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Research report

Driving recovery with better data quality

In partnership with **Royal Mail**

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Why data quality will drive recovery

"We are not all in the same boat. We are all in the same storm. Some are on super-yachts. Some have just the one oar." As we look back on 2020 - a year that no one could have forecast or built a model to predict - I think that comment from British writer, Damian Barr, feels very apt.

The challenges that businesses have faced with their data and marketing look very similar, as many of the findings in this latest round of research highlight. Some have seen little or no impact on their data strategies, whereas others have faced a significant change to their circumstances.

The market sector in which the organisation operates is an important factor - so, too, is the agility of the business. For example, e-commerce has been booming and so faces very different challenges to those in travel and leisure. Interestingly, while the issues and opportunities for each will vary, we see several common disconnects between investment focus and where marketing and data issues are hardest felt.

Clearly, there is a need to improve data quality and, thankfully, this is being recognised. Even so, nearly 45% of respondents didn't know what level of customer churn had been directly caused by Covid-19. Most data quality issues are still only identified once they have caused a problem. These issues suggest there is still some way to go.

Supporting the theme of our research around driving recovery, the insight from this research into where organisations are investing is encouraging. Leading-edge technology and foundational data work continue to be a strong investment focus with cloud migration, machine learning and AI leading the way.

It would appear, however, that investment in data quality is still lagging - this is a cause for concern. We know that driving poor quality data into these leading-edge projects means there will be a real possibility of poor quality outcomes and poor quality business decisions as a result.

As the green shoots of recovery start to blossom, I hope the balance of investment begins to shift so that the value from data and the marketing performance it delivers has the best possible opportunity to succeed.

Paul Davison

Head of data
Royal Mail

Customer churn has averaged 8.7% as a direct result of the crisis

Key Findings:

- **The Covid-19 pandemic may have been unforeseen, but its impact on data strategies has not been universally negative** - there is a 49:29 point balance in favour of those organisations who have seen little or no need to make adjustments.

- **Despite the majority of organisations leaving their data strategy unchanged, there has been an impact on the data-value exchange with customers** - half report some type of issue, ranging from an impact on collection and consent rates (24.1%), customer resistance to providing more data (20.7%) or higher opt-out or defections (2.3% each).

- **Customer churn has also been a factor, with an average 8.7% loss rate as a direct result of the crisis**. But surprisingly, 44.8% say they do not know what the impact has been on retention.

- **As many organisations are currently running advanced data projects, such as machine learning (65.5%) or AI (64.4%), as are running foundational data projects, such as migration to the cloud (67.8%) or customer data integration (64.4%)**. However, any of these programmes could be tripped up by a lagging investment in data quality (52.9%).

- **In adapting to the changed environment, marketers have strongly followed consumers into digital channels** with nearly half (47.1%) increasing their volume of digital advertising, while one-third (35.6%) have run more social media advertising and a similar number (31.0%) have increased their email to customers and prospects.

- **Accurate customer data is rated highest for its impact on marketing performance** (2.26 out of 3), underlining the importance of winning more investment for data quality initiatives.

- **Current levels of data quality lag behind in terms of their ability to support strategic goals**. 44.8% rely on workarounds and 19.5% say their data quality is an obstacle.

- **These issues with data quality are still only being identified when they cause problems, such as during customer data integration (50.6%) or through increased customer complaints (28.7%)**. Both of these incur costs that could be avoided through early mitigation.

- **One reason for this could be the significant gap between hands-on data quality stakeholders and value-creating teams**. Although two-thirds of organisations (67.8%) involve data and analytics, just over half (52.9%) get their business intelligence teams onboard.

Section one - Resourcing and return from data

Across the research panel, adoption and usage of data and analytics surprisingly still lags, with six out of ten being at or below the average (see Figure 1.1). The largest group - Developing (44.0%) - is still working out how to embed these tools and resources across the enterprise, while those in the Early stages (12.1%) or Planning (1.1%) are at significant risk of being left behind.

At the opposite end of the spectrum, organisations where adoption is at an Advanced level (20.9%) are gaining a major competitive advantage that is likely to be more helpful in weathering the current crisis. They are shadowed by a similar number who are Reaching maturity (22.0%) where there are still departments or processes that need to be brought into the ambit of the data and analytics offices.

