may have different names for this e.g. service users, beneficiaries, customers, residents, members, participants, stakeholders, and students. They may serve other organisations or communities. It's possible the organisation works for the benefit of the environment or creatures e.g. natural habitats, birds or animals.

Staff

This term refers to the people who work for the organisation. It includes employees and volunteers. In some cases it may also include freelancers, associates or contractors who work to deliver the organisation's services and products to clients.

2. PROFILE AND CHARACTERISTICS OF USERS

2.1 About the organisations using the tool

The tool is being used primarily by the sector for which it was designed i.e. non-governmental organisations (NGOs). We know from our impact analysis that many private sector consultancies also use the tool in their work with clients (some of which are in the not-for-profit sector). It has also been used by other non commercial organisations including a range of public sector bodies and universities.

Number of Organisations by sector type

Sector type	Number of Organisations
NGO	169 (67.9%)
Commercial	46 (18.5%)
Public Sector	25 (10%)
University	9 (3.6%)
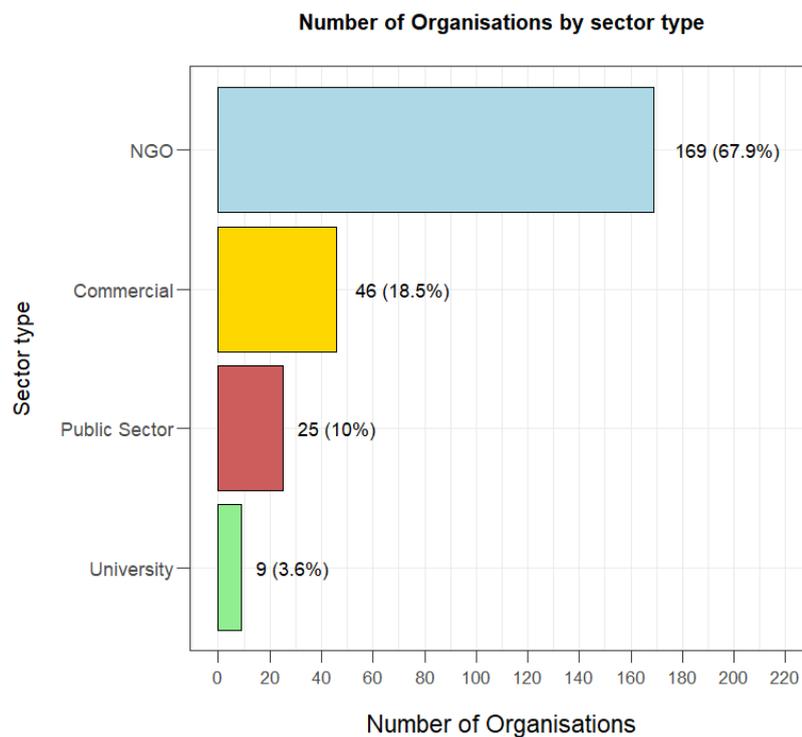
2.1.1 Activities

The profile of organisations by type of activity are many and varied. The numbers are highest for social services, education and health sub-sectors.

Number of Organisations by Activity category
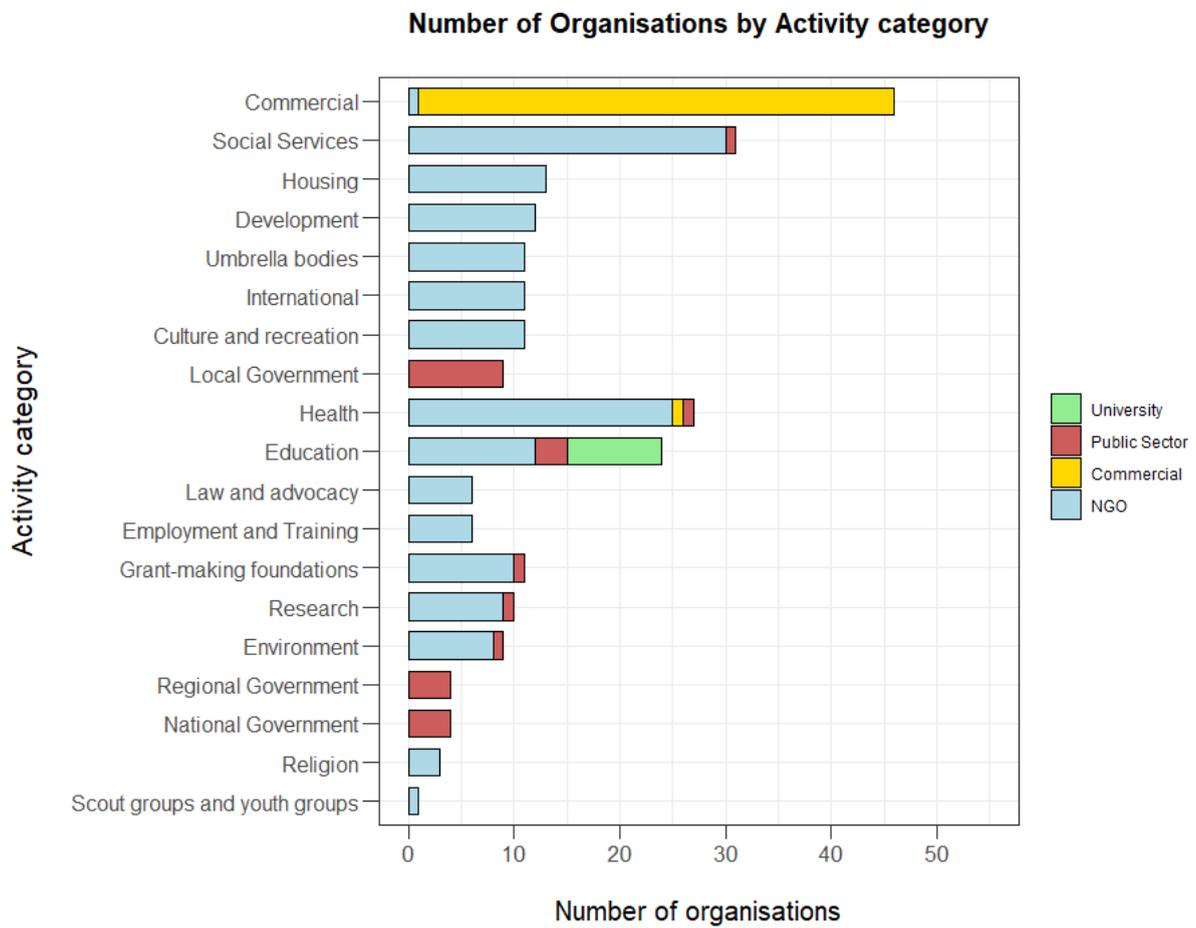
2.1.2 Geography

Most of the not-for-profit users are from the UK and from every nation and region within it.

Geographic Location of Organisations
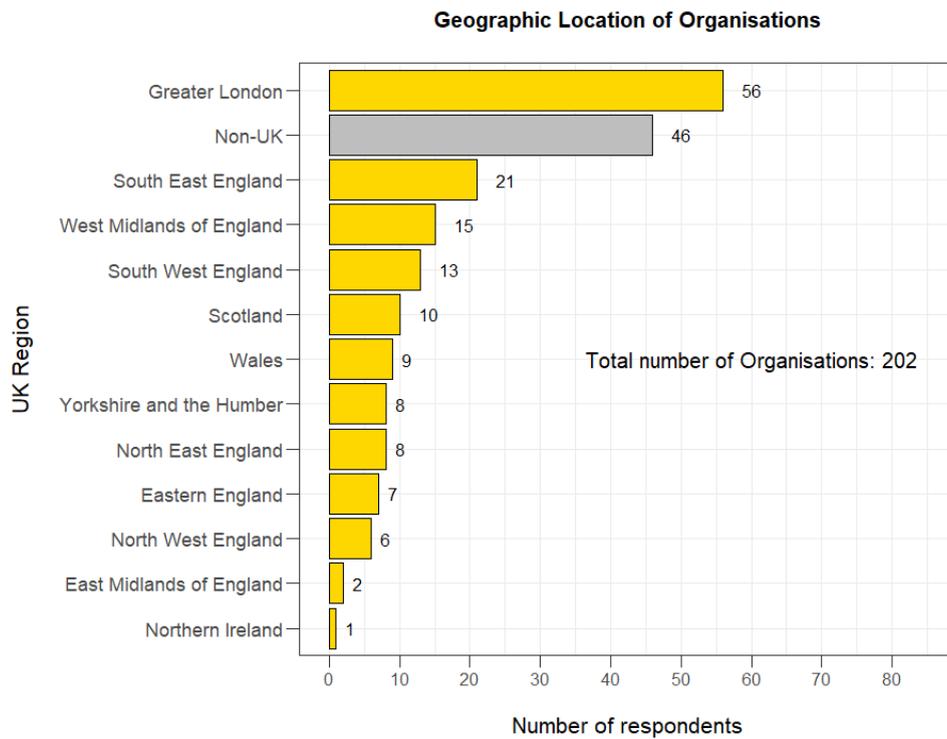
In addition the assessment has been used by organisations in 26 other countries around the world.
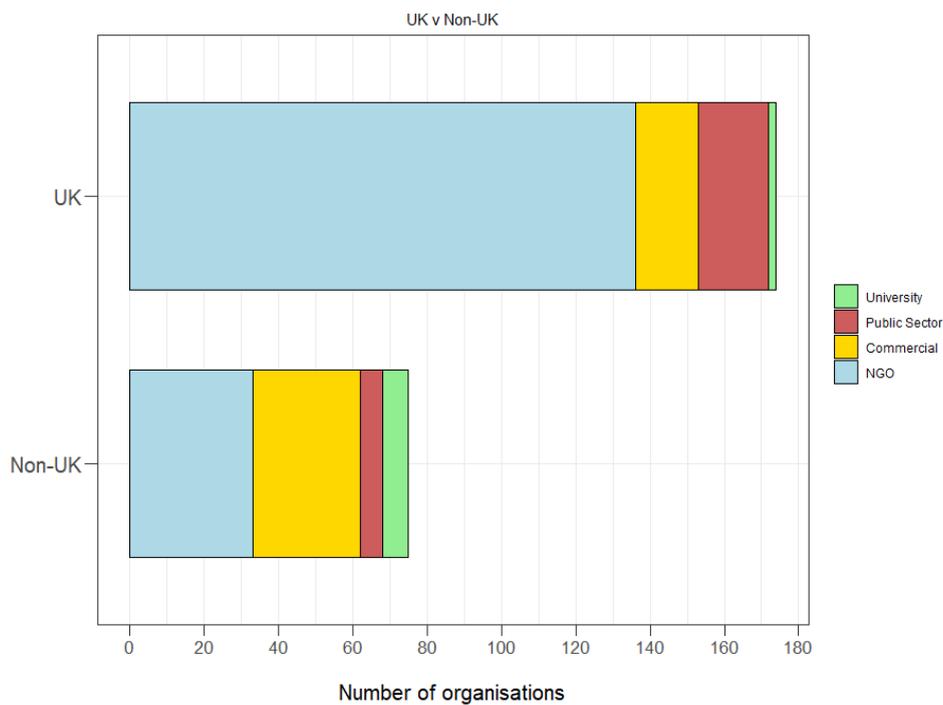
2.1.3 Income

Based on what we know, the data suggests most users are medium (£100,000–£1M) or large (£1M–£10M) sized organisations (using the NCVO sector definitions). A considerable proportion are major (£10M–£100M) with a few super-major sized (£100M +). It should be noted there is a lot of missing data on income and small charities may be among these or the many we were unable to validate (e.g. if they were using a personal rather than organisational email address).

Number of Organisations by Turnover

Total number of Organisations: 202
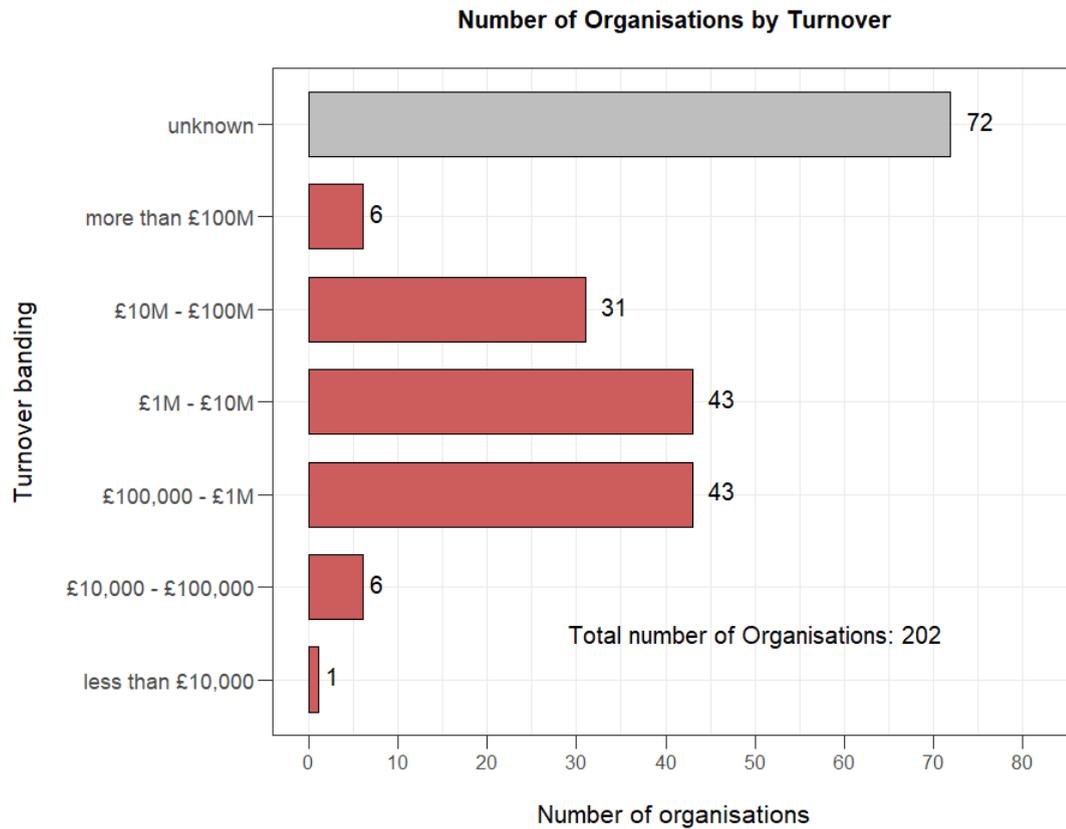
2.2 About the people using the tool

The top job roles of people using the tool are in 'strategy/planning' and 'leadership and management'. Unsurprisingly there are many users in data management and analysis roles. A considerable number also come from service delivery roles. We note it is common, especially in smaller organisations, for people to have multiple roles and for there to be no dedicated responsibility for data. Meanwhile in large/major/super major organisations there may be whole analytics departments.

Job roles of respondents

n = 452 unique respondents able to select up to 3 categories
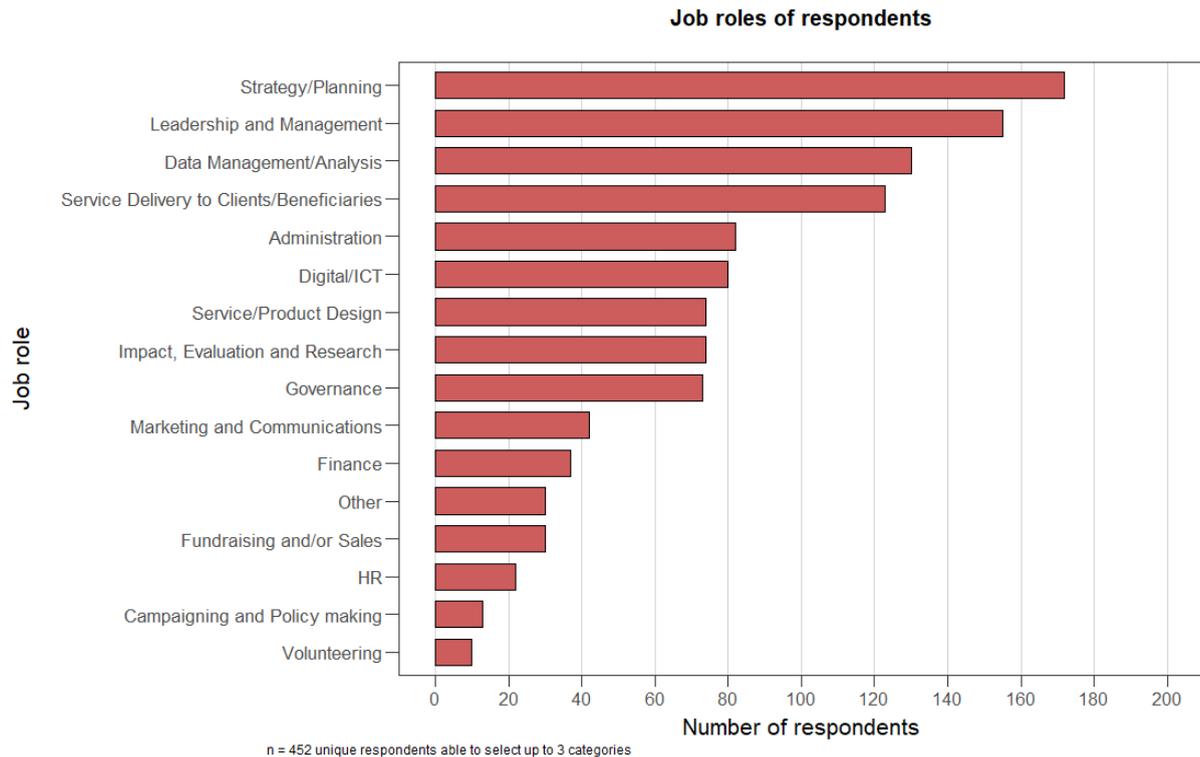
3. HEADLINE FINDINGS

3.1 How data mature is the not-for-profit sector?

Based on the not-for-profit sector organisations completing the full data maturity assessment, most organisations are at the 'Learning' stage (46%). A good proportion have progressed into 'Developing' (33%). Many are lagging behind in the 'Emerging' stage (20%). There were none in the 'Unaware' stage, though this is unsurprising given users are self-selecting, and only one in 'Mastering'.

Histogram of Data Maturity scores

number of Organisations = 133
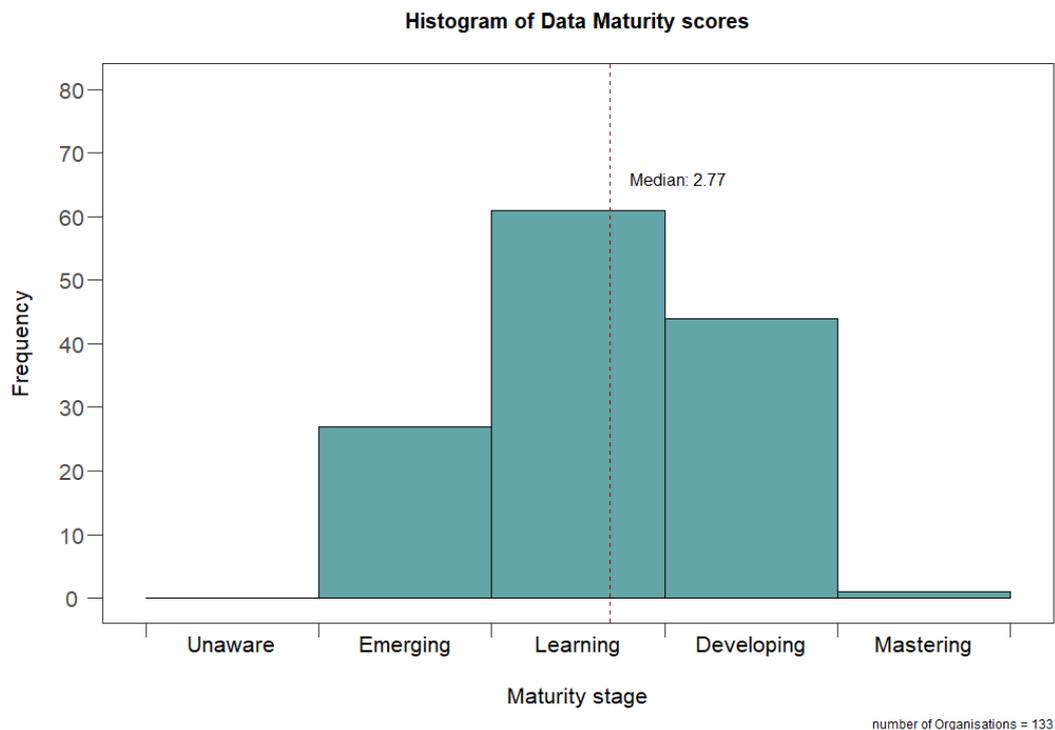
3.2 How does it compare to other sectors?

Based on the users of our tool, our analysis suggests there's little difference in data maturity across the sectors. Essentially, organisations are, typically, at the 'Learning' stage whatever sector they operate in. Of course these figures are averages and there are leaders and laggers in all sectors.

Median Data Maturity Score by Sector
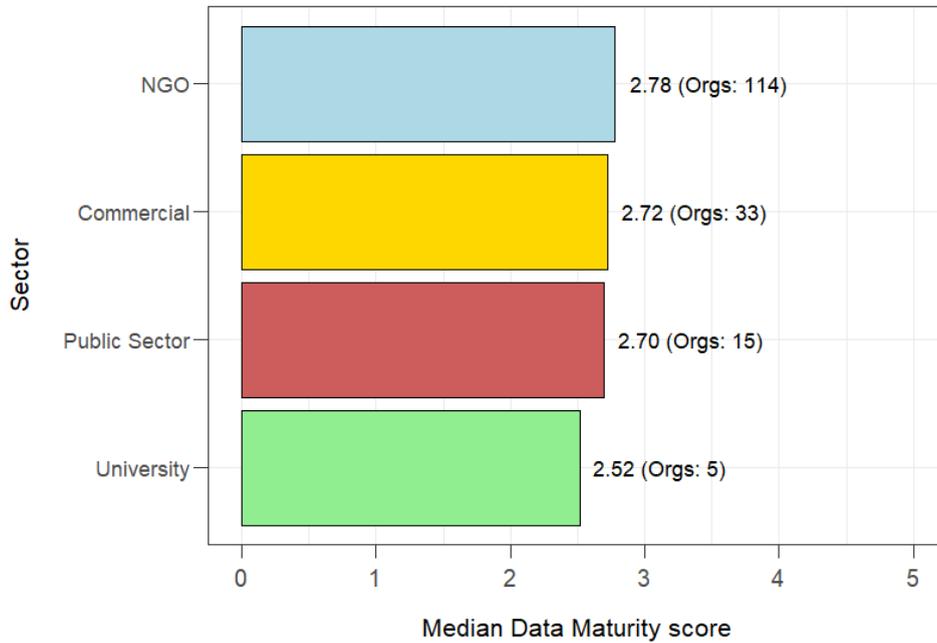
3.3 Strengths and weaknesses

Overall there's not much difference between the themes. The average (median) scores range from 2.6 to 3 out of 5 across the seven key themes: Uses, Data, Analysis, Leadership, Culture, Tools and Skills.

Median Data Maturity score by Theme
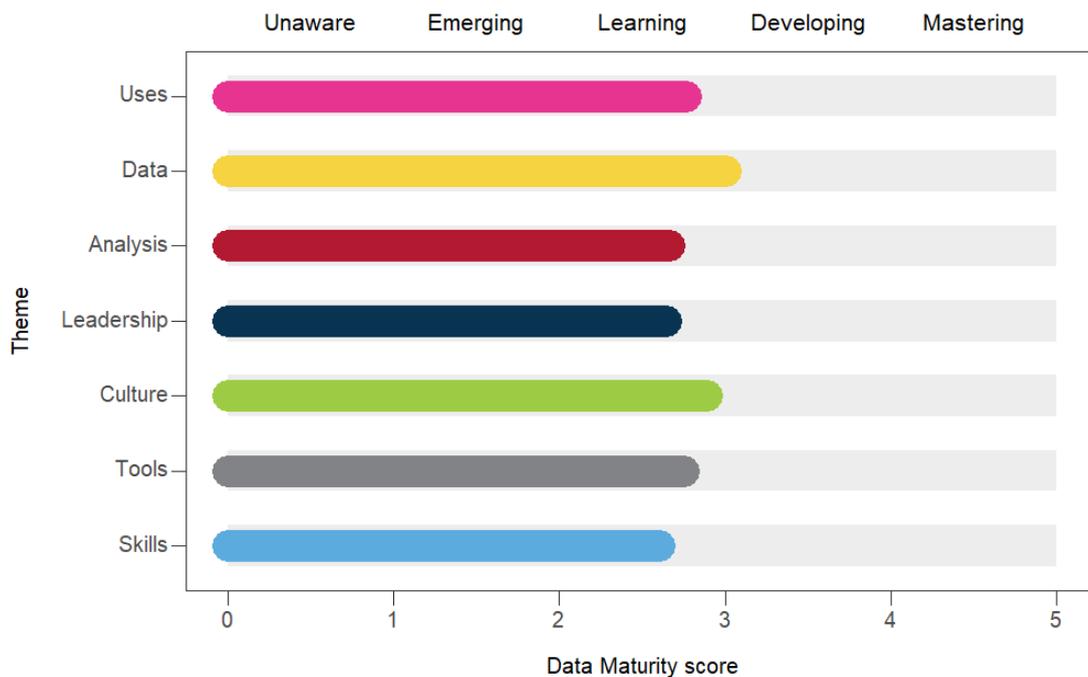
The sector is strongest in:

- Data (3 out 5)
- Culture (2.9 out of 5).

Overall the weakest theme areas are:

- Skills (2.6 out of 5)
- Leadership (2.6 out of 5)

In between lie

- Analysis (2.7 out of 5)
- Uses (2.8 out of 5)
- Tools (2.8 out of 5)

Of course the averages hide much of the variation in the scores. In the chart below each dot represents a score for an organisation on each of the 7 themes. It shows how widely the scores range for all seven themes. Skills, which ranks lowest overall is also the theme where there is greatest range.

Dotplot of Theme scores
(black dot indicates the median)
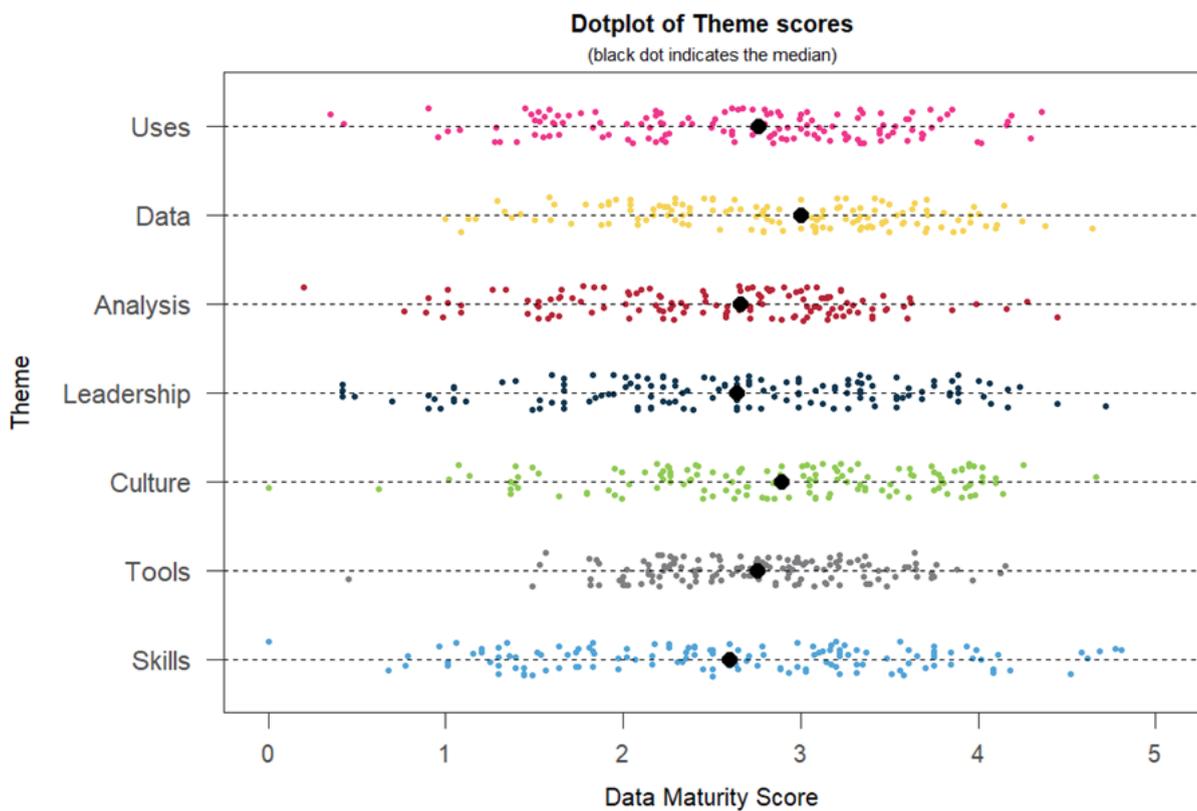
3.4 Ten key findings

These are the ten main findings from our analysis.

3.4.1 The cost of data is huge, hidden, and often wasted

Not-for-profits are spending a huge level of resource on data. Even without the costs of tools, around 40-50% of staff time goes into collecting, managing and reporting data. Much of this cost is hidden because it's embedded, to varying degrees, in time spent in almost every role in the organisation. Despite this huge commitment few are reaping the benefits and rewards.

Percentage of jobs working with data

n = 452 unique respondents
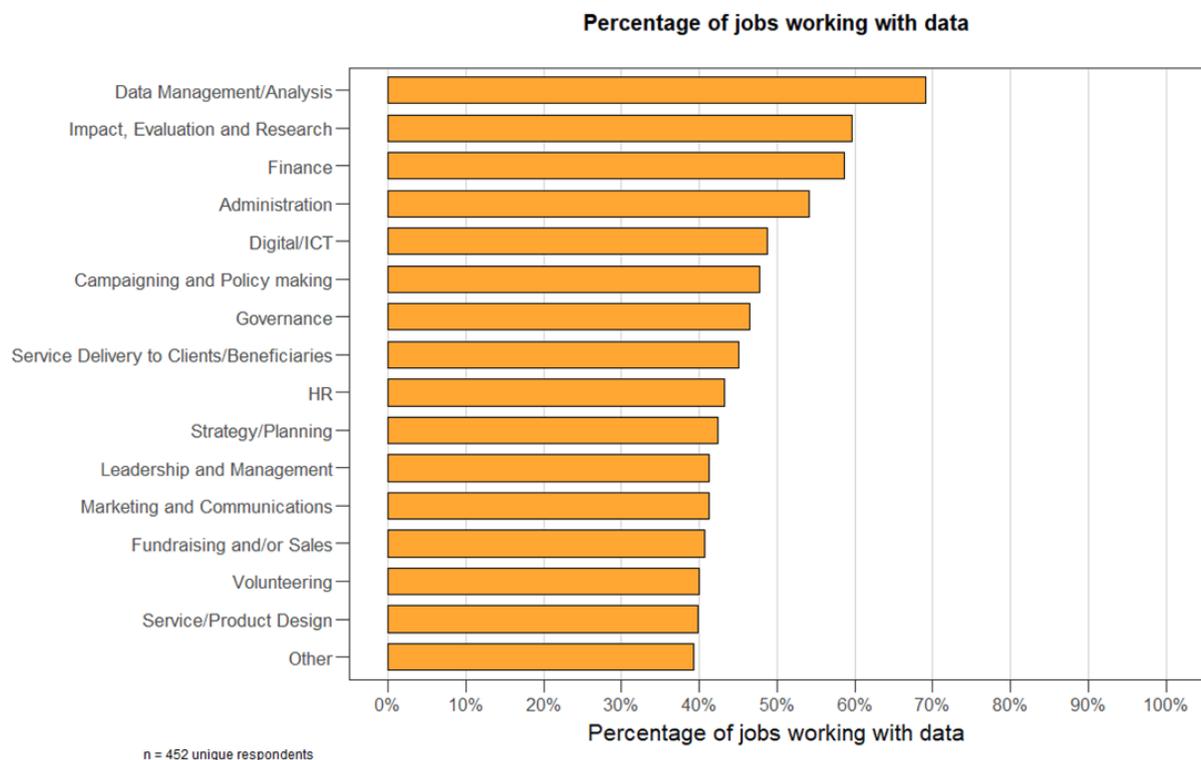
3.4.2 Most leaders don't see the value of data

In 63% of organisations, respondents say leaders are not convinced about the value of data. This may be attributed to a heavy emphasis on external, rather than internal, drivers for data collection, i.e. the biggest use of data is for reporting to regulators and funders and for contract reporting (77% extensively or moderately). Nearly half (48%) are not seeing even moderate benefits of data for influencing strategic planning and decision making within their organisation. Even more (59%) are not seeing the benefits of data for improving impact.

3.4.3 Data quality is a big challenge

Poor data quality may also be a factor in why leaders don't recognise its value. Only 9% of organisations are really confident that their data is complete, accurate, and where necessary, kept up to date. Almost a third don't think their organisation collects the right data and one in five don't know the quality of their data.

3.4.4 A lot of data is still on paper

Whilst we ostensibly live in a digital age, much of the not-for-profit sector's data collection and storage is still very much paper-based. It's notable that non-digital approaches (i.e. paper forms or questionnaires stored in filing cabinets) remain widespread. More than half say their organisation collects data from clients and stakeholders using paper forms or questionnaires (23% extensively and 31% moderately).

Given the not-for-profit sector works with many of the most marginalised, vulnerable and disadvantaged clients this may be necessary (e.g. working with older people, children, and those who are digitally excluded means there are still some situations where digital data collection is just not appropriate).

3.4.5 People don't have good digital tools or don't use them effectively

There are plenty of different digital tools in use in the sector, however most organisations don't think their tools are very good. Just under half say they have good tools for collecting and storing data but only a third say they have good tools for automating reporting and less than a quarter for joining and relating their data.

There may be many reasons for this. It's possible the digital tools themselves are not very good for the job. Perhaps staff don't have the knowledge about available tools and what they're capable of. Maybe they don't have the skills to choose the right tools and implement them within their organisations. Perhaps they have good tools but not the skills to get the best out of them. Mostly likely it's a combination of all of these.

Overall there seems to be more emphasis and success in getting data into systems than getting useful and meaningful information out. Only 41% say they have good tools for analysing and reporting data. Most use multiple tools for this purpose. Finance software is used at least moderately by 72% and databases and CRM systems by 63%. Spreadsheets are the most universal of all (90%). Meanwhile over half use manual/visual counts to analyse their data which may mean sometimes they don't use tools at all.

More advanced business intelligence tools are being used in around a third of organisations and specialist data science tools by just 15%.

3.4.6 There's lots of counting, but not enough meaningful analysis

Only 54% say their organisation analyses data in meaningful and useful ways. The biggest data use is for capturing and recording activities with clients. Most analysis is basic counts or charts (90%) or descriptive analytics about what happened, e.g. summarising the overview, averages variation, range, past trends). Only 44% say they drill deeper into diagnostics, exploring causes, patterns, anomalies, correlations and differences. Fewer still are using advanced predictive and prescriptive analytics with more forward looking approaches e.g. how to do things in the most efficient and effective way.

3.4.7 Only some are using data to question and challenge

Only a small proportion of organisations are culturally open when it comes to using data for questioning and challenging. For example: 36% say they're comfortable using data internally to ask difficult questions and challenge their practices; 40% say they are not. 30% say they use data to explore or test assumptions about the difference they make; 34% say they don't.

3.4.8 Some are vulnerable around data protection and security

There's some good practice in data protection and security. 72% say their policies and practices are robust to ensure data is safeguarded, e.g. rules on passwords and how data is stored. 75% specify and manage access to sensitive and personal data. Nearly half monitor and test potential risks to improve data security and protection.

However, some are legally and reputationally very exposed in data protection and security. Around 20-30% are not storing data centrally but on individual computers and devices. More than a third don't know how to respond to a data breach. 19% don't think their policies and practices are robust to ensure data is safeguarded. 27% don't monitor and test potential risks, e.g. theft, accidental loss, and malicious attack.

3.4.9 Most have major inefficiencies in their approach to data

More than two-thirds (69%) are not seeing even moderate benefits when it comes to using data to influence efficiency savings relating to resources, processes, and service design.

Our analysis highlights many examples of inefficient practices. For example, only 39% say their organisation collects data in consistent and efficient ways. Up to a third may not be collecting data digitally where possible. This means these organisations either have to manually input data from paper forms and questionnaires in order to store and analyse it digitally, or perhaps the data never gets digitised and is kept in drawers and filing cabinets.

Less than half of organisations say they have rich, versatile data, i.e. that can be used and reused for different internal and external stakeholders. To get a strategic view 42% are having to manually bring data together from different sources. 15% don't bring their data

together at all. Only 1 in 3 say they have good tools for automating reporting of their data, or that data is easily available and accessible to staff when they need it.

Overall these findings imply that considerable staff time is currently wasted in the sector doing manual, repetitive, arduous and time-consuming tasks with their data.

3.4.10 There's a lack of skills, responsibility and support around data

Over half say they don't have the right skills and capabilities to make use of data. This is an issue in terms of specialist data and analytics skills, more general data literacy across the organisation, and a major skills gap at leadership level.

Less than half say they understand their needs around data skills and capabilities. This is perhaps unsurprising given the range of skills needed is extremely diverse e.g. collectors, curators, organisers, cleaners, analysts, communicators, thinkers, challengers, protectors, sharers, ethicists, technologists, engineers, strategists, realists.

In many cases there's no clear responsibility for managing and organising data assets or the digital tools and systems used for collecting, storing, analysing and reporting on it. Less than a quarter say they coordinate their internal data expertise across teams and departments. Moreover the inability to extract the full value/reward of the tools' capabilities effectively appears to be part of the skills gap.

In addition, access to good external expertise and support is poor. Only 31% say they have access to external data and analytics support and advice from experts they trust.

4. DETAILED ANALYSIS BY THEME

4.1 Uses

The 'Uses' theme explores:

- The purposes for which organisations use data.
- The benefits and rewards reaped from doing so.

These are considered in two contexts:

- how an organisation applies the use of data in it's delivery of products and services to clients
- how data is used in 'running and driving the business', i.e. its internal capabilities.

The average (median) score for the 'Uses' theme is 2.8 out of 5. Overall most organisations are at the 'Learning' stage, though a good proportion have progressed to the 'Developing' stage and a few even into 'Mastering'.

Histogram of Data Maturity scores categorised by Maturity Stage
Uses
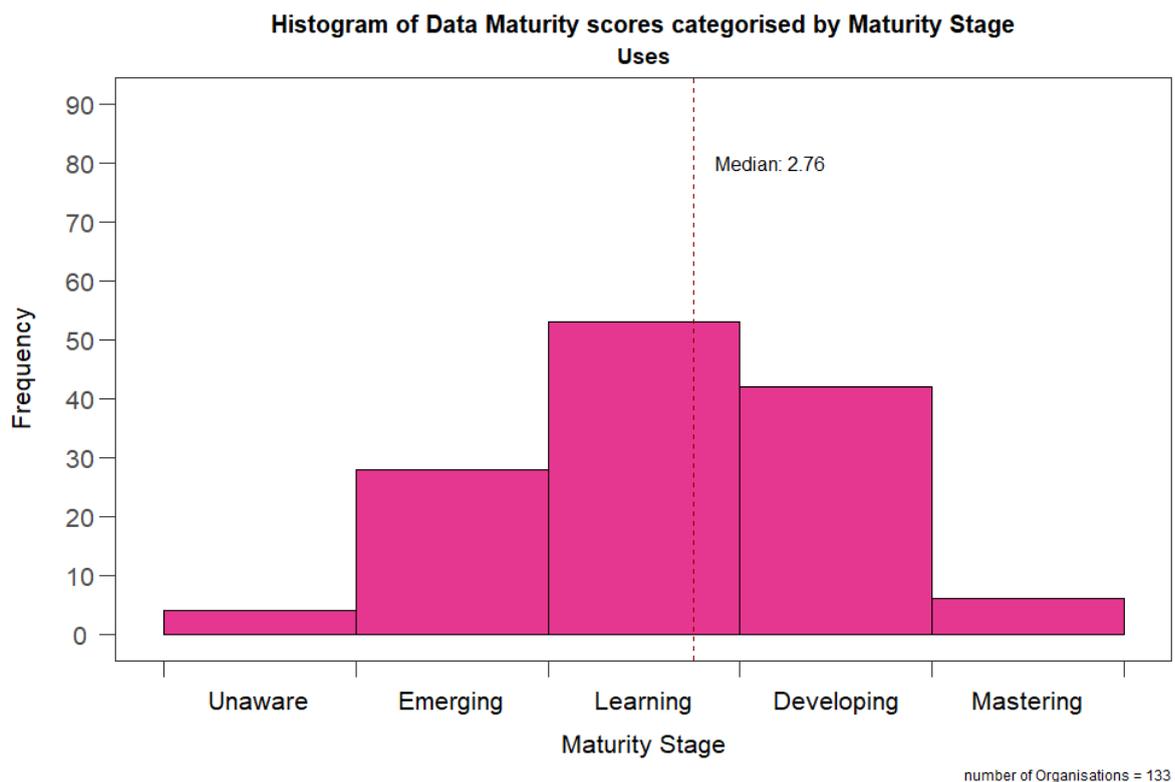
In summary

In relation to running and driving the organisation, unsurprisingly data is most used for regulator, funder and contract reporting (77% extensively or moderately). Great, or at least moderate, benefits are being derived from data and analytics in: strategic planning and

decision making; income generation; credibility and influence; and improving impact. This is the case for at least 40-50% of organisations. Though only extensively so for around 10%. Around one in three are seeing benefits in levels of knowledge and expertise and the strength of partnerships and networks. It is a concern that so many are NOT seeing even 'moderate' rewards from data and analytics in these areas.

In relation to services, much of the data collection focuses on capturing and recording activities with clients (84% do this extensively or moderately) with many also monitoring service quality and performance (54%). For 40-55%, data and analytics is having at least a moderate influence on: enabling targeting (who), reach and engagement (where and how), evidencing needs and problems (why), design and delivery of services and products (what), and client outcomes (the difference they make). Around 10% say they are benefiting extensively in these areas.

4.1.1 Use of data in relation to services

The biggest use of data in relation to services is in capturing and recording what organisations do with clients (84% moderately or extensively). Just over half are using data for measuring service quality and performance (54% moderately or extensively).

Overall organisations are less likely to use data for the more challenging areas like measuring the difference they make (i.e. by measuring outcomes and impact), and evidencing the needs or problems they seek to address.

To what extent does your organisation use data for the following service related purposes?

31
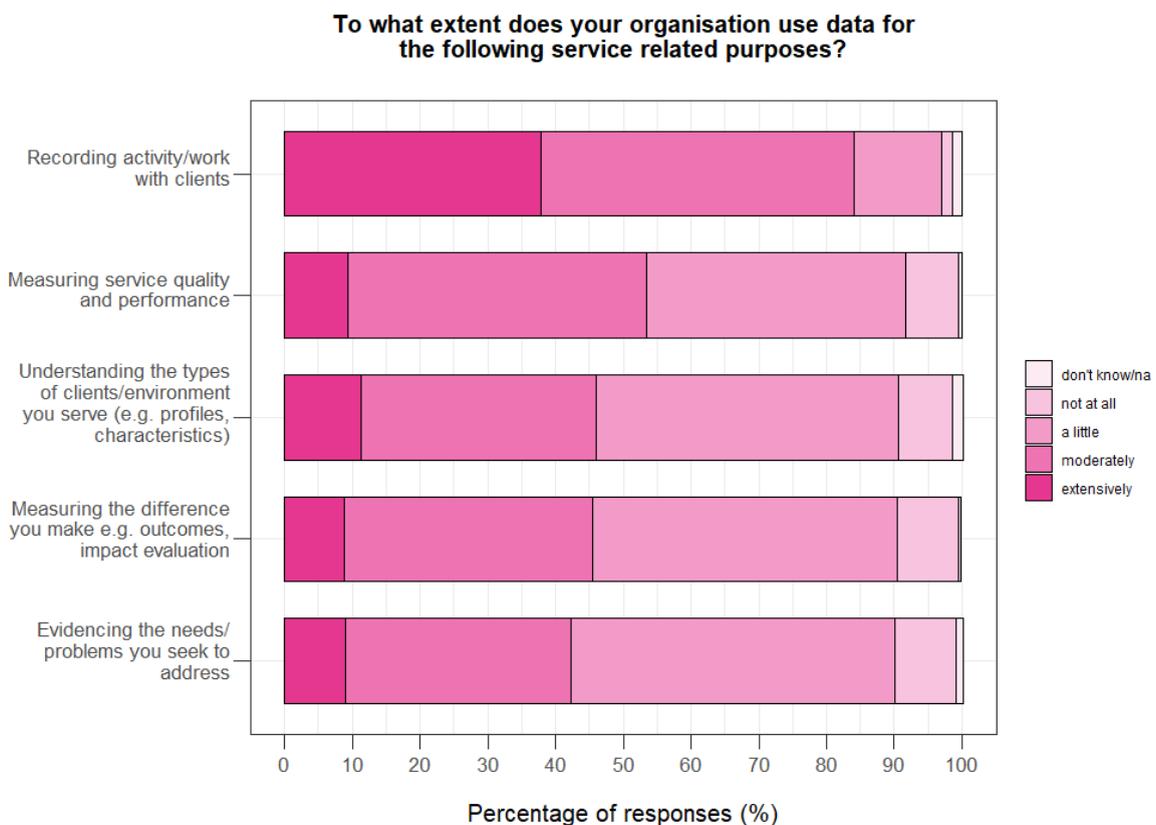
In relation to the benefits, around half are reaping rewards moderately or extensively. Interestingly, organisations report they are strongest in evidencing impact to stakeholders (60%). Other benefits include: targeting services/interventions to clients (51%), design and delivery of products and services (47%) and lastly influencing client outcomes (40%) (or environmental ones if they serve habitats rather than people).