No organisation will have put in place a data strategy that included the possibility of a global pandemic and total lockdown in its assumptions. Similarly, few data offices are likely to have planned for the pace and scale of change of reporting and insight that senior executives needed during the crisis. For this reason, 26.4% of respondents had to review much or all of their data strategy, giving a weighted score of 29 for those who experienced an impact (see Figure 1.2).

Remarkably, a much higher proportion (37.9%) report that they have had little or no need to rewrite their data strategy. With a weighted score of 49, this means a 20-point difference in favour of those whose data strategy has gone unchanged during the pandemic. One key to this resilience could be a high degree of agility in working practices and flexibility around data sources, as well as a low level of reliance on data streams that might have dried up.

Figure 1.1

Level of adoption of data and analytics

20.9% Advanced

22.0% Reaching maturity

44.0% Developing

12.1% Early stages

1.1% Planning
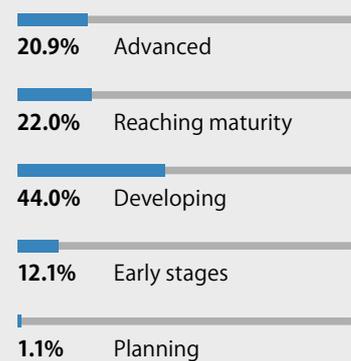
Figure 1.2

What impact has the Covid-19 crisis had on your data strategy?

Very significant (+2) - completely reviewed and adapted	12
Substantial (+1) - revised many elements, but not all	17
Moderate (0) - only needed to adapt a few elements	0
Little (-1) - not been much impact or need for change	-17
None (-2) - no need to change	-32
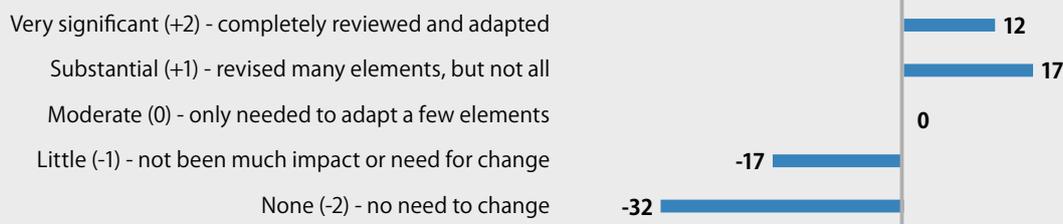
A central element of any data strategy involves striking a balance between capturing data that is necessary for a purpose and extending that purpose to enrich what the organisation understands about its customers. Covid-19 wrought a shift in this data-value exchange as

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many brands needed to support customers who were struggling, rather than developing the relationship as they would in more normal commercial circumstances (see Figure 1.3). For one quarter (24.1%), this has affected their ability to capture consented data.

The good news is that very few customers simply left or chose to opt out (2.3% each), but on the downside, only one in seven (14.9%) have been able to use this changed value exchange to capture more data. Some of this additional information will have been essential in order to provide Covid-19 related services, such as identifying vulnerable or financially-exposed customers. But there is also evidently a barrier against leveraging this contact in the fact that customers feel the organisation should already know enough about them (20.7%).

Given the ongoing focus on data quality, the more surprising finding is that 31% of respondents don't know if there has been any impact on data capture. Knowing what data flows are in place and can be expected should be an ambition of any data strategy. This gap may also reflect a disconnect between the data office and business stakeholders.

If it is surprising that three in ten organisations do not know if the crisis has had an impact on the data they can collect from customers, then it is alarming that more than four in ten (44.8%) have no idea whether Covid-19 has led to increased customer churn (see Figure 1.4). Most organisations publish data on this as part of quarterly and annual reports, if they are publicly quoted, or provide insights internally, meaning it should not be difficult to discover.

Among those respondents who do know the impact, it is clear that there are winners and losers, since nearly half (47.8%) have seen churn at less than 2% during the crisis. Sectors such as telecoms, utilities and e-commerce actually saw increased revenues and customer numbers as a result of large-scale shifts to working from home. At the other end of the scale, sectors such as travel, leisure and hospitality have experienced dramatic - and enforced - loss of customers.

Figure 1.3

How has the data-value exchange with your customers been affected?

24.1%	Some impact on data collection and consent rates
20.7%	Customers expect us to know about them already
14.9%	Validated and captured more data in return for services/support
2.3%	More customers have opted-out than usual
2.3%	Large portion of customer base has been lost or gone dormant
31.0%	Don't know
4.6%	Other
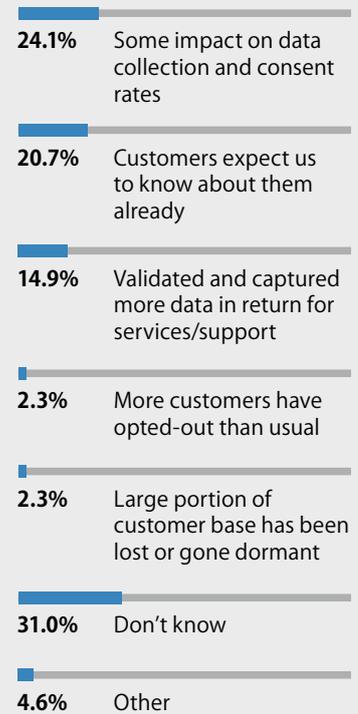
Figure 1.4

What level of customer churn have you experienced as a direct result of Covid-19?

Don't know	**44.8%**
<1%	**45.8%**
1-2%	**2.0%**
3-5%	**14.6%**
6-10%	**16.7%**
11-20%	**4.2%**
21-30%	**8.3%**
31-40%	**2.0%**
41-50%	**2.0%**
51%	**4.2%**

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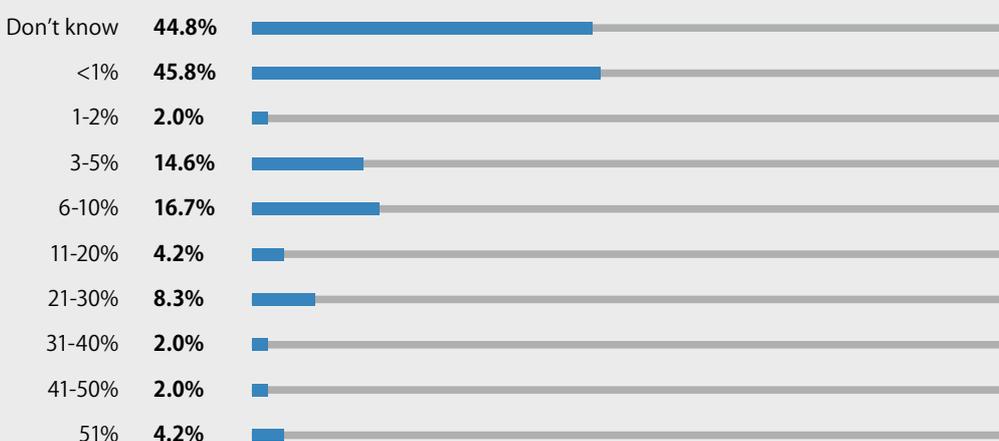
Across the board, the average level of churn attributable to Covid-19 is estimated at 8.7%. This will present a significant challenge for customer acquisition once the crisis has abated - it can not be assumed that every customer lost because of the pandemic will automatically return.

Figure 1.5

What areas of data is your organisation investing in?