To what extent has your organisation's use of data and analysis influenced the following in relation to your services?
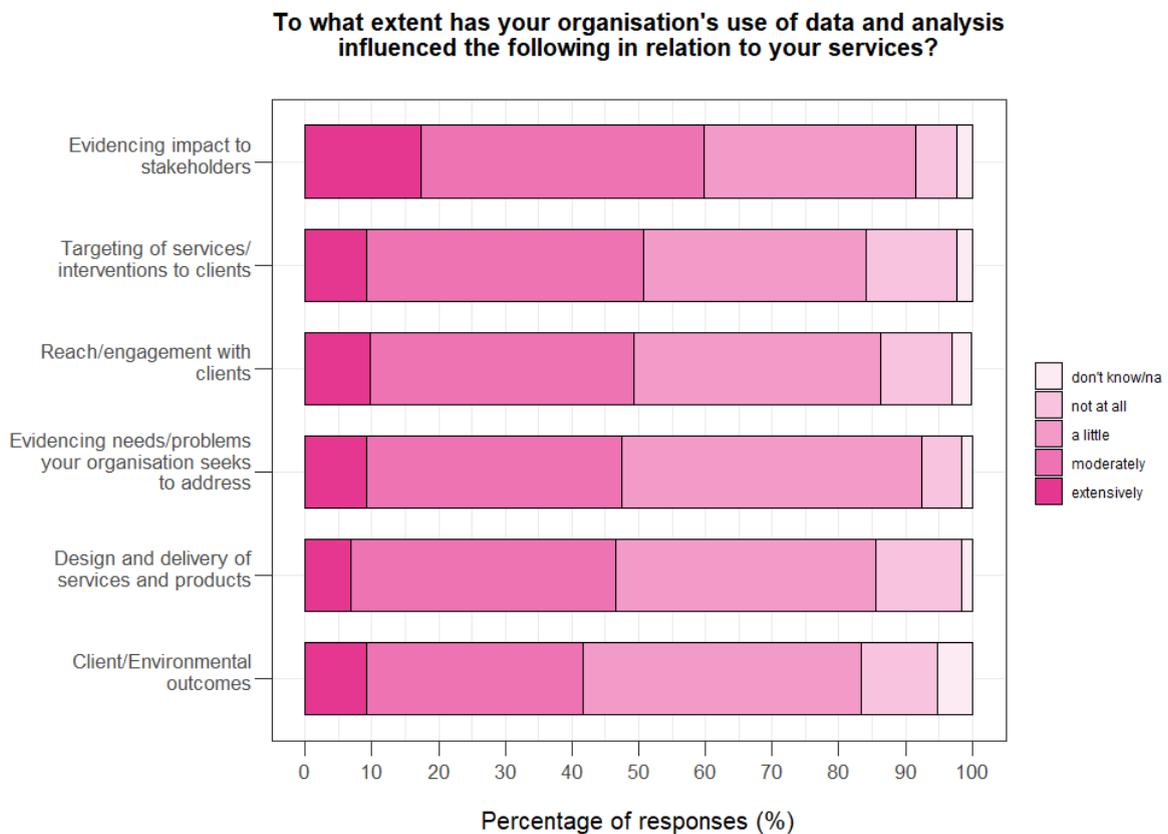
4.1.2 Use of data for running and driving the organisation

Data is used most for regulator, funder, and contract reporting. 77% say they do this moderately or extensively. Just over half (53%) say they use data for strategic decision making and planning and 48% use it for improving service or product design. A similar number use data for learning and evaluating what their organisation does (48%) and for raising income (46%). The least common purpose reported is for influencing external policy and decision makers (30%).

To what extent does the organisation use data for the following purposes?

Percentage of responses (%)

Legend: don't know/na, not at all, a little, moderately, extensively
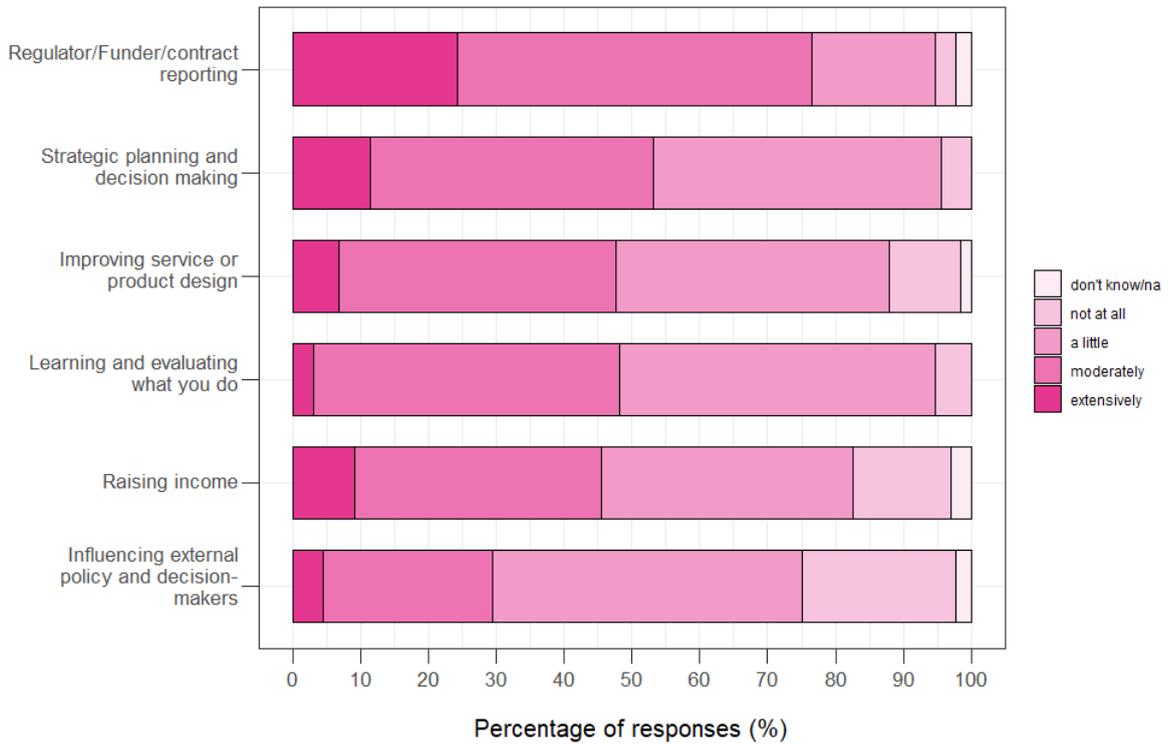
When it comes to benefits and rewards the data suggests these have yet to be reaped for many. Just over half say data has influenced their internal strategic planning and decision making capabilities (moderately or extensively) yet less than a quarter say it influences efficiency savings.

Just under half say it's influenced their income generation, credibility and influence, and improvement of impact (moderately or extensively). Notably in all cases it's more 'moderate' than 'extensive'.

To what extent has your organisation's use of data and analysis influenced the following in relation to your internal capabilities?
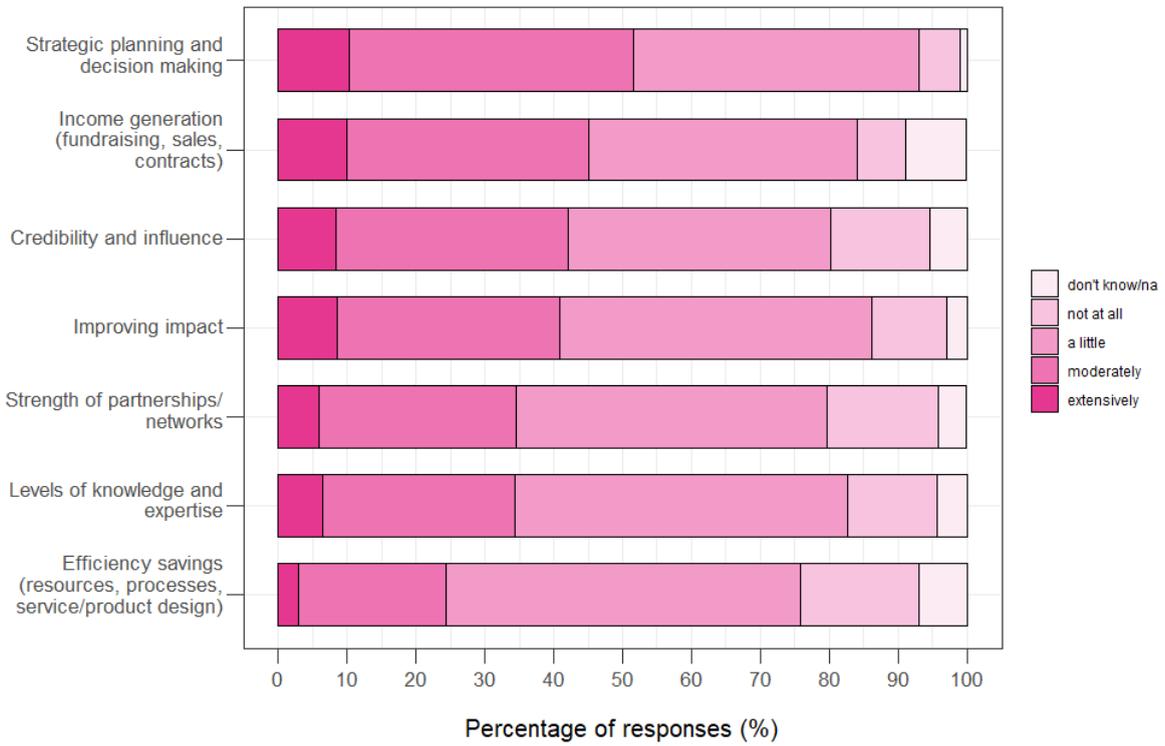

4.2 Data

The data theme explores four key subthemes:

- Collection
- Quality
- Sources
- Assets

The average (median) score for the 'Data' theme is 3 out of 5. This is the theme where the sector scored strongest overall with half scoring in the developing and even mastering stages.

Histogram of Data Maturity scores categorised by Maturity Stage
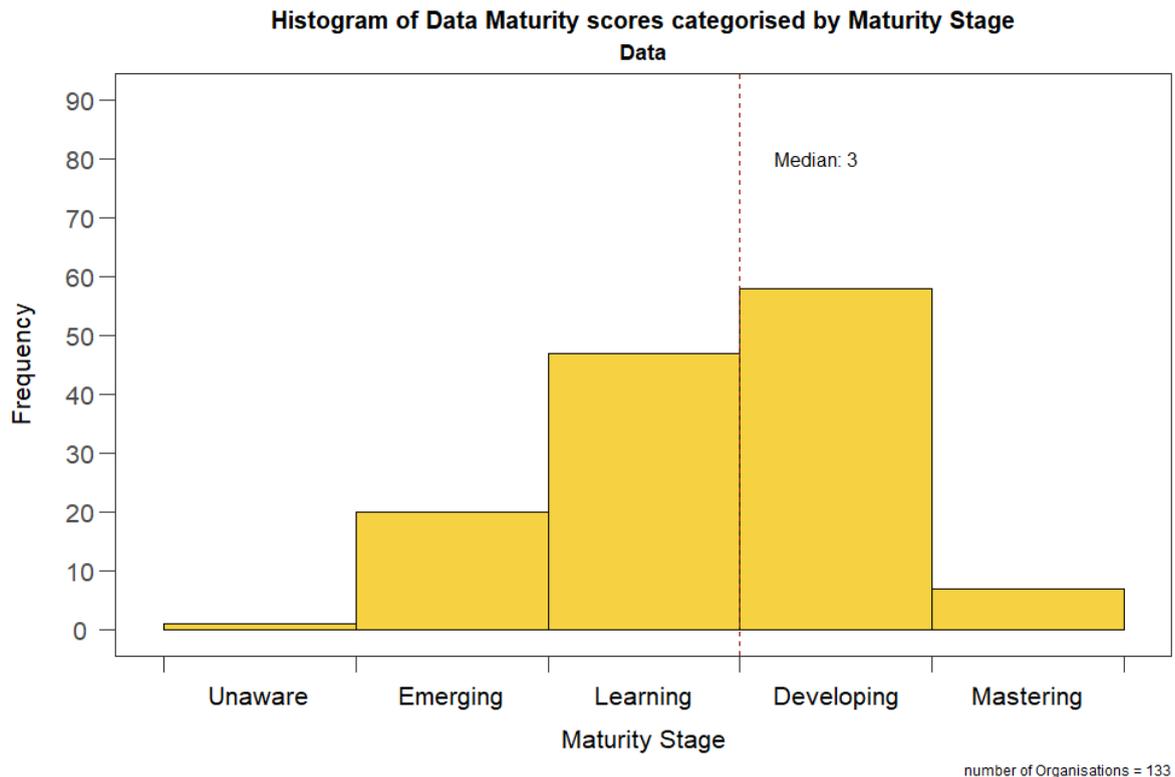
In summary

Around two thirds say they collect the right data. However when it comes to data quality there's a very mixed picture. 41% tend to agree their data is complete, accurate and where necessary kept up to date, whilst 39% tend to disagree. Meanwhile one in five say they don't know the quality of the data they collect. Indeed many don't know what data assets they have or what state they're in.

The sector makes good use of data available from external sources. 83% use publicly available external research (e.g. government or academic) either regularly or occasionally. A good proportion (68%) commission their own research and evaluation, and just over half use shared measures and benchmarks with other organisations.

Data versatility remains out of reach for many though. This means data is often being collected for a single purpose, project or team. Only 44% have rich data they can use and re-use for different internal and external stakeholders.

4.2.1 Collection

Just over two thirds say their organisation collects the right data i.e. data that is relevant, meaningful and necessary (61% somewhat agree, 8% strongly agree).

We collect the right data i.e. relevant, meaningful and necessary
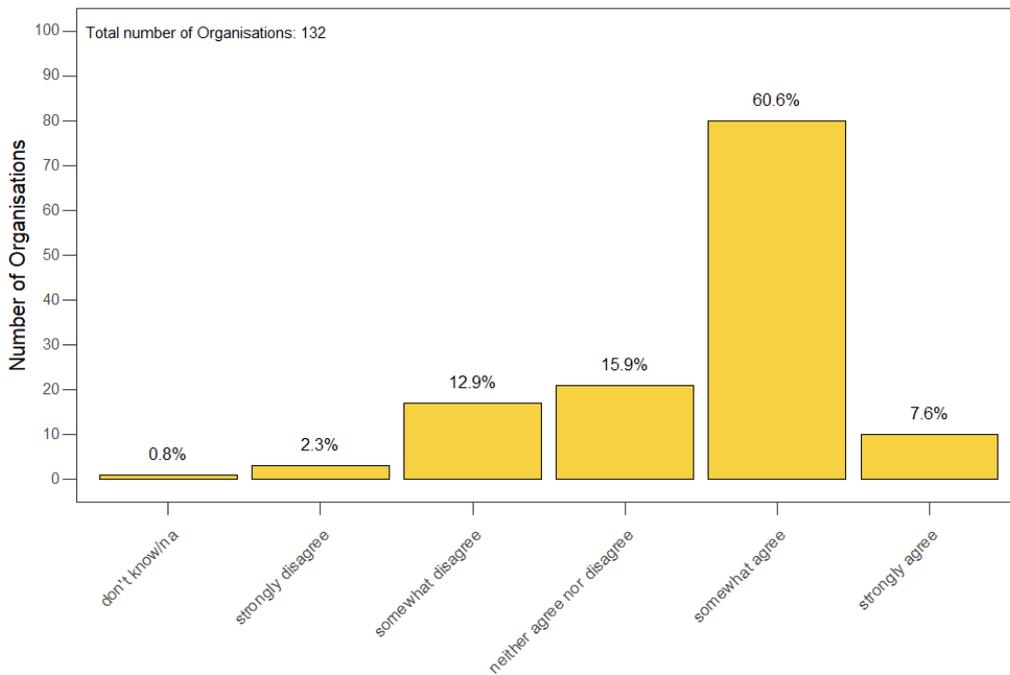
39% say they collect and record data in consistent and efficient ways (33% somewhat agree, 6% strongly agree).

We collect and record data in consistent and efficient ways
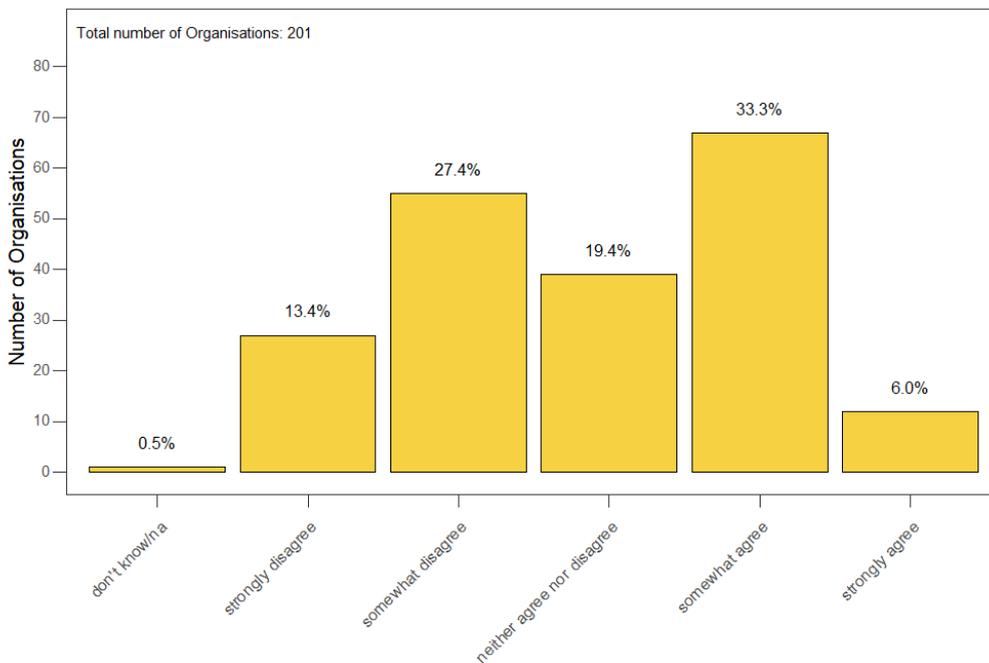
4.2.2 Quality

When it comes to data quality there's a very mixed picture. Almost as many disagree as agree with the statement 'Our data is complete, accurate, and where necessary

kept-up-to-date', 39% and 41% respectively.

Our data is complete, accurate and, where necessary, kept up-to-date
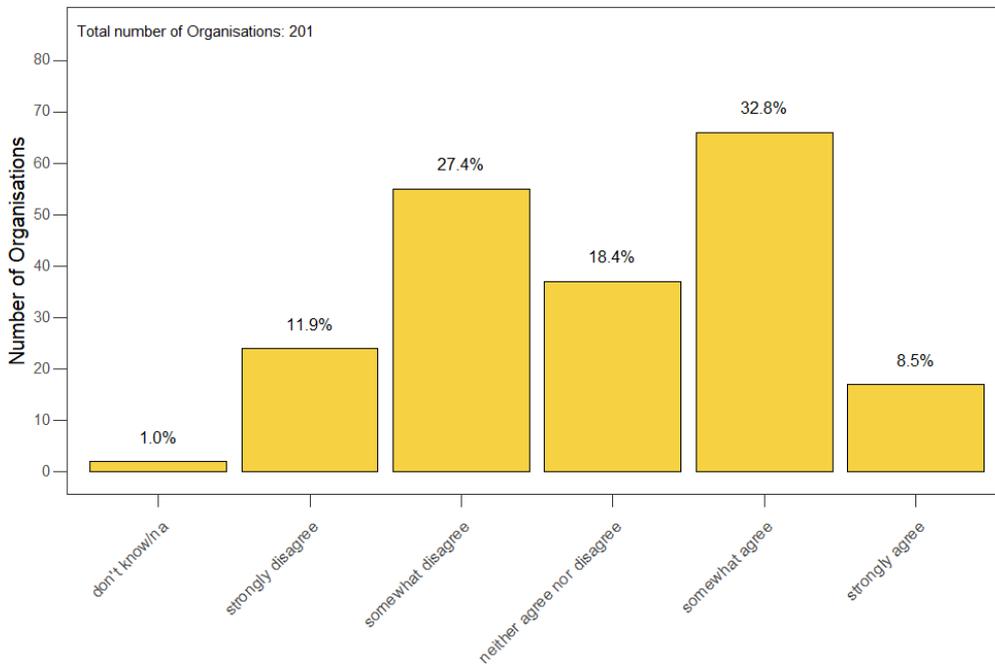
One in five say they don't know the quality of the data they collect. Most (45%) somewhat agree they do, 12% strongly agree and almost a quarter are ambivalent about this question.

We know the quality of the data we collect
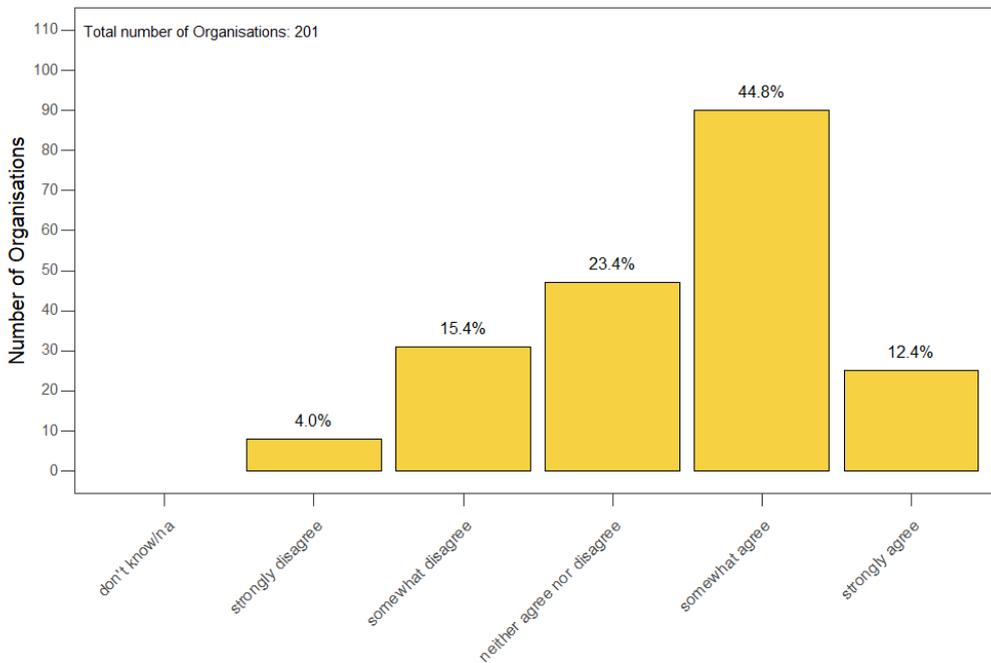
4.2.3 Sources

Data sharing internally and externally appears quite common, at least in principle.