	Currently	Planned in next 12 months
Data migration to cloud	67.8%	23.0%
Machine learning	65.5%	37.9%
Artificial intelligence/automation	64.4%	37.9%
Customer data integration	64.4%	33.3%
New data platform	58.6%	24.1%
Customer data quality and validation	52.9%	40.2%
None of the above	3.4%	2.3%

■ Currently ■ Planned in next 12 months
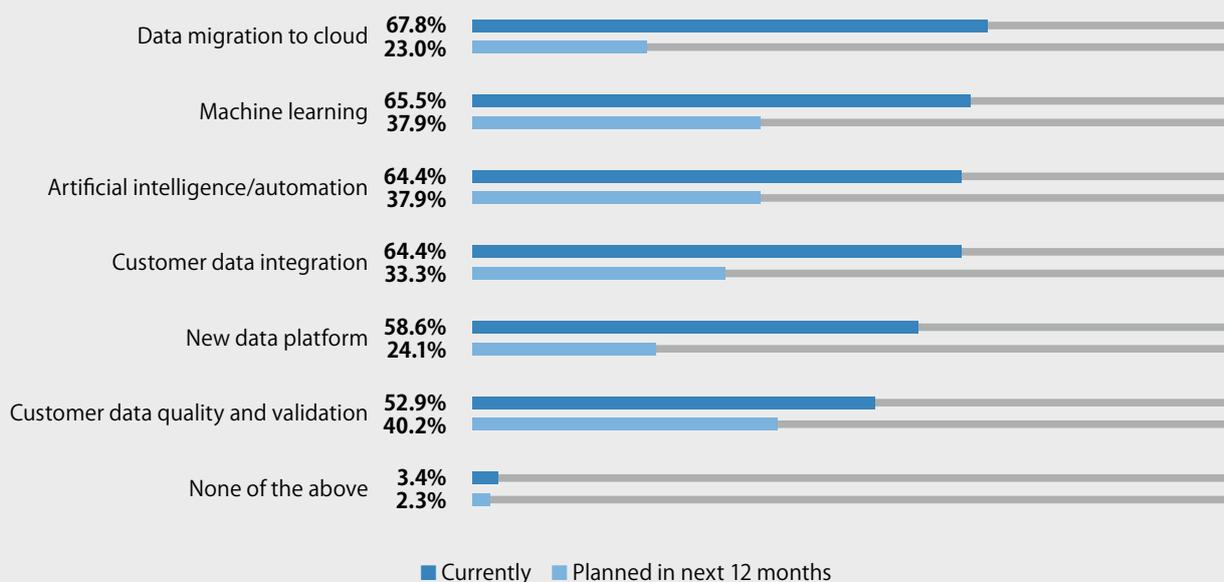
Organisations had already laid their plans for investment into data resources at the start of 2020 and between half and two-thirds have continued with these projects (see Figure 1.5). What is clear is that leading-edge, innovative technology has established itself alongside foundational data work as a focus of investment, with two thirds of organisations introducing machine learning (65.5%) and AI (64.4%). These have the potential to transform ways of working and also to be highly value-generating.
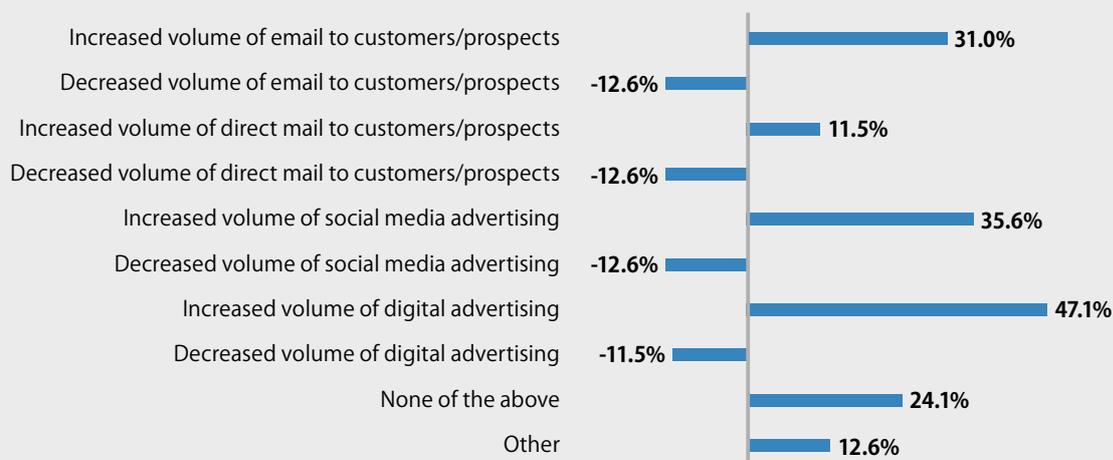
To deliver on these promises, however, the data foundations need to be in place. These are where a significant amount of effort is being focused, with cloud-based solutions (67.8%) and new data platforms (58.6%) showing a strong desire by organisations to have the right technology on which to run AI and ML solutions. Ensuring customer data is integrated, as 64.4% are doing, knits both of these together by allowing data to flow between platforms and solutions without conflict.

One area where investment continues to lag, however, is around data quality. Although a small majority (52.9%) are already putting resource into this activity, the Covid-19 crisis may have revealed to the remainder that they need to catch-up, since this is where four in ten (40.4%) plan to focus in the next 12 months. It is also worth noting the risk created by the 15-point difference between investment in data validation and data migration to the cloud - sending poor quality data will ultimately lead to higher costs and flawed processes.

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Section two -
Taking on the crisis with marketing and data quality

What marketing strategies has your organisation adopted?

Strategy	Value
Increased volume of email to customers/prospects	31.0%
Decreased volume of email to customers/prospects	-12.6%
Increased volume of direct mail to customers/prospects	11.5%
Decreased volume of direct mail to customers/prospects	-12.6%
Increased volume of social media advertising	35.6%
Decreased volume of social media advertising	-12.6%
Increased volume of digital advertising	47.1%
Decreased volume of digital advertising	-11.5%
None of the above	24.1%
Other	12.6%

One of the most significant impacts of the pandemic has been the wholesale shift of business and consumer activities into digital channels. Marketers have followed where their customers have led - nearly half of organisations have increased their activity rates across all digital channels (see Figure 2.1). Similarly 47.1% have upped their digital advertising, not least to keep customers informed about changes to products or services in response to the crisis. Social media advertising will have played a similar role for the 35.6% who have increased it, ensuring the market keeps abreast of how brands have been adapting.

Direct marketing has also been a key component, with rises in email volume by 31.0% allowing conversations with customers to continue. Only direct mail has seen a slight net reduction once increases and decreases are traded off. But within the group who have cut back on their mailing volumes, half are from travel and leisure, retail and charity - sectors where there have been dramatic falls in activity and revenues that have forced budgets to be trimmed down.

Asked to rank the top three data factors that help to drive marketing performance positively, three tiers emerge clearly. In the top tier sit inherent aspects of data, such as accuracy and opt-in rate - the data office can directly influence these through investment into data quality and working with compliance and data governance. Targeting acts as a bridge between the brand and the media channels it uses - when

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running digital and social media advertising, the organisation depends on search and social media platforms which can be "black box". Ensuring data supplied by the brand is as good as possible will help to optimise the target groups that are reached (see Figure 2.2).

This is different from customer segmentation - a second tier data factor - but one that is likely to influence email effectiveness by enhancing relevance. Optimising processes and data sourcing will also keep cost per acquisition low, but address validation is a necessary cost that should be part of the marketing budget.

It is notable that the fourth-ranked factor in marketing performance is not a data component. Cost per acquisition is affected by purely marketing inputs (such as pricing, proposition, creative) or external factors (such as Google or Facebook algorithms) over which data practitioners have no control.

To achieve strategic goals for the organisation, including with its marketing, data needs to be at the right level of quality. Yet only one in 100 say they have achieved this optimal state (see Figure 2.3). Instead, three responses emerged:

• **Realism -** one-third (29.9%) say data quality is reasonable, recognising that they could improve it, but also that most of the time it supports the strategic activities where it is being used. It should be noted that achieving optimal data quality does require significant investment which may not be available.

• **Acceptance -** nearly half (44.8%) are using work-arounds to ensure strategic goals do not fail because of data quality. This level of tolerance works as long as resources and commitment are in place to do that work - extra pressure, such as that experienced during the Covid-19 crisis, might lead to more frustration.

• **Struggling -** one in five (19.5%) know that poor data quality is stopping their organisation from succeeding. While not as bad as the one in fifty (2.3%) who avoid setting goals because they know their data won't support them, fixing this issue should itself become a strategic goal.

Figure 2.2

Which factors in data have a positive impact on marketing performance?