Thinking about sources of data, how often does your organisation do the following?
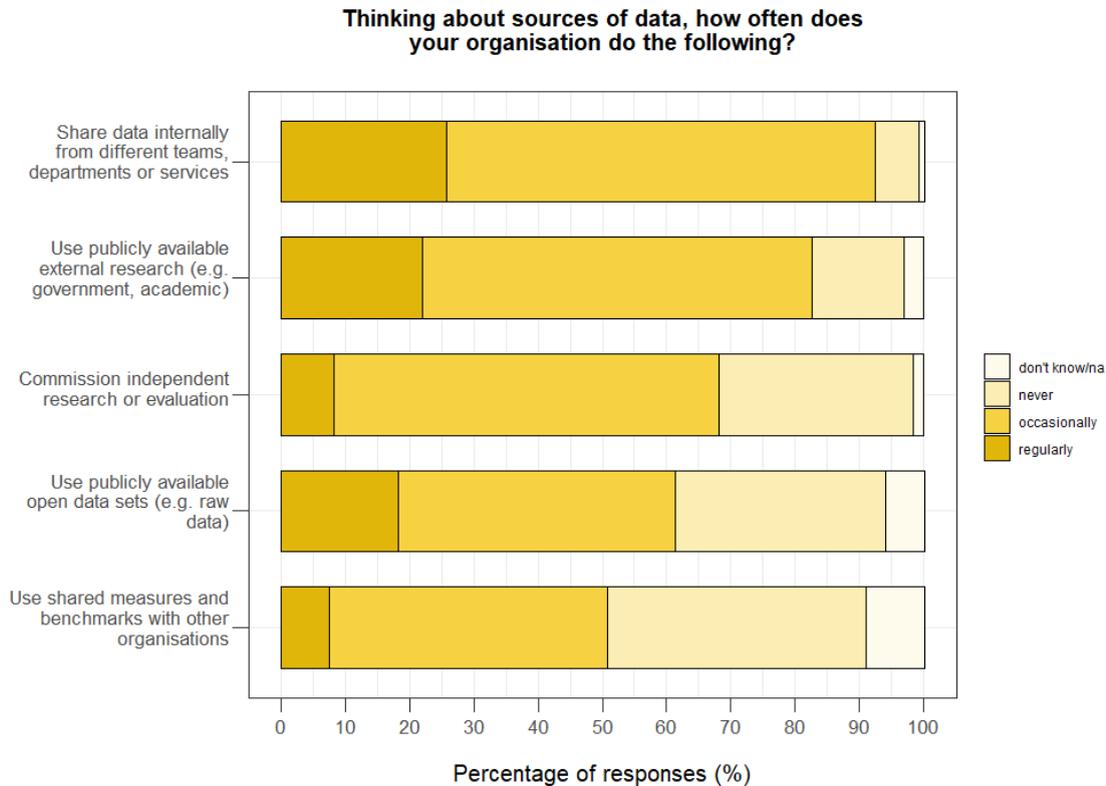
- 93% say they share data from different teams, departments or services (26% regularly, 67% occasionally).
- 83% use publicly available external research e.g. government or academic (22% regularly, 61% occasionally).
- 68% commission their own research and evaluation (8.3% regularly, 60% occasionally).
- 61% say they use publicly available open data sets e.g. raw data (18% regularly, 43% occasionally).
- 51% say they use shared measures and benchmarks with other organisations (8% regularly and 43% occasionally).

Overall, it should be noted, these practices tend to be more 'occasional' than 'regular'.

4.2.4 Assets

Around one in three organisations say they maintain a record of data assets and who's responsible for them (26% somewhat agree, 9% strongly agree). 39% say they don't and a quarter are ambivalent on this question.

We maintain a record of data assets and who's responsible for them
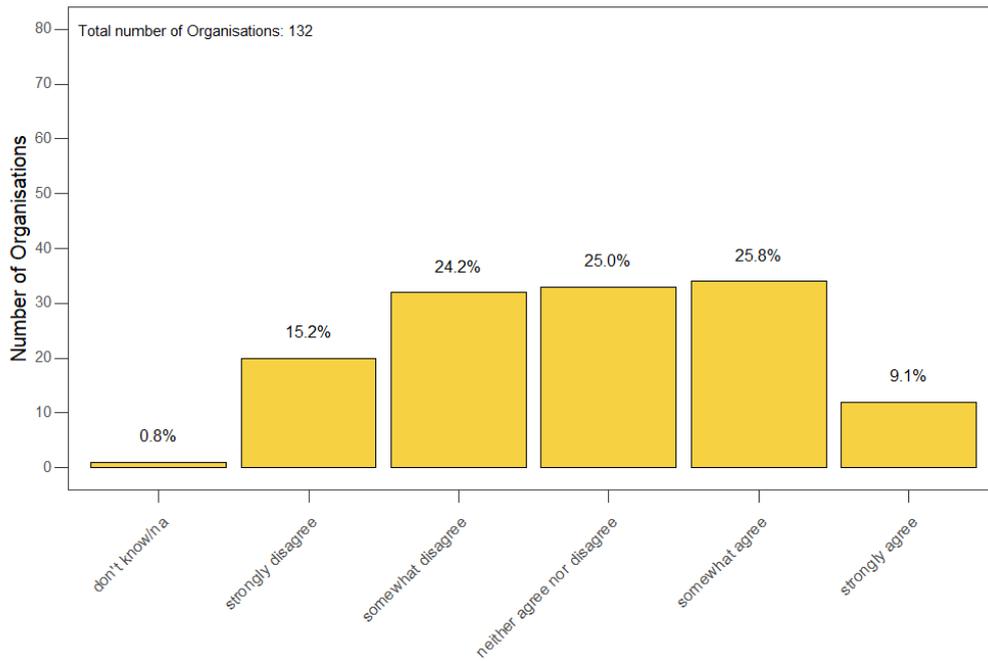
Meanwhile less than half say they have versatile data, i.e. rich data that can be used and reused for different internal and external stakeholders (32% somewhat agree, 12% strongly agree).

We have rich data that we can use and re-use for different internal and external stakeholders
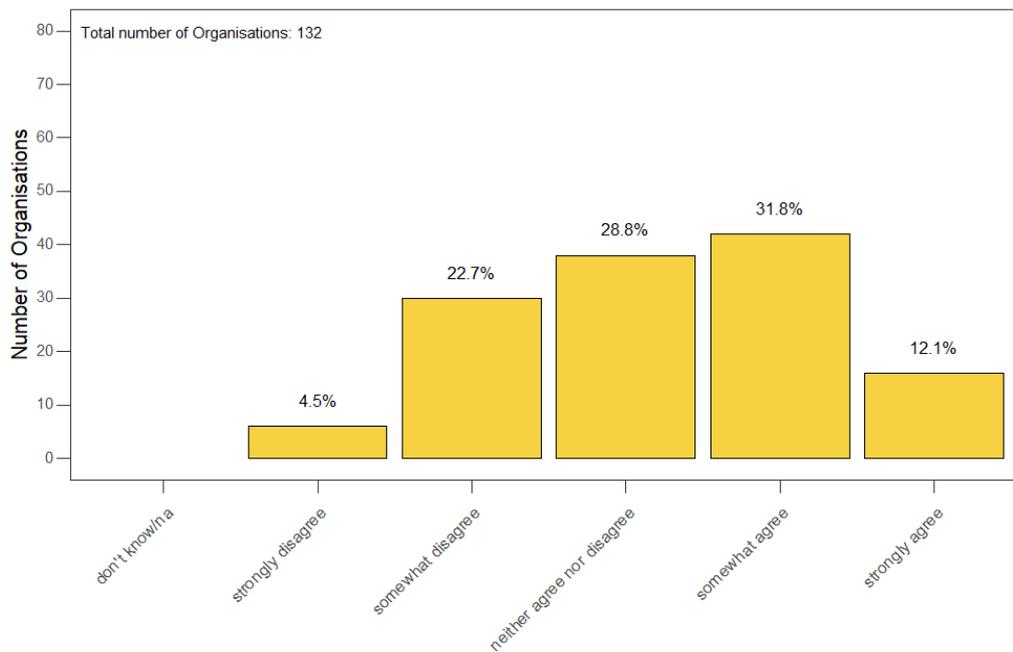
4.3 Analysis

The analysis theme explores four key subthemes:

- Type
- Technique
- Joining
- Presenting

The average (median) score for analysis is 2.66 out of 5. Most organisations are at the 'Learning' stage. Many have progressed into the 'Developing' stage and a handful are beginning the 'Mastering' stage.

Histogram of Data Maturity scores categorised by Maturity Stage
Analysis

Median: 2.66

number of Organisations = 133
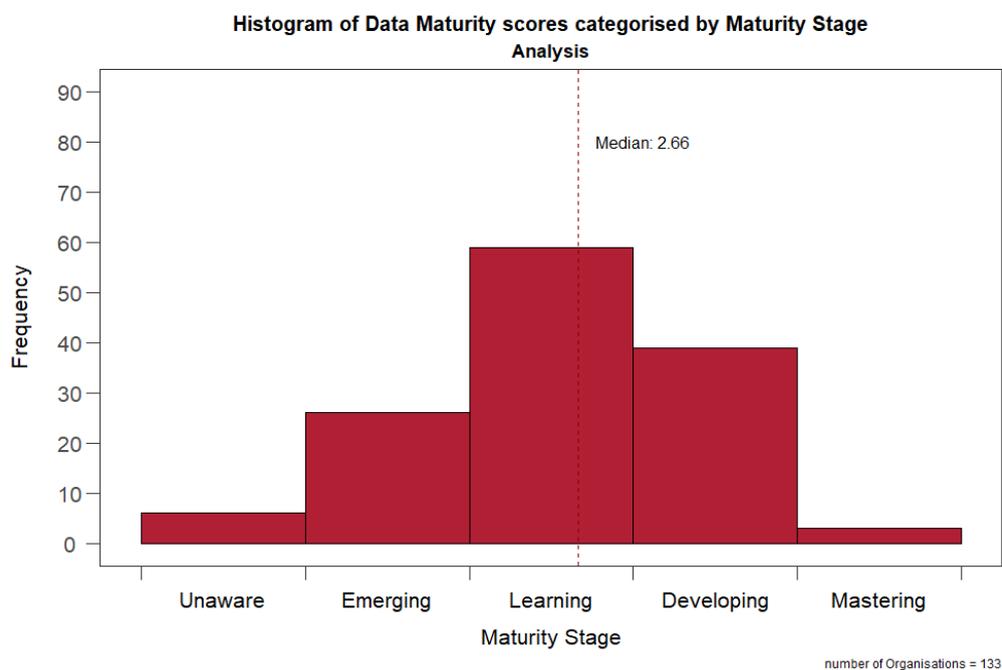
In summary

Aligned with the findings on 'Uses', the findings suggest there's a lot of basic counting going on (90%) and descriptive analysis of historic data (summarising what happened, and looking at averages and past trends). Far fewer (44%) are analysing more deeply around causes, patterns, differences and correlations. Only a small proportion of organisations are using more advanced predictive and prescriptive types of analytics (22% and 11% respectively).

Just over half say they analyse data in meaningful and useful ways. A similar proportion say they present and communicate data in accessible ways to different audiences. 31% say they use data to explore and test assumptions about the difference they make. A similar proportion say they run pilots or trials to explore how best to act in the future.

Only around 1 in 20 are bringing data together from different sources and analysing it in automated ways to provide a strategic overview. 42% say data is manually collated in reports from different sources and 37% have a partially manual/partially automated approach. Meanwhile 16% either don't bring their data together at all or people verbally report on it as part of strategic discussions.

4.3.1 Type

Just over half say they analyse data in meaningful and useful ways (8% strongly agree, 46% somewhat agree).

We analyse data in meaningful and useful ways
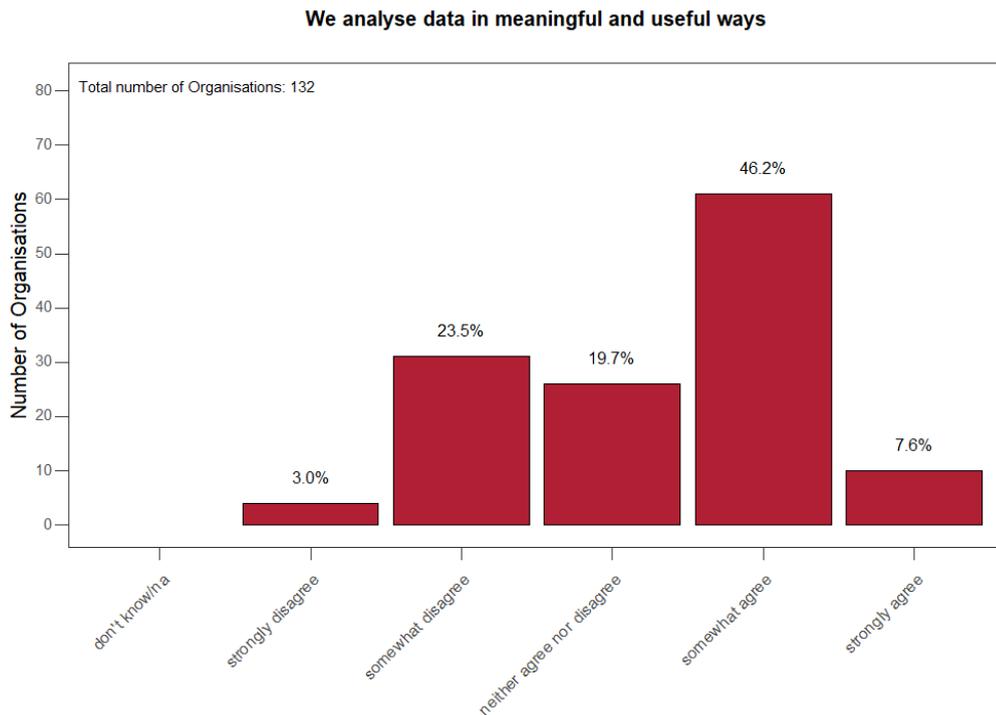
31% say they use data to explore or test assumptions about the difference they make (4% strongly agree, 27% somewhat agree). 29% say they run pilots or trials to explore how best to act in the future (5% strongly agree and 24% somewhat agree).

We use data to explore/test assumptions about the difference we make (e.g. using pre/post assessment)
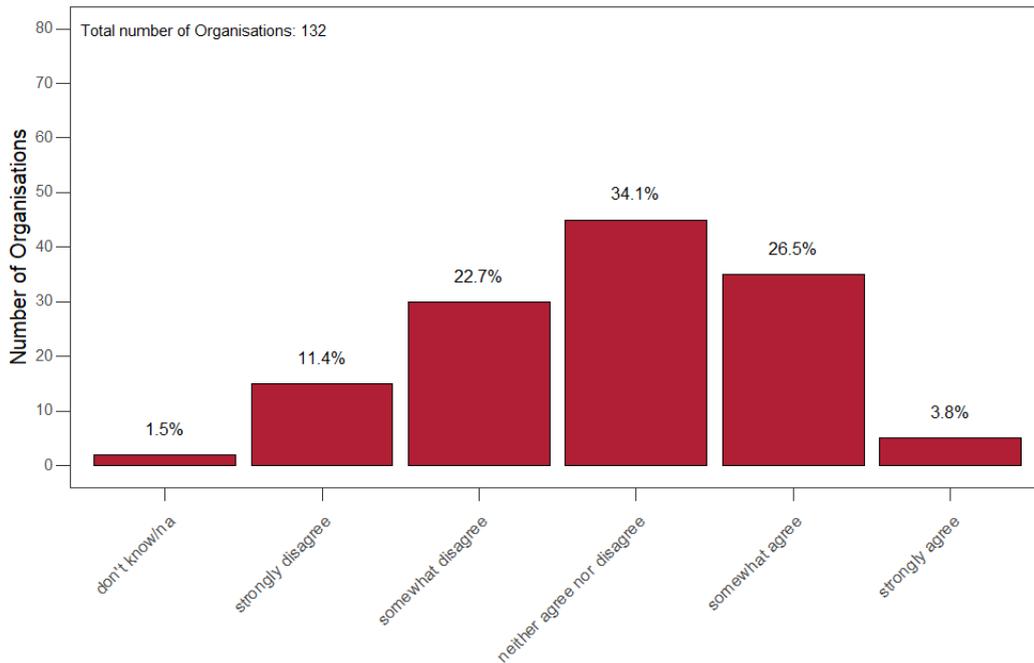
4.3.2 Technique

The findings suggest there's a lot of counting (90%) and analysis based on historic descriptive data (81%). However there's much less of the deeper thinking about causes, patterns, exploring differences and correlations (44%). In particular some of the more advanced predictive and prescriptive types of data analytics are being used by only a small proportion of organisations (22% and 11% respectively).

Predictive analytics is about what will happen in the future. Examples of this include forecasting, modelling trends, behaviour patterns, and machine learning. Anecdotally, our experience also shows that cash-flow forecasting is the first (and most common) type of predictive analytics used which may account for some of the 22% reporting on this.

Prescriptive analytics is about how you can do things in the best way e.g. optimisation, recommending decisions for the most effective intervention/action, experimental design, simulation, and artificial intelligence.

Which of these types of data analytics are used in your organisation?

Total selections made: 571 (by 201 Organisations)

- basic counts and/or charts: 89.6%
- descriptive analytics (about what happened e.g. summarising the overview averages, variation, range, past trends): 80.6%
- diagnostic analytics (about why it happened e.g. drilling down to explore causes, patterns, anomalies, discovering differences, correlations): 43.8%
- predictive analytics (about what will happen in future e.g. forecasting, modelling trends, behaviour patterns, machine learning): 22.4%
- prescriptive analytics (about how you can do it in the best way e.g. optimisation, recommending decisions for effective intervention, experimental design, simulation, artificial intelligence): 11.4%

4.3.3 Joining

One in 20 organisations brings data together in an automated way to provide a strategic overview. An equal number say they don't bring their data together at all. Most commonly data is manually collated in reports using data from different sources (42%) or approached in a partially manual/ partially automated way (37%).

Which of these best describes how your organisation brings data together to provide a strategic overview?

Total number of Organisations: 132

Number of Organisations

4.5% — we don't bring our data together at all

11.4% — people verbally report on data as part of strategic discussions

42.4% — data is manually collated in reports using data from different sources

37.1% — data analysis and reporting is partially automated and partially manually collated from different sources

4.5% — data from different sources is brought together and analysed in an automated way e.g. we have a dashboard/ business intelligence system/data warehouse, pulling data from different tools and systems

4.3.4 Presenting

Just over half say they present and communicate data in accessible ways to different audiences (11% strongly agree, 43% somewhat agree).

We present/communicate data in accessible ways to different audiences (e.g. charts, graphics, visualisation)

Total number of Organisations: 132

Number of Organisations

0.8% — don't know/n a

4.5% — strongly disagree

23.5% — somewhat disagree

17.4% — neither agree nor disagree

43.2% — somewhat agree

10.6% — strongly agree

44
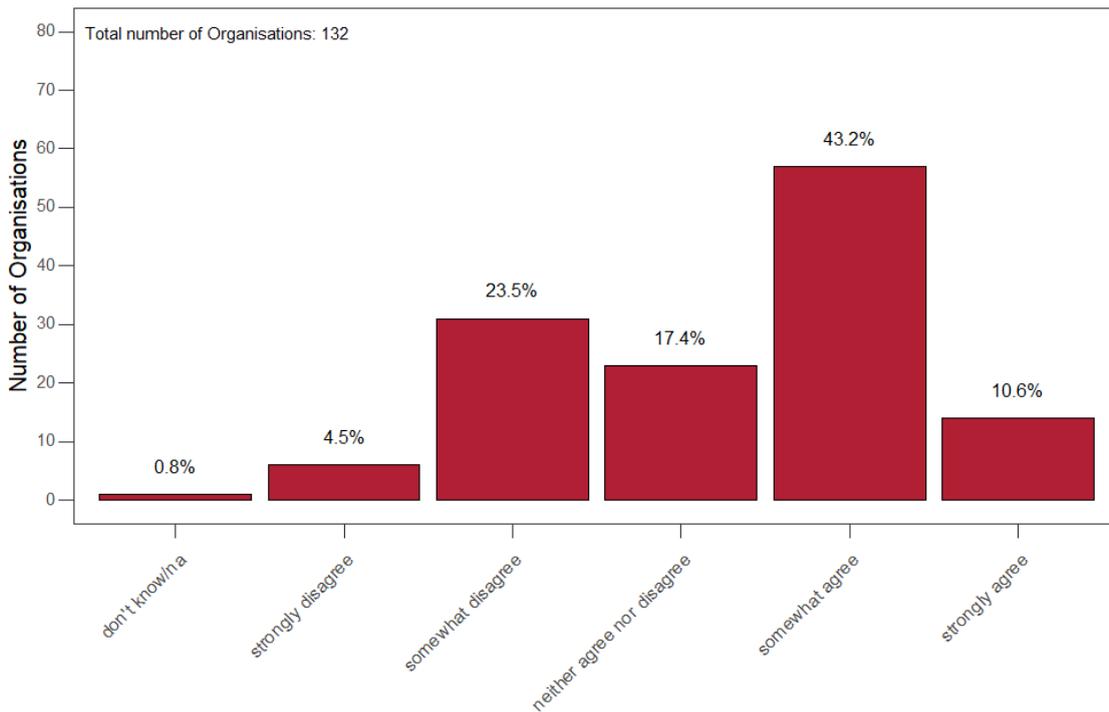
4.4 Leadership

The leadership theme explores four key subthemes

- Attitudes
- Plans
- Capability
- Investment

The average (median) score is 2.64 out of 5 and is the second lowest of all the theme scores. Most are in the 'Learning' stage though there are as many in the 'Unaware' stage as there are in 'Mastering'.

Histogram of Data Maturity scores categorised by Maturity Stage
Leadership

number of Organisations = 133
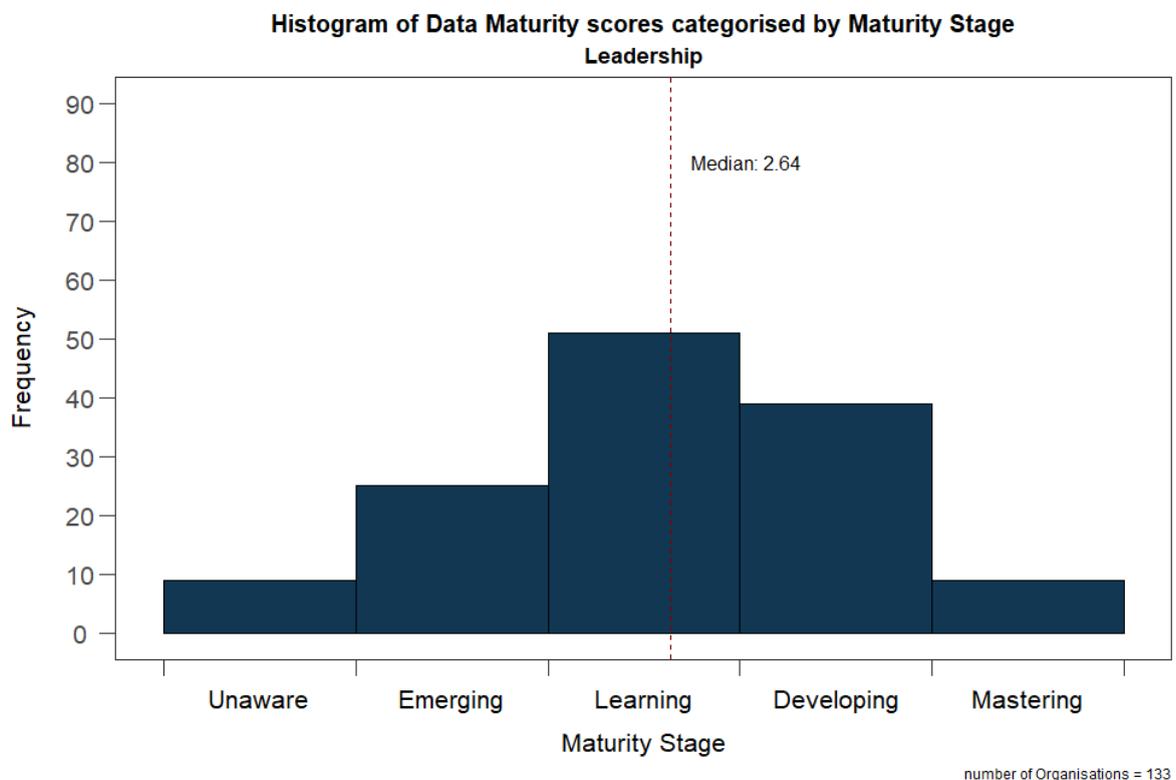
In summary

Only one in twenty organisations has leadership that prioritises data as a vital resource and understands how to use it to improve what the organisation does. In 63% of organisations respondents say the leadership is not convinced about the value of data. However, a third say their leadership is engaged and supportive, ask the right questions of the data, and are active in harnessing its value.

Just 3% are using past, present and forward looking data to support decision making (including forecasting, modelling, prediction and optimisation). 17% are using real-time

monitoring in the present along with past trends. Most use data about what happened in the recent past (last quarterly/annual reporting periods) and verbal accounts of what's happening (39%). A further 33% do this along with some longer term trends analysis. 8% say leadership don't use data for decision making at all.

Only 28% say they have people with data analytics expertise within their leadership and only 24% say leaders invest enough in data related resources i.e. people, skills, learning and tools.

4.4.1 Attitudes

In 63% of the organisations respondents say the leadership is not convinced about the value of data. A third say the leadership attitude is engaged and supportive, they ask the right questions of the data and are active in harnessing its value. One in twenty prioritise data as a vital resource and understand how to use data to improve what the organisation does.

Which of the following best describes the overall leadership attitude towards data in your organisation?
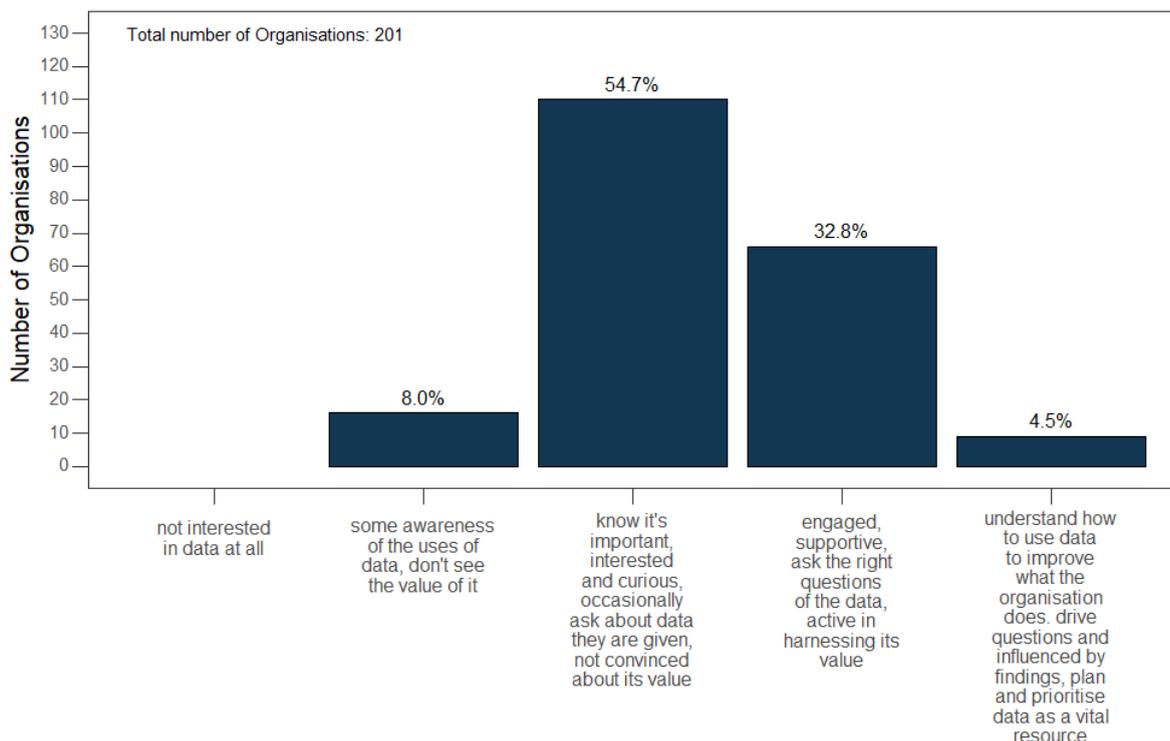

4.4.2 Plans

Half the organisations have an overarching business plan with defined measurable goals (8% strongly agree, 42% somewhat agree).

We have an overarching business plan with defined measurable goals

Total number of Organisations: 132

Number of Organisations

don't know/na	strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
0.8%	9.1%	17.4%	22.7%	42.4%	7.6%
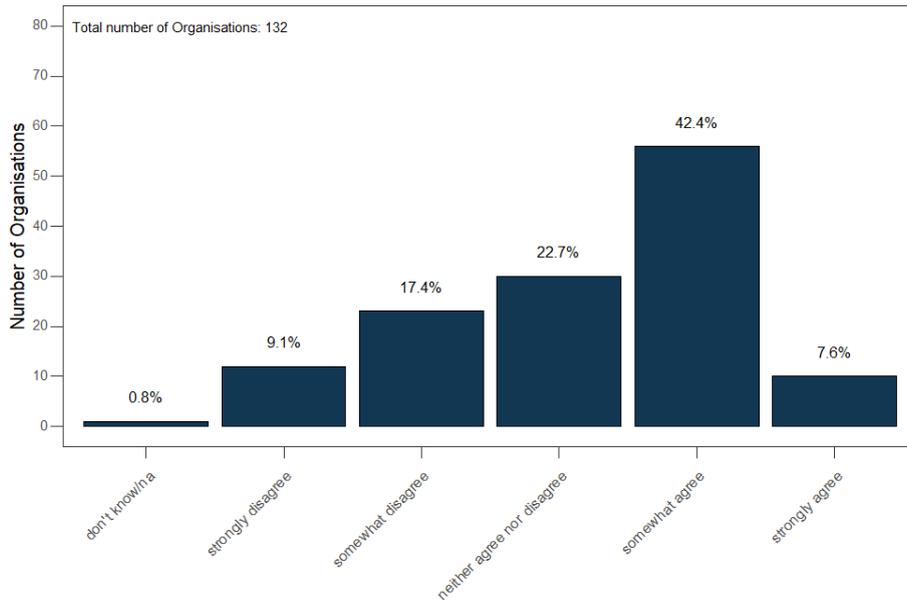
A similar number view data and analytics as a major organisational priority (17% strongly agree, 35% somewhat agree).

**Data and analytics is a major organisational priority**

Total number of Organisations: 132

Number of Organisations

| don't know/na	strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree
	9.8%	20.5%	17.4%	34.8%	17.4%
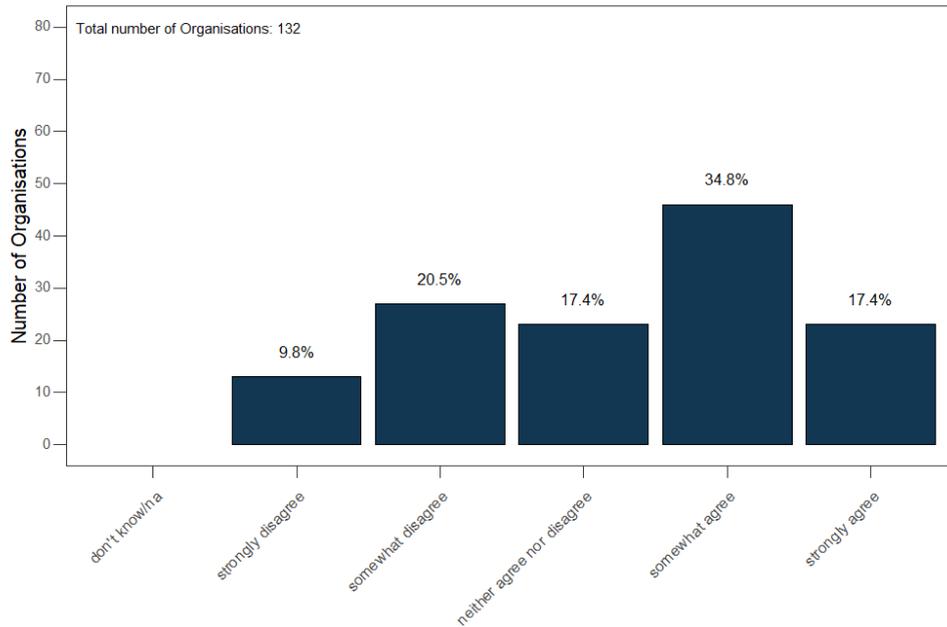
The organisations with an overarching business plan are more likely to say data and analytics was a major organisational priority (67%) than those without a plan.

4.4.3 Capability

28% say they have people with data analytics expertise within their leadership (9% strongly agree, 19% somewhat agree). 45% say they don't (21% strongly disagree, 24% somewhat disagree).

**We have people with data analytics expertise within our leadership**
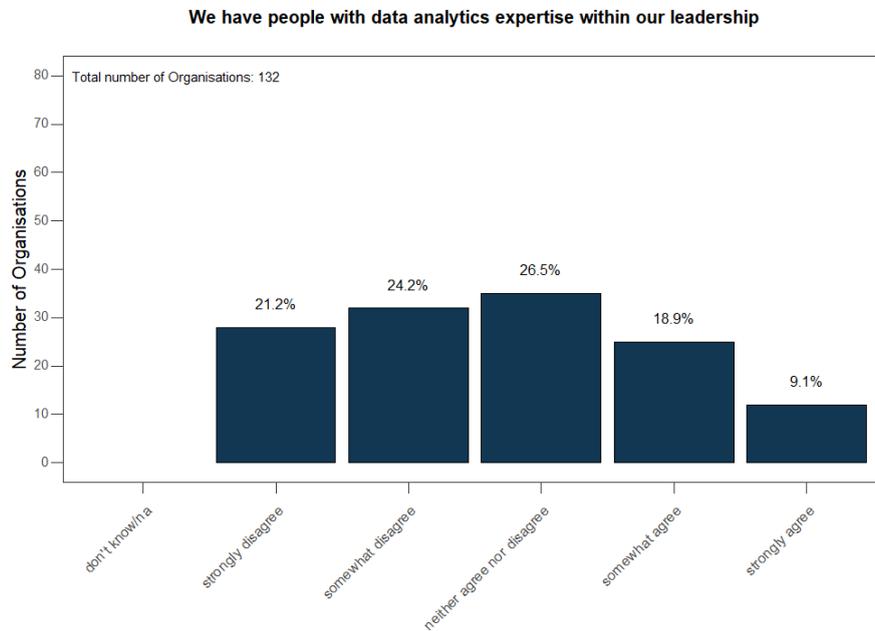
8% say they don't use data at all for decision making, and rely on gut feeling, experience and what seems to work. Meanwhile 3% use past, present and forward looking data (e.g. forecasting, modelling, prediction and optimisation) for decision making. The majority either use data about what happened in the recent past (39%) or use past and recent data with some longer term trends analysis (33%).

Which of these best describes your organisation's use of data for decision making?
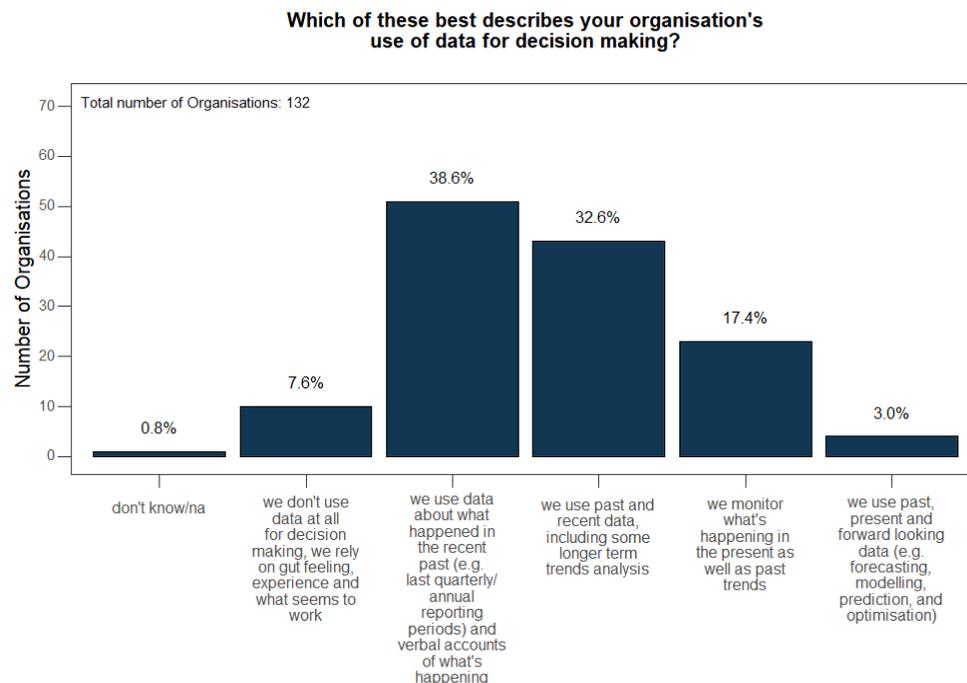
4.4.4 Investment

Opinions are mixed on the issue of investment in data. Almost half of organisations say leaders don't invest enough in data related resources i.e. people, skills, learning, tools. Meanwhile around a quarter say leaders do invest enough (3% strongly agree, 21% somewhat agree).

Leaders invest enough in data related resources (people, skills, learning, tools)
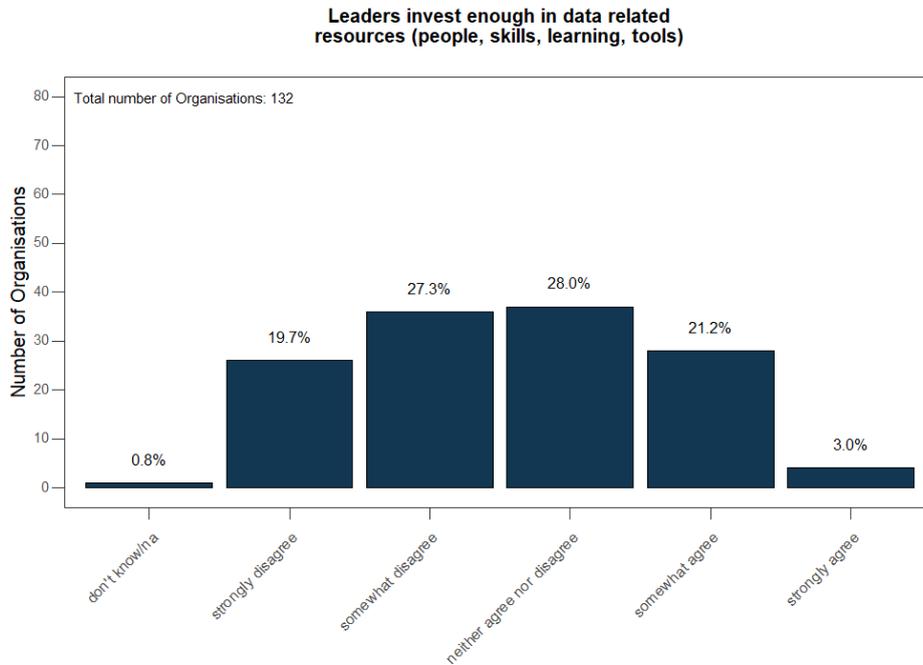

We explored this in more detail, in relation to planned investment of staff time and improving data and analytics tools and systems over the next two years. Around a quarter planned significant investment based on specific plans and priorities or substantial and continuous investment organisation-wide. Another quarter anticipated some investment limited to individual projects or departments. Most (41%) didn't have specific plans but anticipated minor investment in exploring needs and development for the future.

4.5 Culture

The Culture theme explores four key subthemes:

- Team approach
- Self-questioning
- Openness
- Protection

For 'Culture', the sector is at the upper end of the 'Learning' stage with a considerable proportion already in the 'Developing' stage. The average (median) score for culture is 2.9 out of 5. This is overall the second strongest data maturity theme after 'Data'.

Histogram of Data Maturity scores categorised by Maturity Stage
Culture

Median: 2.89

number of Organisations = 133
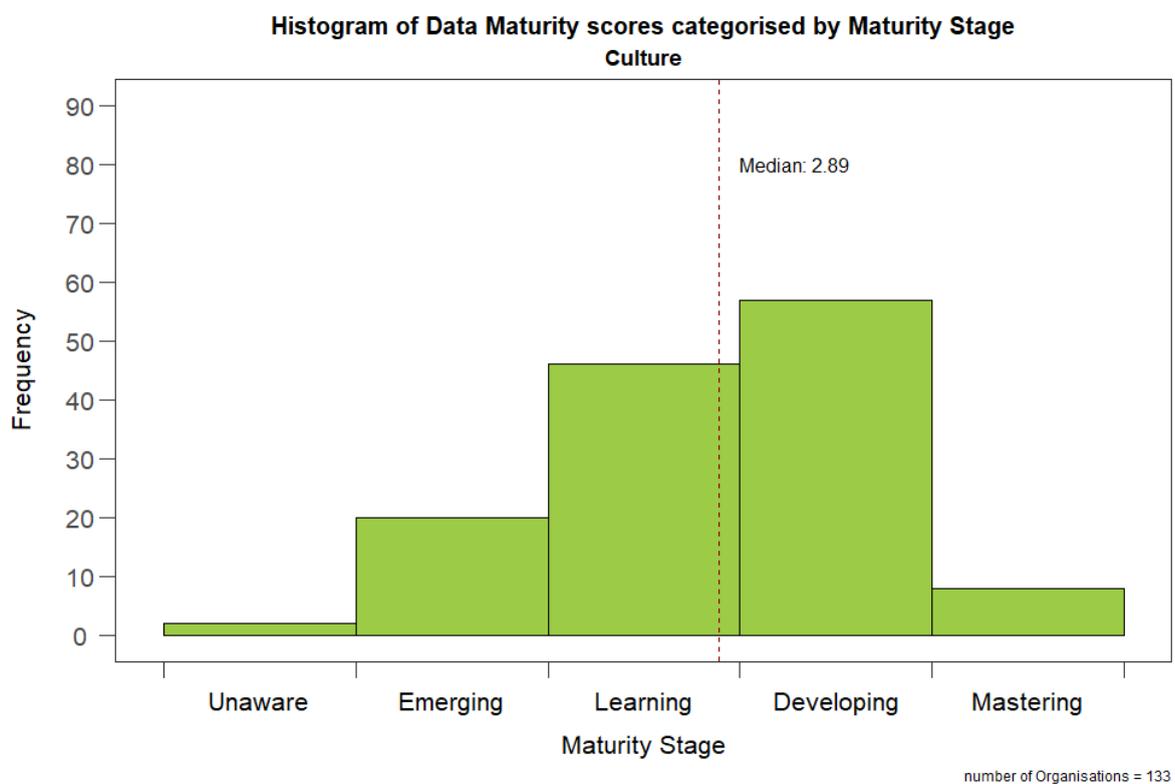
In summary

Almost all organisations say they share data internally (97%) though only one in three say data is easily available and accessible to staff when they need it. Moreover just because data is shared doesn't mean it's actually used by intended audiences e.g. only 40% say people in different teams/levels of seniority regularly discuss data and how to act on it. Opinions are divided when it comes to using data internally to ask difficult questions and challenge practices. 36% say their organisation is comfortable with this, though 40% say they are not.

There is also a lot of data sharing externally. 84% share data with partners, networks and stakeholders; two thirds share data with clients; and 60% openly publish their own data and analysis. However it should be noted that data sharing tends to be more occasional than regular and the same question remains about whether it is being used and acted upon.

Overall, and perhaps due to the introduction of the new data protection legislation in 2018 (including GDPR), a good proportion of organisations appear to be doing quite well in terms of policies and practices, managing access to sensitive and personal data, and overall security. However around one in five are not doing so well in this area.

4.5.1 Team approach

44% say data is seen as a team effort, not just one person's responsibility (13% strongly agree, 31% somewhat agree).

Opinions are divided on whether different teams/levels of seniority regularly discuss data and how to act on it. 40% of organisations say they do (7% strongly agree, 33% somewhat agree) meanwhile 38% say they don't (10% strongly disagree, 28% somewhat disagree).


People from different teams/levels of seniority regularly discuss data and how to act on it
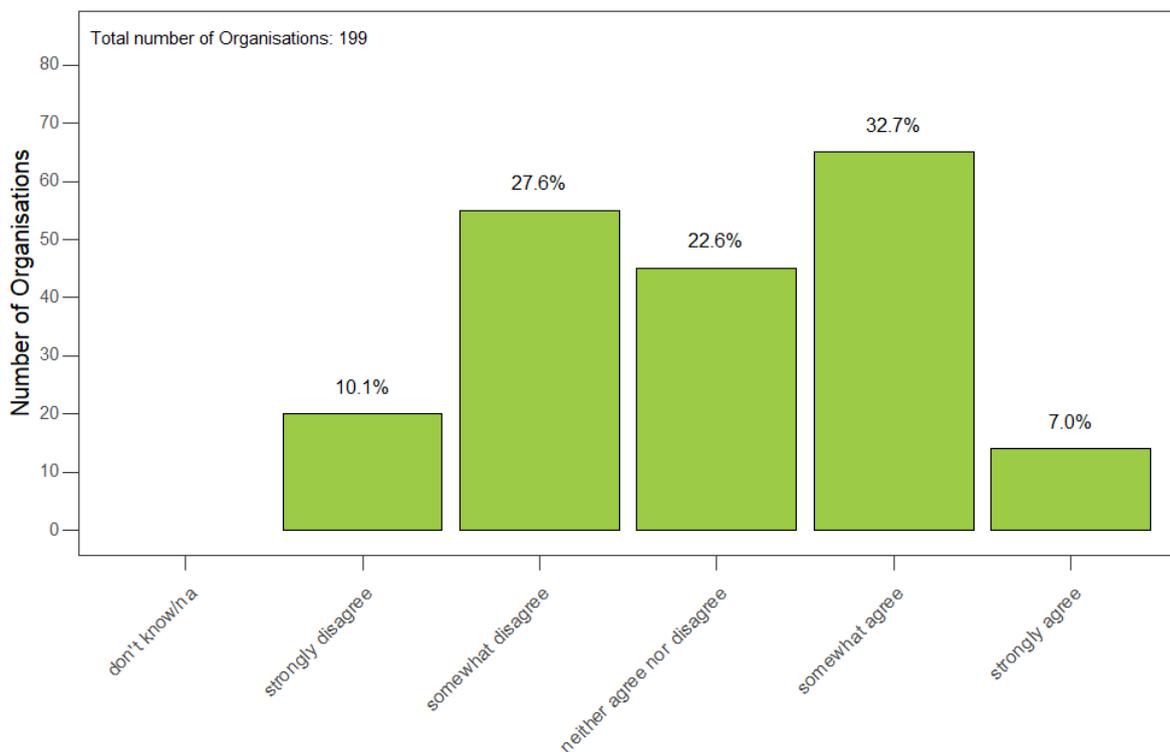
4.5.2 Self-questioning

When it comes to using data internally to ask difficult questions and challenge practices, opinions are, again, divided. 36% say their organisation is comfortable with this (7% strongly

agree, 29% somewhat agree), meanwhile 40% are not (15% strongly disagree, 25% somewhat disagree).

We're comfortable using data internally to ask difficult questions and challenge our practices
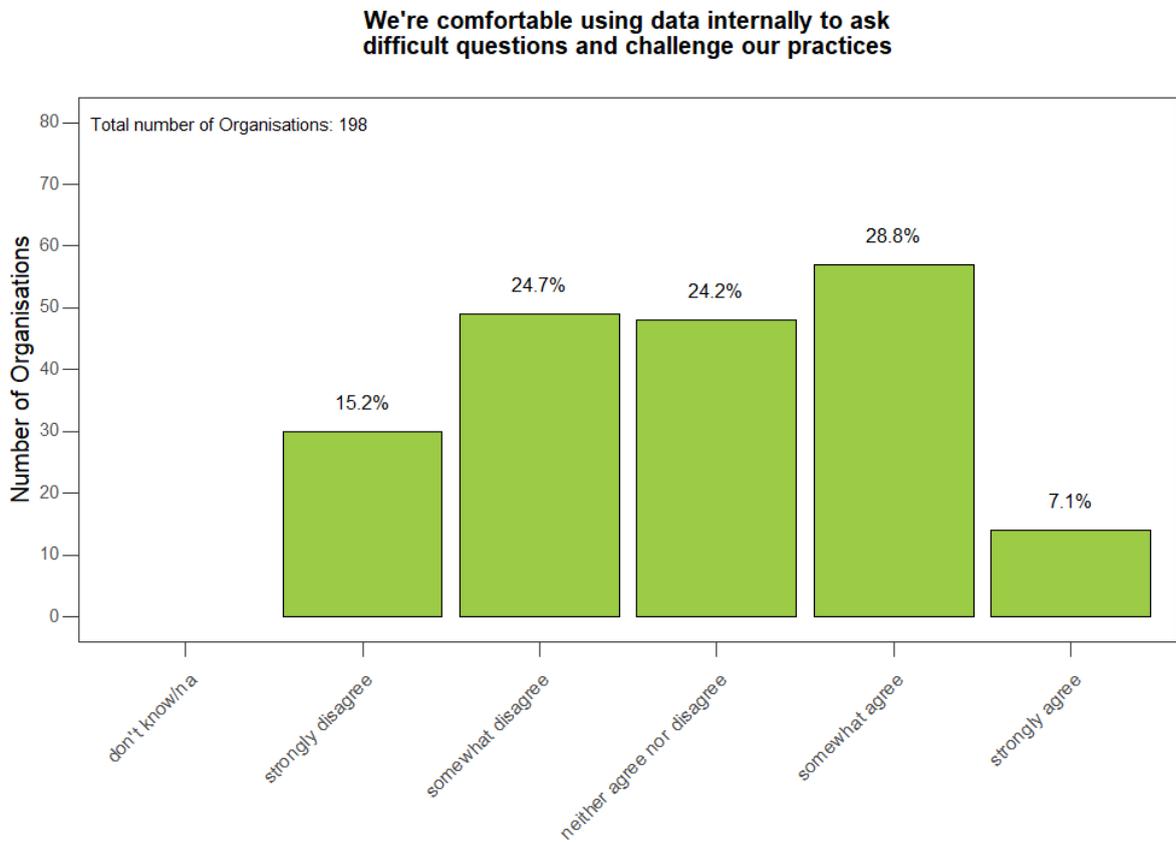

4.5.3 Openness

Overall there appears to be quite a lot of data sharing going on.

- 97% say they share data internally (14% regularly, 53% occasionally).
- 84% share data externally with partners, networks and stakeholders (21% regularly, 63% occasionally).
- 67% say they share data with beneficiaries (14% regularly, 53% occasionally).
- 60% openly publish their own data and analysis (11% regularly, 50% occasionally).

Thinking about openness and sharing of data, how often does your organisation do the following?
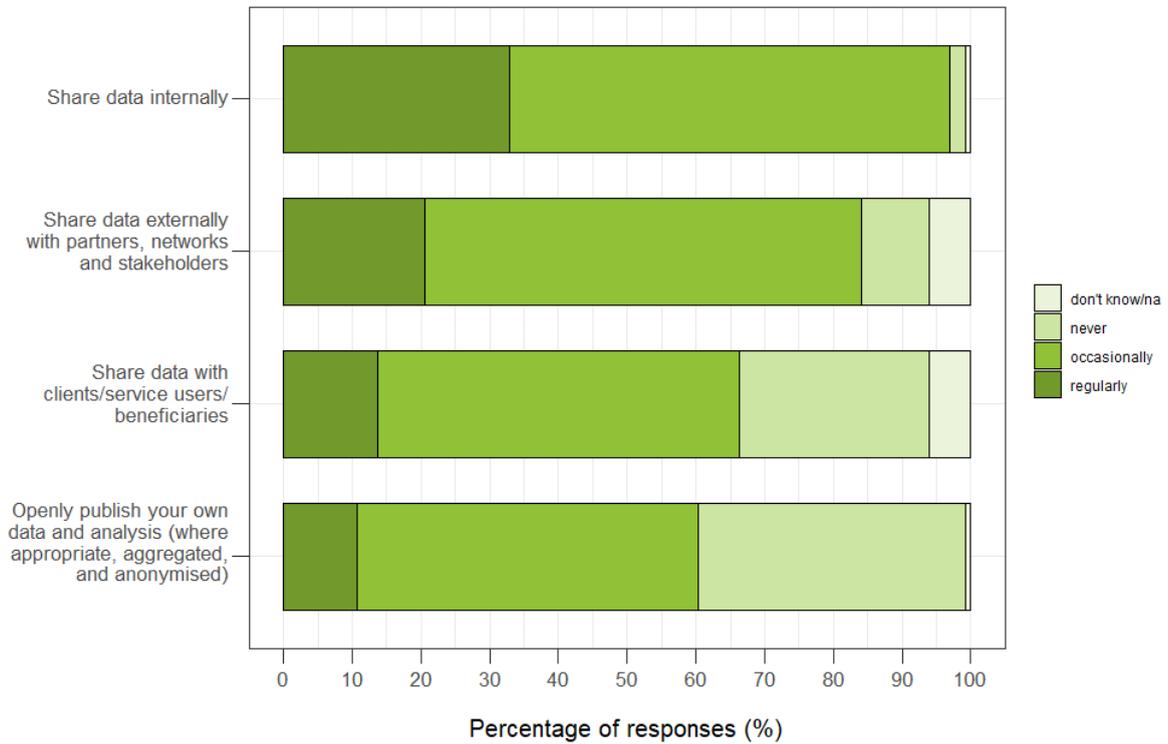

Overall it should be noted these practices tend to be more 'occasional' than 'regular'. However, whilst most say they share data internally (97%) only one in three say data is easily available and accessible to staff when they need it.

Data is easily available and accessible to staff when they need it
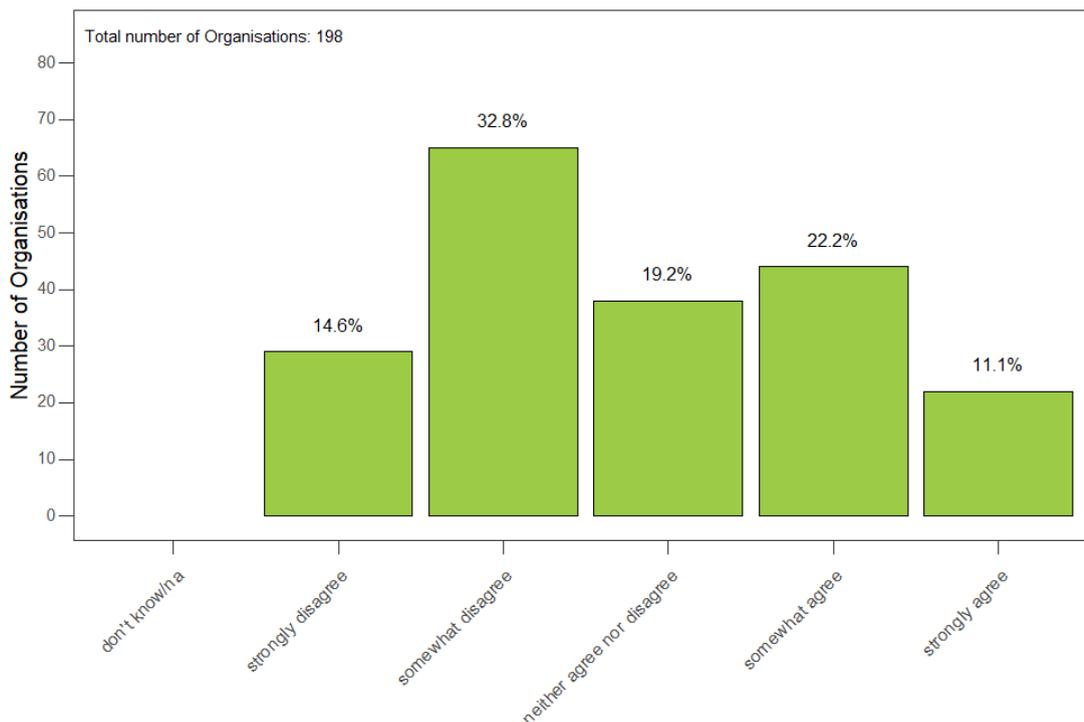
4.5.4 Protection

Overall, and perhaps due to the introduction of the new data protection legislation in 2018 (including GDPR), a good proportion of organisations appear to be doing quite well in terms of policies and practices, managing access to sensitive and personal data, and overall security. 72% say their policies and practices are robust to ensure data is safeguarded e.g. rules on passwords, how data is stored (23% strongly agree, 49% somewhat agree).

Our policies and practices are robust to ensure our data is safeguarded (e.g. rules on passwords, how data is stored)
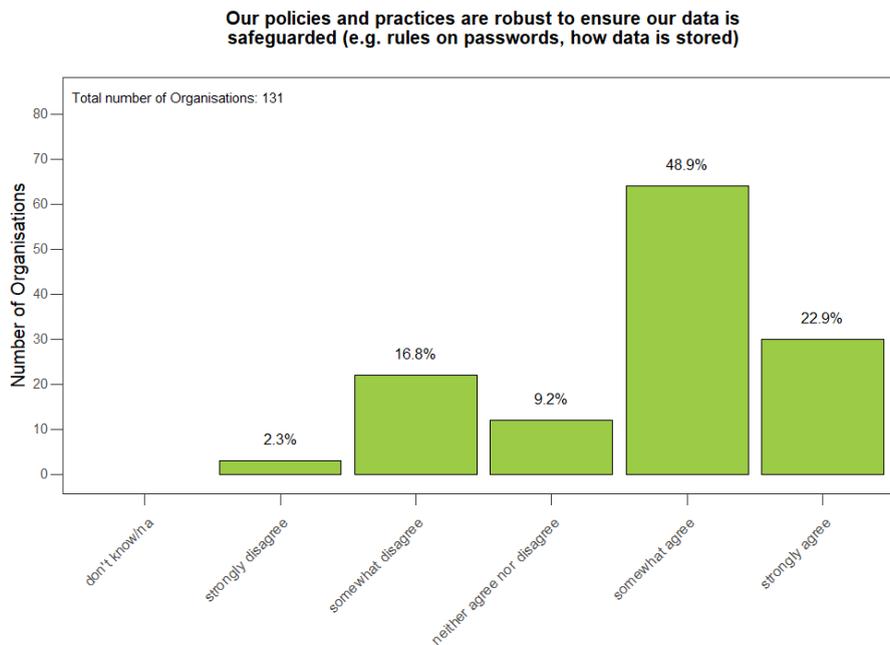
However around one in five are not doing so well in this area:

- 27% don't monitor and test potential risks to improve their data security and protection.
- 19% don't think their policies and practices are robust to ensure data is safeguarded.
- 17% are not confident about the security of the data they hold.

We monitor and test potential risks to improve our data security and protection (e.g. theft, accidental loss, malicious attack)

Total number of Organisations: 131

- don't know/n.a: 3.1%
- strongly disagree: 9.2%
- somewhat disagree: 17.6%
- neither agree nor disagree: 21.4%
- somewhat agree: 37.4%
- strongly agree: 11.5%
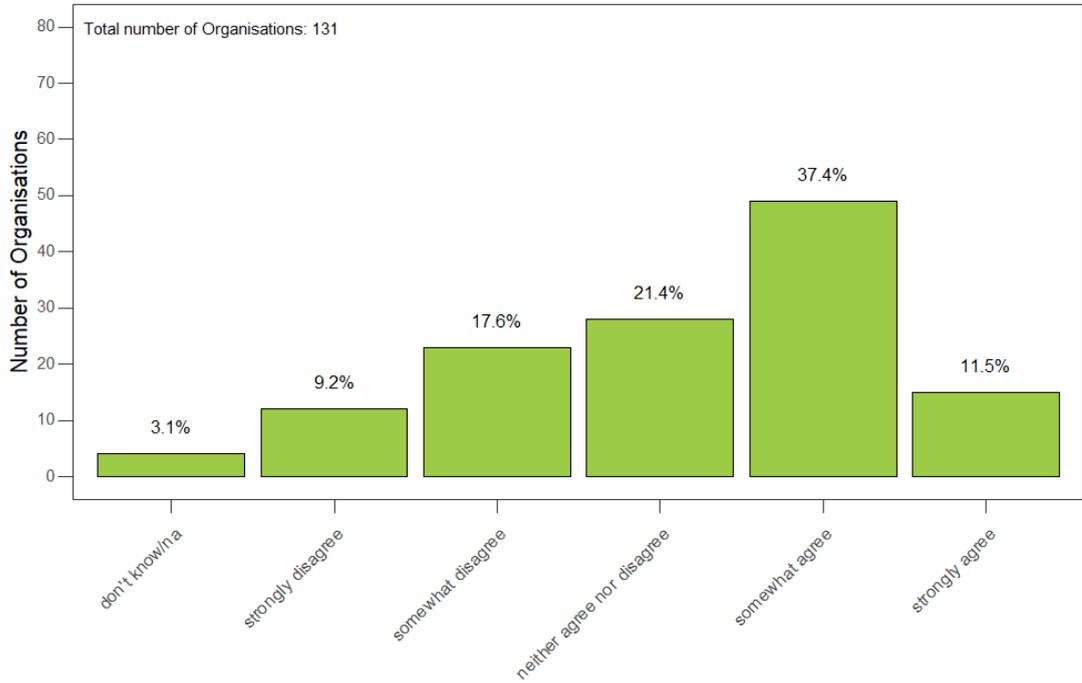
A data management issue highlighted in the findings, relates to deleting data about identifiable individuals. Only 44% say they do this (13% strongly agree, 31% somewhat agree).

We delete data about identifiable individuals that is no longer necessary

Total number of Organisations: 131

- don't know/n.a: 6.9%
- strongly disagree: 9.2%
- somewhat disagree: 18.3%
- neither agree nor disagree: 22.1%
- somewhat agree: 30.5%
- strongly agree: 13.0%
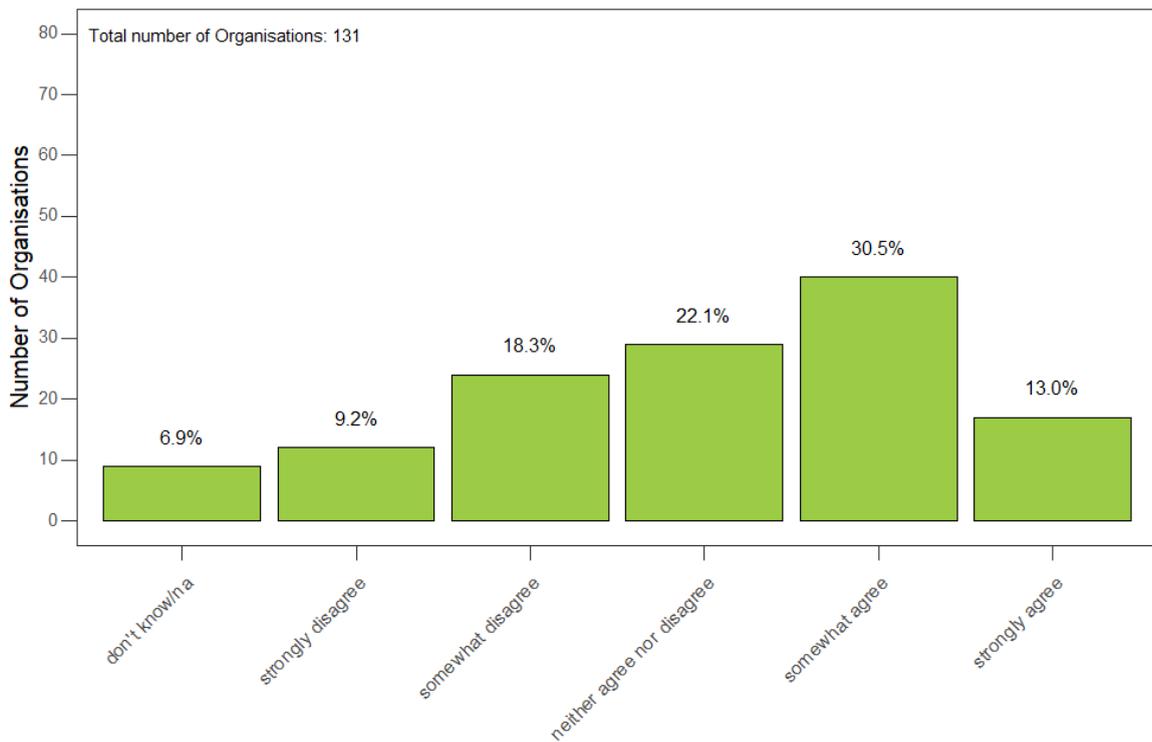
4.6 Tools

The tools theme explores five key subthemes:

- Collection
- Storage
- Organising and managing
- Analysis and reporting
- Integration and architecture

The average (median) score for tools is 2.75 out of 5 with most in the 'Learning' stage, a good proportion moving into the 'Developing' stage though a few are reaching 'Mastering'.

Histogram of Data Maturity scores categorised by Maturity Stage
Tools

number of Organisations = 133
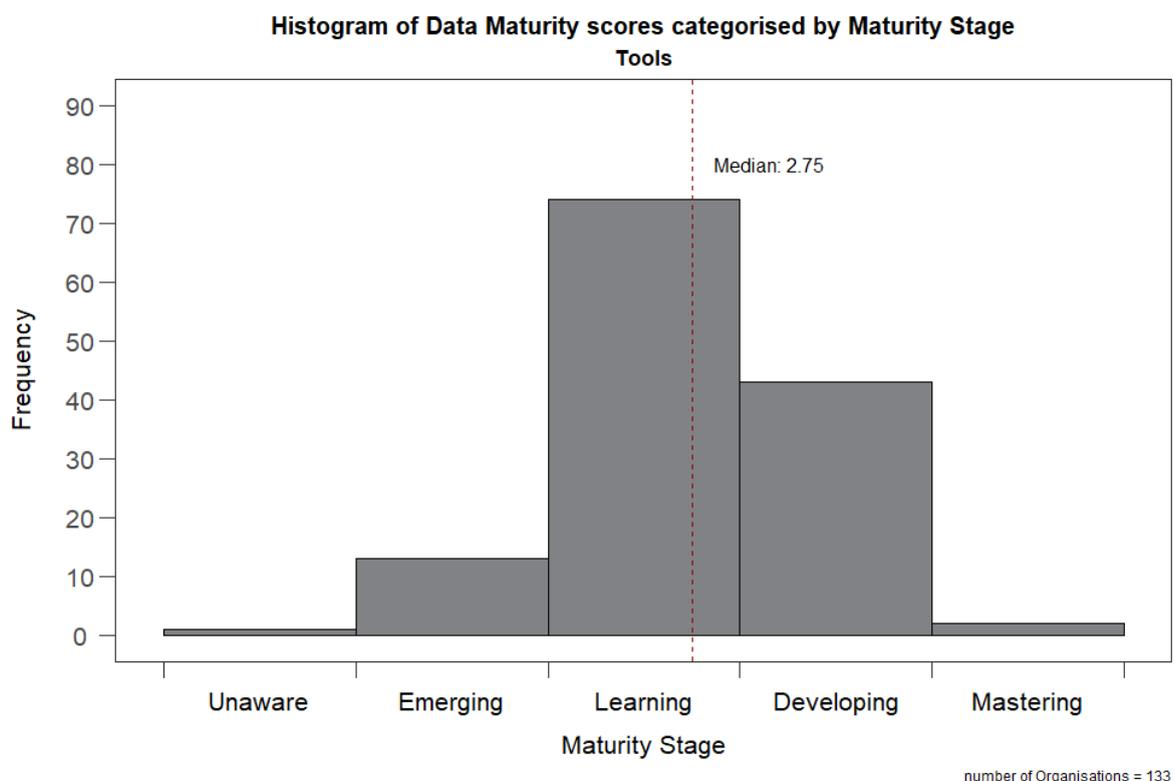
In summary

Organisations use a wide range of tools for collecting, storing, analysing and reporting data. Most don't think their tools are very good especially for enabling them to bring together, analyse and report data.

Just under half say they have good tools for collecting data, yet only 39% say their organisation collects data in consistent and efficient ways. Databases/CRM systems and websites feature most strongly among the digital tools for collecting data. However it's notable that non-digital approaches (i.e. the use of paper forms and questionnaires) remain

widespread. More than half say they collect data from clients and stakeholders on paper either moderately or extensively.

Half say they have good tools for storing and managing data and most are using centralised and cloud based tools to physically store their data. Whilst over two thirds say their files and documents are centrally and securely stored, just one in three say their digital files and documents are well organised and managed. This aligns with the finding that in a third of organisations staff can't easily search for and find the information they need.

41% say they have good tools for analysing and reporting data. A wide range are in use, of which spreadsheets remain the most universal of them all (90% use them extensively or moderately). Finance software and Database/CRM tools are the next most commonly used extensively or moderately by 72% and 63% respectively. More advanced business intelligence tools are relatively uncommon, and advanced specialist data science tools even less so.

Just over two-thirds say their files and documents are centrally and securely stored, primarily in the cloud and they make use of cloud-based software systems. Only one in three say their files and documents are well organised and managed, and that staff find it easy to search for and find the information they need.

Around one in five say there's no central management of digital tools and systems.

4.6.1 Collection

48% say their organisation has good tools for collecting data (12% strongly agree, 36% somewhat agree).

A wide range of digital tools are used to collect data. Databases/CRM systems, followed by websites feature most strongly. Paper forms or questionnaires are next most used with online surveys, mailing lists and social media following. The least used are mobile apps.

To what extent does your organisation use the following tools to COLLECT data from your clients and stakeholders?
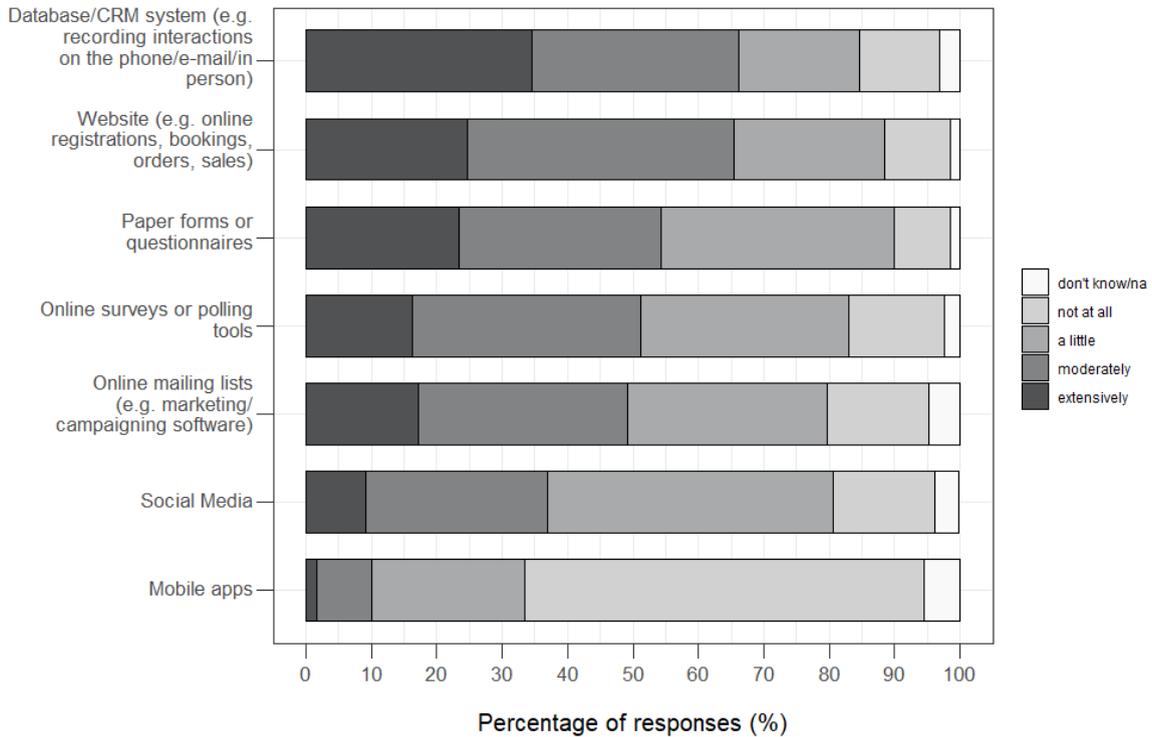
Of course most organisations make use of multiple tools to collect data from clients and stakeholders, though it is interesting to explore a little more closely around the use of paper-based approaches.

54% say they collect data on paper forms or questionnaires either moderately or extensively. Given the sector works with many marginalized and vulnerable clients this may be necessary (working with older people, children and those who are digitally excluded may mean there are situations where it's just not appropriate). Most agree (66%) that where possible they collect data digitally so they don't have to re-type from paper forms and questionnaires, though this suggests up to one in three don't.

Paper forms or questionnaires

58
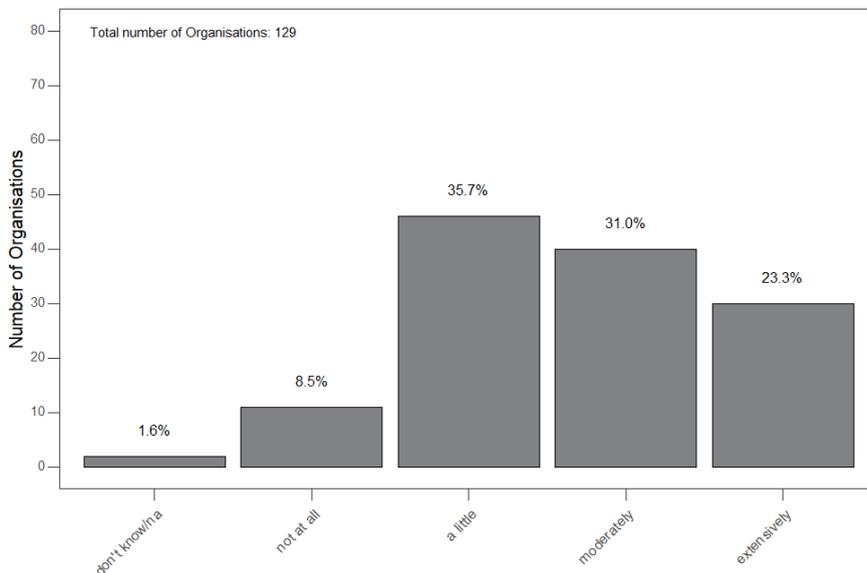
4.6.2 Storing

In half of the organisations, respondents say they have good tools for storing and managing data (16% strongly agree, 33% somewhat agree). Most are using centralised and cloud based tools to physically store data, though 20-30% are using individual computers and other devices.

The majority, just over two-thirds, say their files and documents are centrally and securely stored (16% strongly agree, 52% somewhat agree). Unsurprisingly, given the extent of paper-based data collection, filing cabinets remain widely used (extensively so for 16% and moderately for a further 37%).

To what extent does your organisation PHYSICALLY STORE data in these ways.
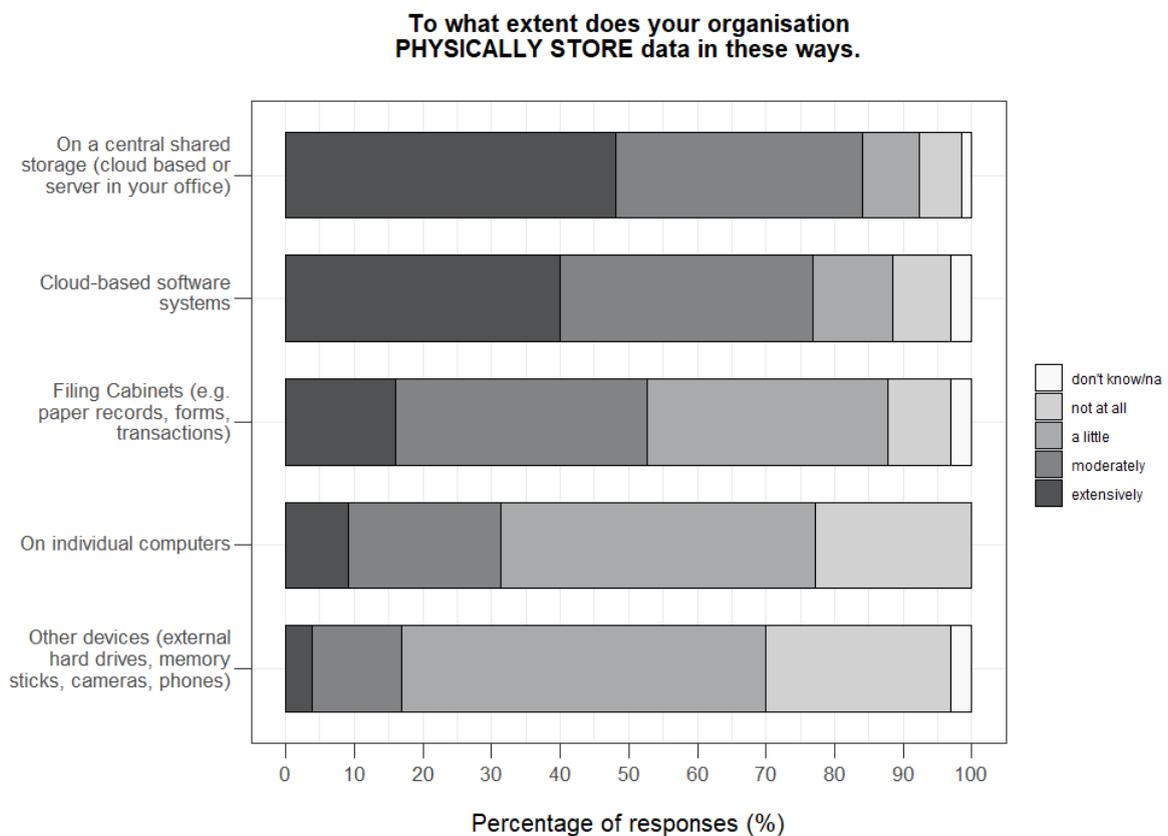

4.6.3 Organising and managing

Just one in three say their digital files and documents are well organised and managed (11% strongly agree, 23% somewhat agree). Allied to this, only just over a quarter say they archive old, unnecessary files and documents (5% strongly agree, 22% somewhat agree).

This aligns with the overall problem of staff being unable to easily search for and find the information they need. Only 1 in 20 confidently say they can do so in their organisation (5% strongly agree, 28% somewhat agree).

Staff find it easy to search for and find the information they need

Total number of Organisations: 131
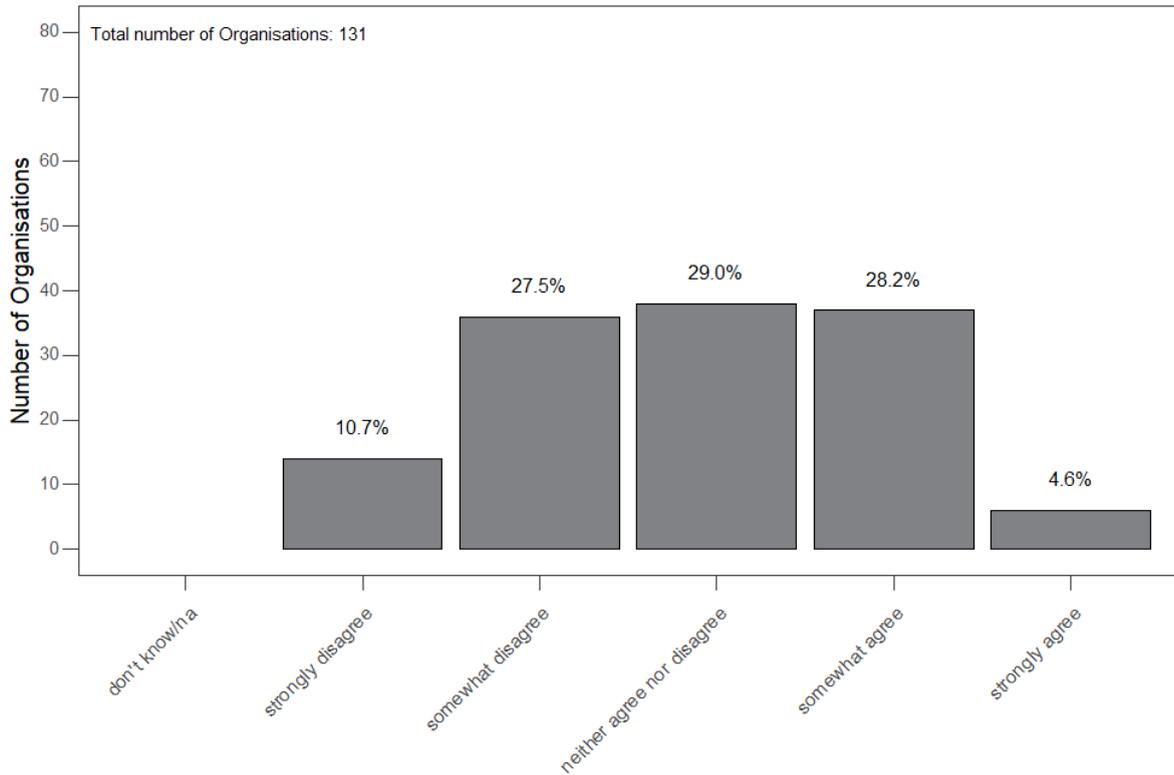
61% say they centrally manage all their tools and systems including hardware, software, licences and access (23% strongly agree and 38% somewhat agree). A similar proportion (58%) say they think about integration between tools when purchasing new products.

4.6.4 Analysing and reporting

41% say they have good tools for analysing and reporting data. There are a very wide range of tools used for this purpose of which spreadsheets remain the most universal of them all.

Finance software and Database/CRM tools are the next most common. More advanced business intelligence tools are slightly rarer (5% extensively, 28% moderately) and specialist tools (R, Python, GIS Mapping, SAS, SPSS, Stata) are even more rare (7% extensively, 8 % moderately). Meanwhile manual/visual search or counts remain widespread (perhaps counting up numbers from paper based forms ...or perhaps counting puffins?).

To what extent does your organisation use the following tools to ANALYSE and REPORT on data you collect and store?
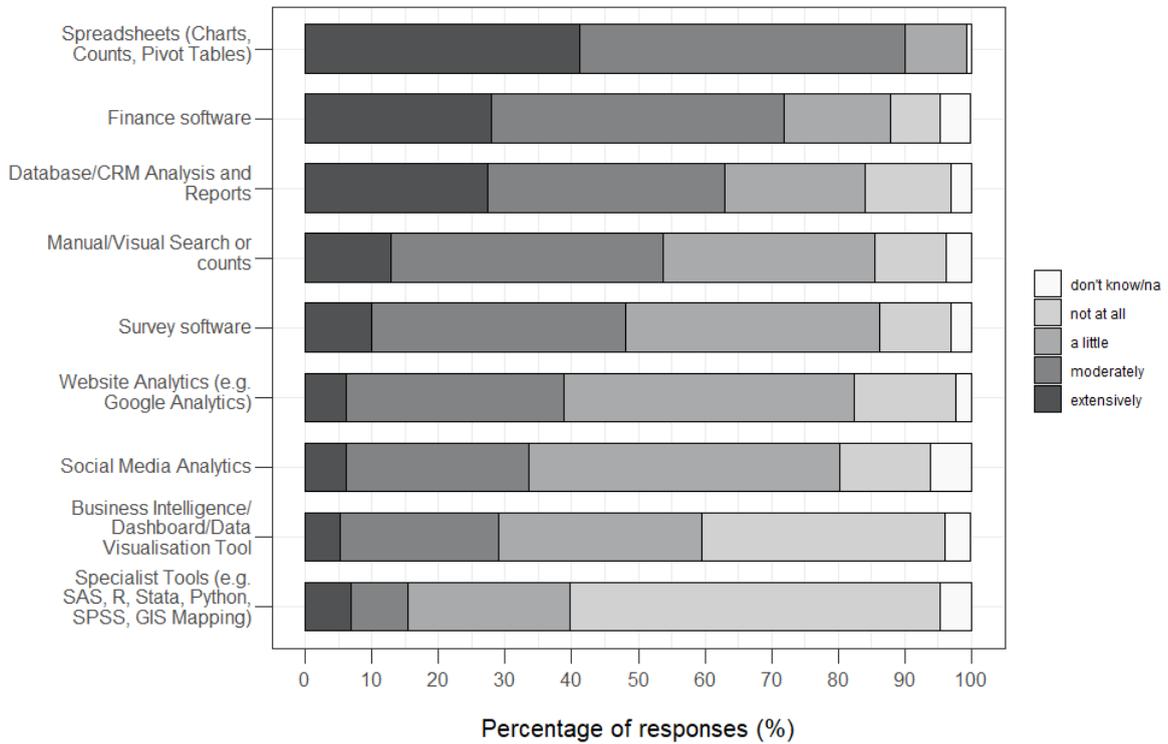

Allied to the largely manual approach to bringing data together reported in the 'Analysis' theme section, only one in three say they have good tools for automating reporting of data (7% strongly agree, 26% somewhat agree).

We have good tools for automating reporting of data
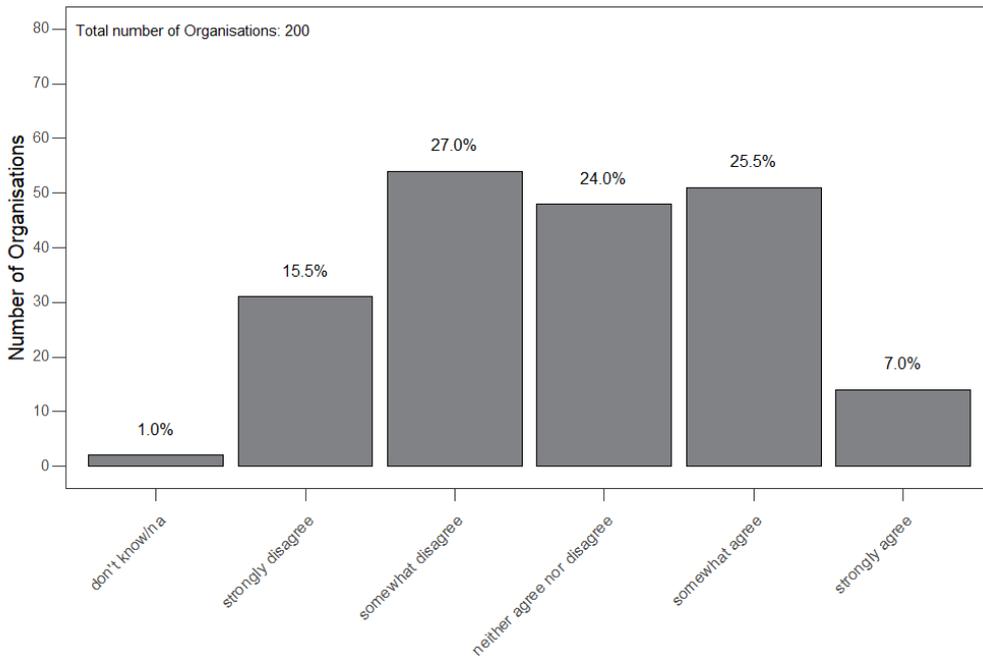
4.6.5 Integration and architecture

Just under a quarter say their organisation has good tools for joining and relating data from various sources (7% strongly agree, 17% somewhat agree).

We have good tools for joining and relating data from various sources
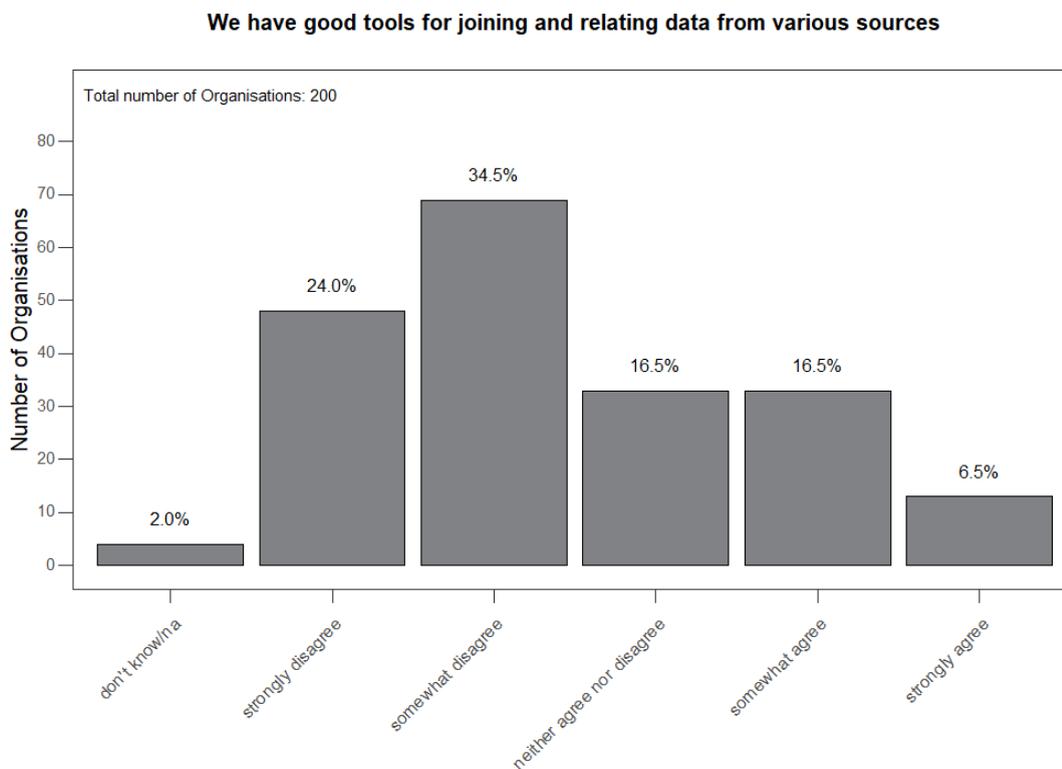

58% say they think about integration between tools when purchasing new products (14% strongly agree, 43% somewhat agree).

4.7 Skills

The skills theme explores four key subthemes:

- Capacity
- Skills
- Training
- Access to knowledge and expertise

Overall the sector average (median) for skills is 2.6 out of 5. It is both the overall weakest theme and the one with the greatest range. There are similar numbers of organisations at the middle three stages, 'Emerging', 'Learning' and 'Developing', with some promising numbers edging into 'Mastering'.

Histogram of Data Maturity scores categorised by Maturity Stage

Skills

number of Organisations = 133
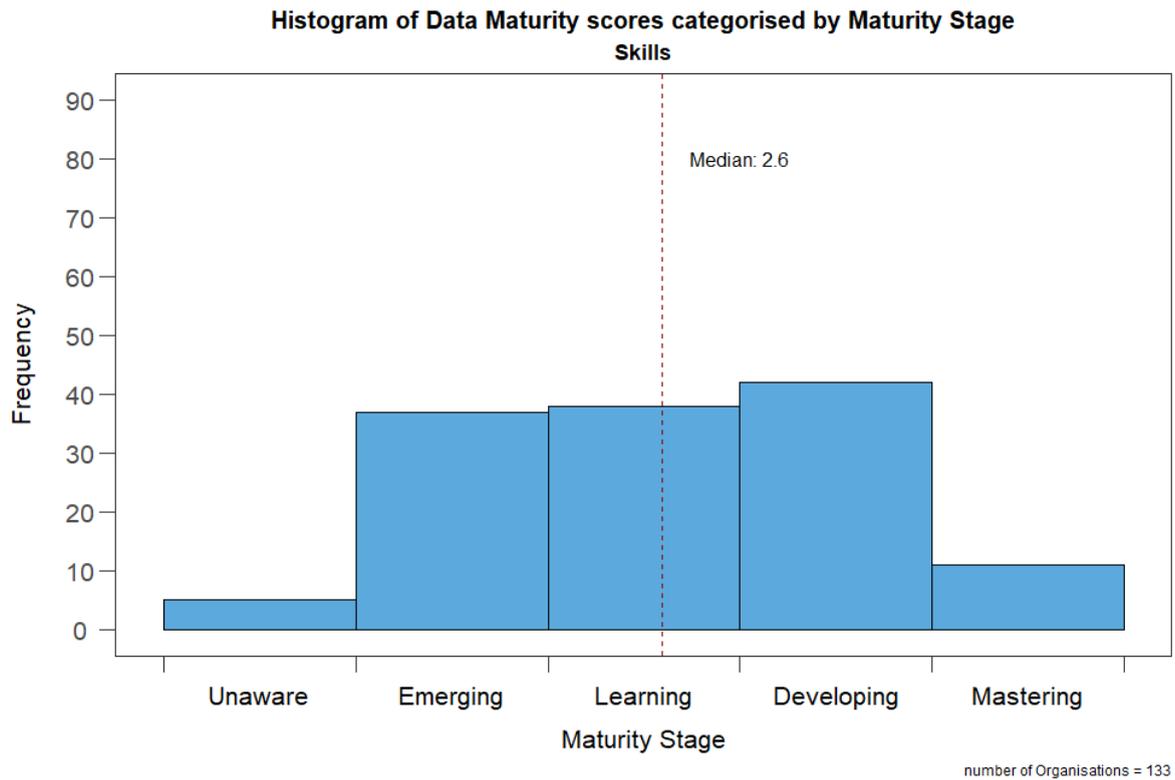
In summary

Skills is the weakest of the seven themes. One in three say they have appropriate numbers of staff managing and developing their data capabilities. More than half don't think they have the right skills to maximise use of their data. Only a quarter tend to agree that most staff are data literate, almost half disagree.

Just over a third say their organisation supports staff to develop their data and analytics knowledge and skills. The picture is better where we focus specifically on data protection and security training (62% say their staff receive induction and regular training on this).

Access to knowledge and expertise is also a weak area. Only 31% say they have access to external data and analytics support and advice from experts they trust.

4.7.1 Capacity

Only around a third of organisations say they have appropriate numbers of staff managing and developing their data capabilities (6% strongly agree, 28% somewhat agree). 45% disagree (16% strongly disagree, 29% somewhat disagree).

**We have appropriate numbers of staff managing
and developing our data capabilities**

Total number of Organisations: 131

16.0% | 29.0% | 21.4% | 27.5% | 6.1%

don't know/na | strongly disagree | somewhat disagree | neither agree nor disagree | somewhat agree | strongly agree
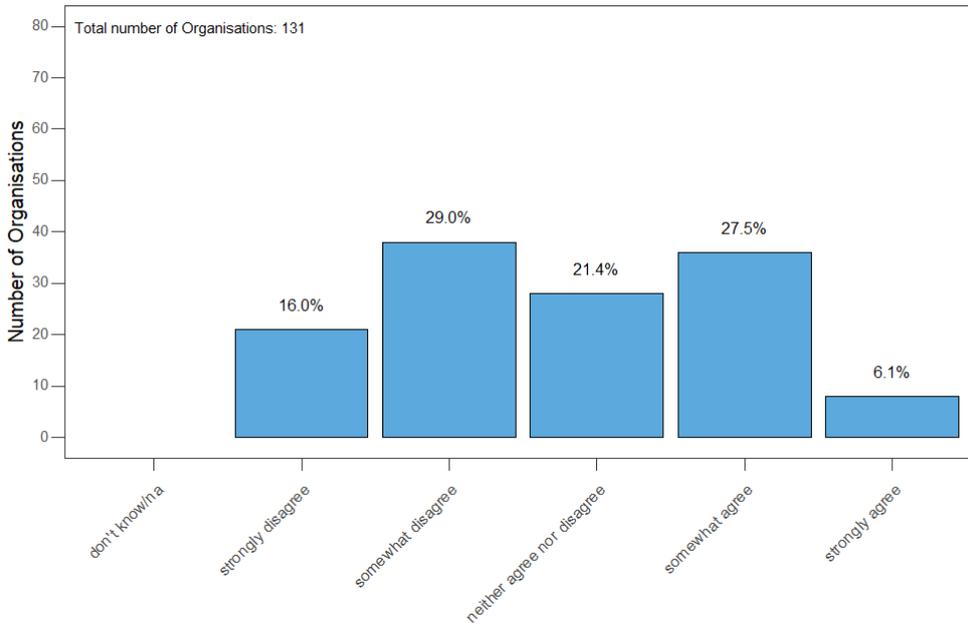
4.7.2 Skills

In over half of the organisations (53%), respondents don't think they have the right skills and capabilities to maximise use of their data. Only 22% think they do, though few confidently so (2% strongly agree, 20% somewhat agree).

**We have the right skills and capabilities
to maximise the use of our data**

Total number of Organisations: 132

0.8% | 16.7% | 36.4% | 24.2% | 19.7% | 2.3%

don't know/na | strongly disagree | somewhat disagree | neither agree nor disagree | somewhat agree | strongly agree
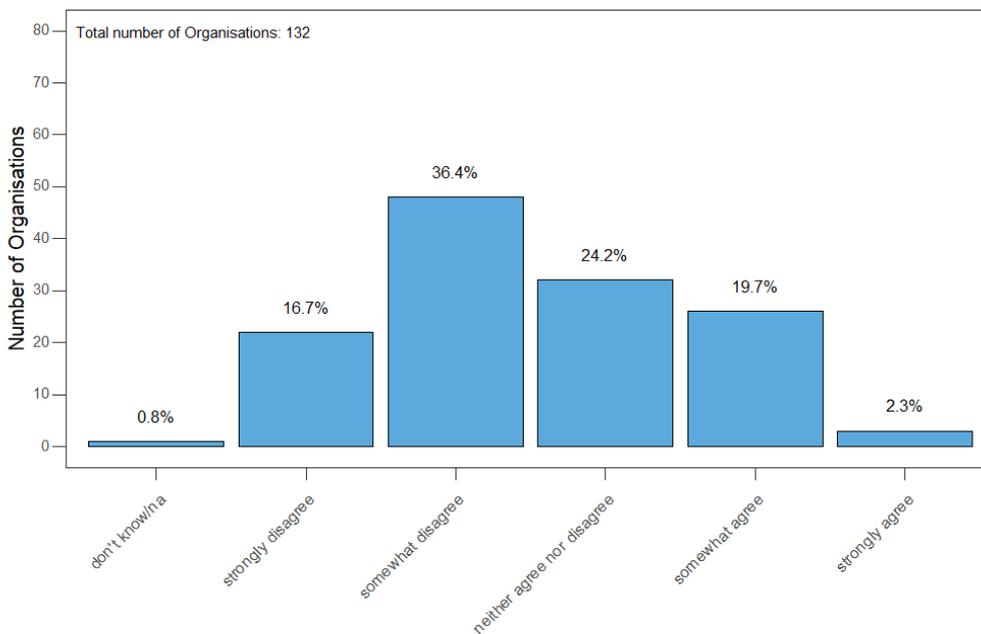
At a broader level, data literacy among staff in general is a weak area. While 25% agree most staff are data literate (3% strongly agree, 22% somewhat agree), nearly half disagree (18% strongly disagree and 30% somewhat disagree).

Most staff are data literate
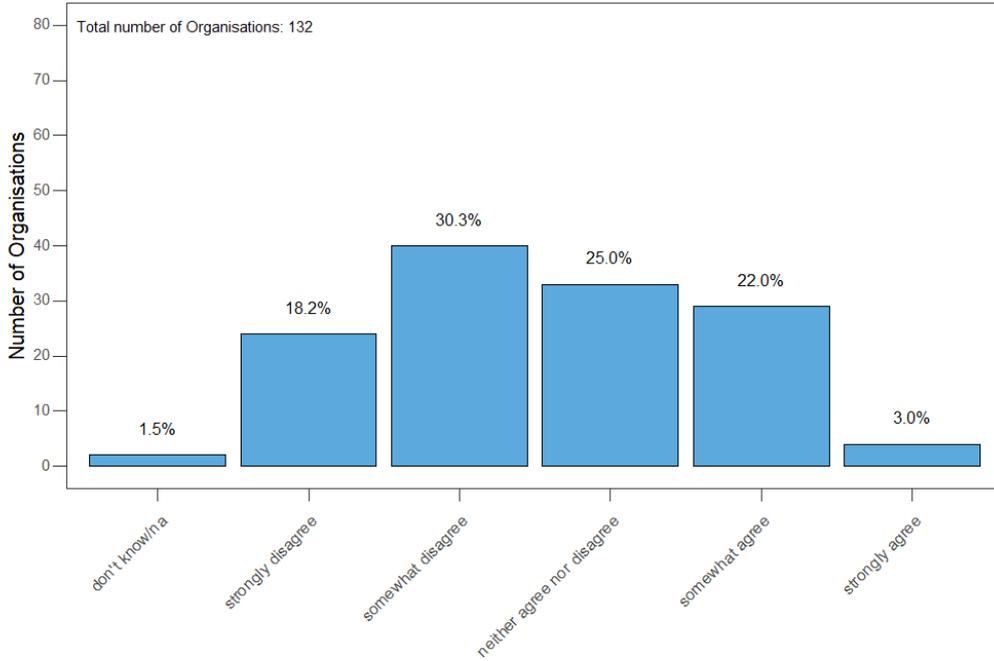
Less than half say they understand their needs around data skills and capabilities (7% strongly agree, 41% somewhat agree).

We understand our needs around data skills and capabilities
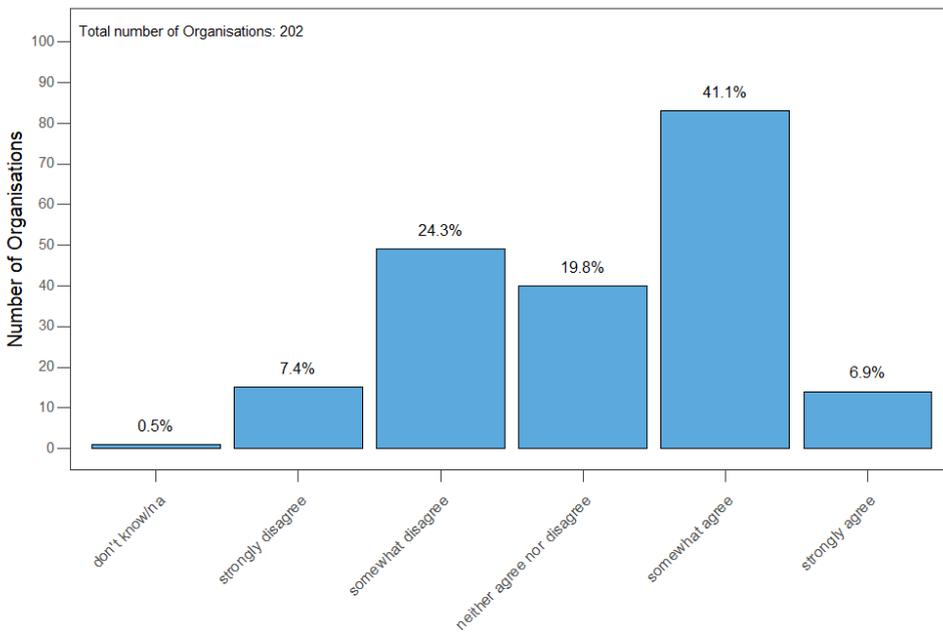
4.7.3 Training

Just over a third of organisations say their organisation supports staff to develop their data and analytics knowledge and skills. Meanwhile 41% do not.

We support staff to develop their data and analytics knowledge and skills
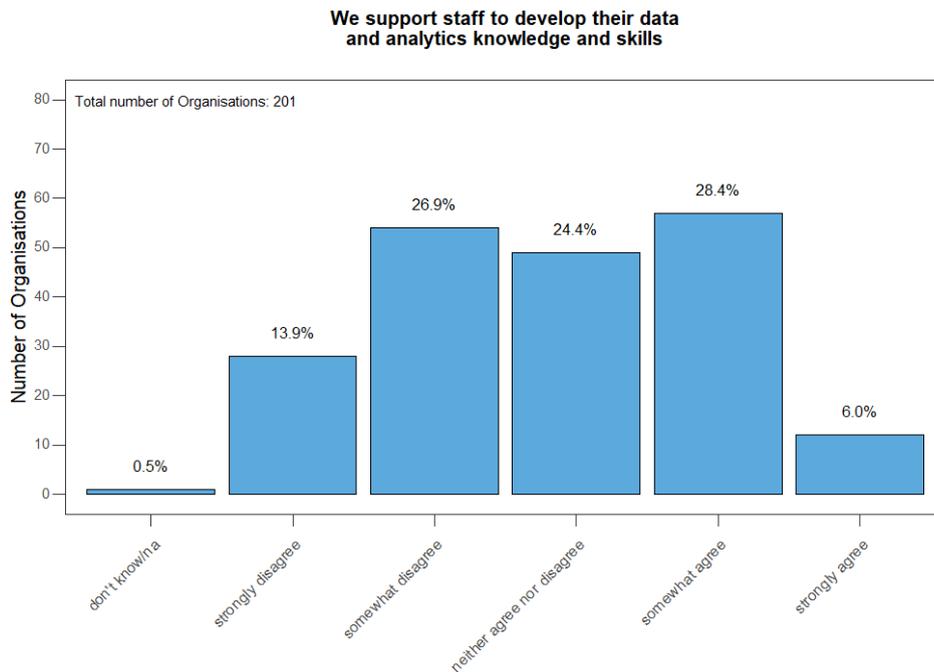
Focusing specifically on training in data protection and security, 62% say their staff receive induction and regular training on this (23% strongly agree, 39% somewhat agree). A similar number say their staff know how to respond to a data breach, potential breach or near miss (suggesting the training is effective). This relates to earlier findings (see 'Culture' section) which suggest around 20% are confident in their policies and practices in this area.

4.7.4 Access to knowledge and expertise

In addition to the poor level of support for staff to engage in learning and knowledge development in this area, the results also indicate a problem with access to expertise both internally and externally. Less than a quarter say they coordinate their internal data expertise across different teams and services.

We coordinate our data expertise across teams/services including senior, specialist, technical and administrative roles.
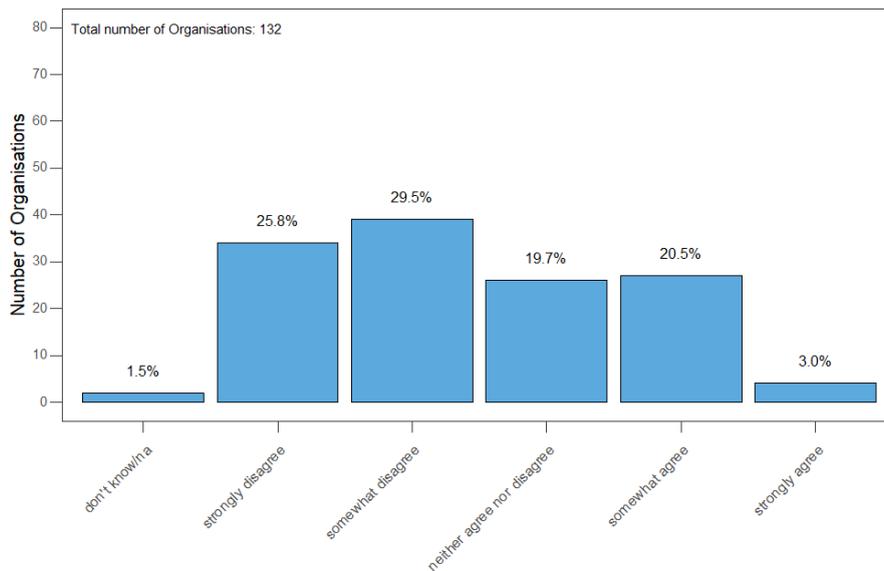
Only 31% say they have access to external data and analytics support and advice from experts they trust (8% strongly agree, 23% somewhat agree).

We have access to external data and analytics support and advice from experts we trust
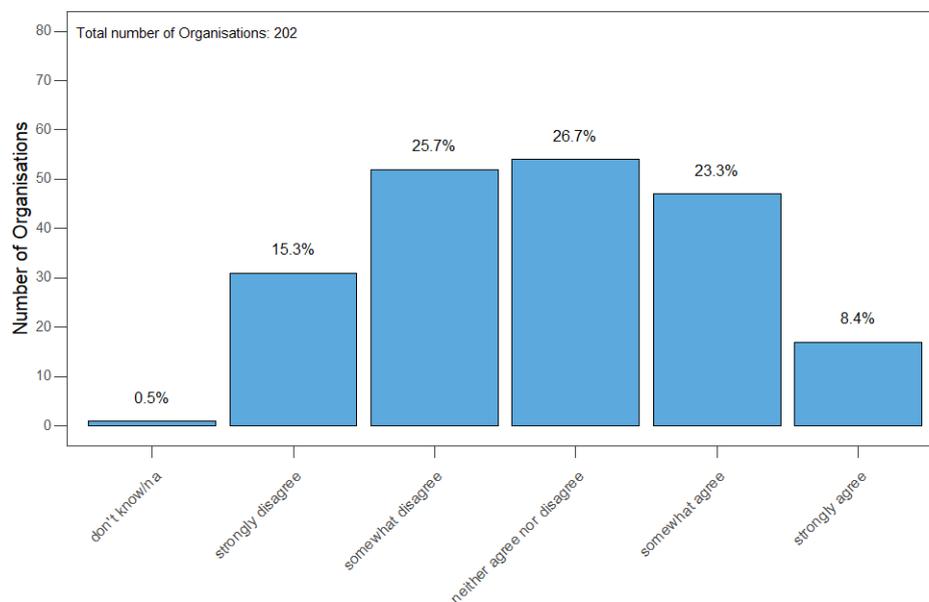
5. CONCLUSIONS

It's probably too early to say how authoritatively this report describes the reality of data maturity in the sector. The number of validated users is small and it's early days since the launch of the assessment tool. Based on experience it's possible the findings overstate where the sector is realistically at. i) Organisations in the 'Unaware' stage, if they're uninterested in data, are less likely to take a data maturity assessment. ii) Organisations in the 'Developing' stage, who may have already invested considerably in building their data capabilities may be more likely to take a data maturity assessment to see if, for all their efforts, they are ahead of their peers.

Regardless, the tool demonstrates a range of different stages of data maturity across the sector. There are a few pioneers at the forefront, edging towards 'Mastering'. There are many many more lagging behind in the 'Emerging' stage. Most are 'Learning'.

Perhaps the most important finding is that the sector is already investing so much of it's precious resource (people time) in data with such differing degrees of reward and benefit.

Skills and leadership are crucial to the distinction and are the weakest factors. This relates both to the purposes for which data is used and the thinking around how it is analysed and acted upon.

The lack of data skills in the sector has been known for almost a decade (Marsh Skills and Leadership Review 2013). Given the revolutionary advances in digital data and analytics since then, it is unsurprising there's still so much work to be done to catch up. What's perhaps most challenging is the diversity of skills needed: collectors, curators, organisers, cleaners, analysts, communicators, thinkers, challengers, protectors, sharers, ethicists, technologists, visionaries, realists… organisations need them all.

It's incredibly encouraging that there is a small, and we hope growing, number of leaders who are 'ahead of the curve'. Those who really value and invest in their data assets and understand how to use these as a vital resource for their organisation's cause. These will offer inspiration and learning that can accelerate the maturity of those following behind the curve.

It will be interesting to monitor how paper-based approaches convert to digital approaches in data collection following the Covid-19 pandemic (note most of the data referred to in this report was collected (digitally) during 2020 at the time of the pandemic). Many needed to rapidly adapt their services and operations to digital approaches with plans to do so more in the future.

It will be also be interesting to monitor change over time particularly in relation to confidence, practices, changing behaviours and the extent of rewards and benefits, i.e. the shift from 'somewhat agree' to 'strongly agree', from 'moderately' to 'extensively', and from 'occasionally' to 'regularly'.

The analysis for this report has, as you would expect of an organisation specialising in data, already influenced improvements to our tool design. In April 2021 we released version 22 of the data maturity assessment product (note we went live on version 17 in October 2019). We have changed and removed some of the questions, adjusted our scoring and benchmarking algorithms, and yet again begun work on updating the underlying framework model on which the assessment is based. In doing so we continue our own cycle of learning and improvement.

Overarchingly we see this research as a step in evidencing the 'problem space' and support needs of the not-for-profit sector in relation to data. We particularly look forward to discussing the findings with our Data4Good partners in the UK and overseas, who share our mission to help build the data capabilities of the sector.

5.1 Hunches and further questions

Having spent six years immersed in the topic of data maturity we have explored many questions to ask of the data. We've done some trials using principal component analysis to explore correlations and patterns between the key themes and questions. We've played with multiple factor analysis to test how we should weight questions in our scoring. We've looked at missing data, what people say 'don't know' to most, where there is disparity and consensus of opinion (we use this quite a lot when doing in-depth reports for individual clients though we need more data to do this in a robust way for the whole sector). And there are all kinds of other hunches and hypotheses we look forward to exploring in the future when we have more data to do this robustly.

For example:

- Data mature organisations spend as much staff time on data as less data mature organisations but reap greater rewards and benefits.
- Higher income doesn't indicate higher data maturity. So far we've found no correlation between data maturity and income level. This concurs with our earlier research published back in 2017.
- Are younger and smaller organisations doing better (i.e. be more data mature) than older and larger organisations? Some of our recent analysis suggests young organisations with fewer staff may be doing better than older organisations with a lot of staff.
- There is more consensus of opinion on data maturity among respondents from organisations at more advanced stages of data maturity.
- The disparity between different theme scores is higher among less data mature organisations.

5.2 Plans for next year

Since this was our first State of the Sector Data Maturity report we've invested considerable effort in developing and documenting our processes for data cleaning, validation, analysis

and presentation. With over 4,000 lines of code at the ready, and new team members coming onboard to process the data on a regular basis, we hope we will be able to release future reports more quickly. In time, you never know, perhaps we'll develop and share a live dashboard!

For now we're focusing on making the tool financially sustainable to ensure we can continue to invest time and resources in maintenance and improvements. Among our plans we intend to:

- Build more educational tools and resources, sharing stories about real-life journeys and rewards of data maturity in the sector.
- Promote the tool and raise awareness about data maturity among leaders, networks, partners and other support providers working to build the data capabilities of the not-for-profit sector.
- Further develop our repeat assessment products for individual organisations and cohorts.
- Develop new features for customised benchmarking.
- Work towards achieving web accessibility technical standards (Web Content Accessibility Guidelines WCAG 2.2 is due to be published in 2021).
- Release a new version of the Data Maturity Framework.
- Produce another State of the Sector Data Maturity Report for data collected in 2021.

5.3 How you can contribute to next year's results

For people working in not-for-profit organisations:

- If you haven't already done so, do take the data maturity assessment. It's available in free and premium flavours.
- Share this report and encourage other organisations in the sector to take the assessment too.

For consultants, volunteers, agencies and partners supporting the not-for-profit sector:

- Please feel free to use and share the free data maturity assessment tool with your clients.
- Get in touch if you'd like to discuss white label reseller/discounted pricing on the premium version for individual assessments, repeat assessments, and/or cohort assessments.

For infrastructure organisations, networks and membership groups:

- Please share this report and the data maturity assessment tool with your members and networks.
- Get in touch if you'd like to discuss conducting a data maturity assessment at scale for a specific geography, sub-sector or group of organisations.

APPENDIX: SECTOR CATEGORISATION BY LEGAL TYPE

NGO (NON-GOVERNMENTAL ORGANISATIONS)

For UK based organisations:

- Trust
- Scottish Charitable Incorporated Organisation
- Royal Charter
- Registered Society
- PRI/LTD BY GUAR/NSC (Private, limited by guarantee, no share capital)
- PRI/LBG/NSC (Private, limited by guarantee, no share capital, use of 'limited' exemption)
- Constitution
- Community Interest Company
- Charitable Incorporated Organisation (in England or Wales).

For non-UK based organisations:

- NGO (non UK validated non government or commercial entity with social mission)

PUBLIC SECTOR

- Public Sector (apparently a government entity)
- Academy Trust (a type of public education provider in England)

COMMERCIAL

- Public Limited Company
- Private Limited Company
- Commercial (non UK validated commercial)

UNIVERSITY