2.26 Accurate customer data

2.21 High opt-in rate

2.19 Accurate targeting

1.93 Low cost per acquisition

1.86 Customer segmentation

1.86 Cross-channel integration

1.86 Address validation

1.58 Third-party data enhancement

1.57 Deliverability

2.11 None of these

■ Weighted average score (1-3)
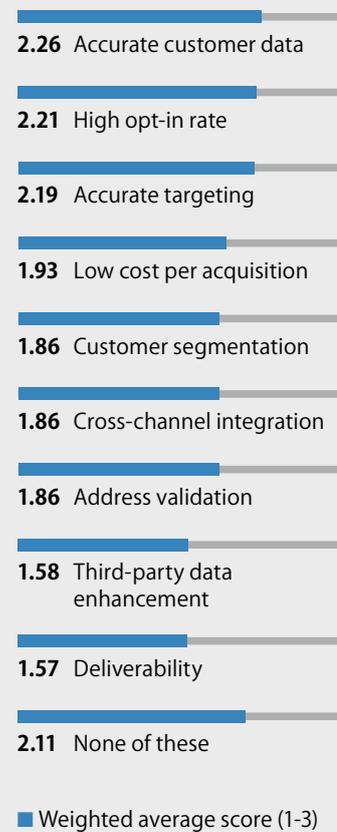
Figure 2.3

How well does your current data quality support your strategic goals?

Optimal - data is at the required standard	**1.2%**
Reasonable - data is mostly right with room for improvement	**29.9%**
Moderate - we get there with work-arounds	**44.8%**
Poor - data quality gets in the way	**19.5%**
Terrible - can't set goals because data won't support them	**2.3%**
Don't know	**2.3%**

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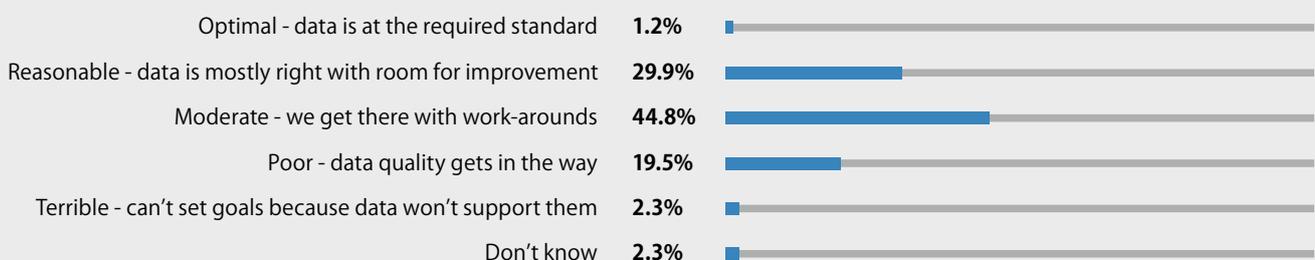
Figure 2.4

What would highlight issues with data quality in the organisation?

Problems with customer data integration	**50.6%**
Rise in data quality error reporting measures	**46.0%**
Increased level of customer complaints	**28.7%**
Increased level of opt-outs	**16.1%**
Poor overall marketing campaign performance	**14.9%**
Poor performance in specific marketing channels	**14.9%**
ROI below forecast	**12.6%**
Cost of marketing campaigns above forecast	**4.6%**
Nothing - not something we track	**5.7%**
Don't know	**5.7%**
Other	**11.5%**

Data practitioners know that there are things they can do about data quality - winning the necessary investment to make improvements is the hard part. This is where issues which lead directly to costs or pain points are important (see Figure 2.4). Increased customer complaints, as noted by 28.7%, are a prime example - depending on the channel, an individual complaint will cost pounds to deal with, whereas data quality fixes per record cost pence. Falling marketing performance or ROI is another cost that should trigger investment into data quality.

What is encouraging is that 46.0% have data quality error reporting measures in place and that these are tracked. However, with half (50.6%) saying data quality is only identified during customer data integration, it seems that mitigation happens at the wrong point - downstream of a failed process rather than upstream before the process is run.
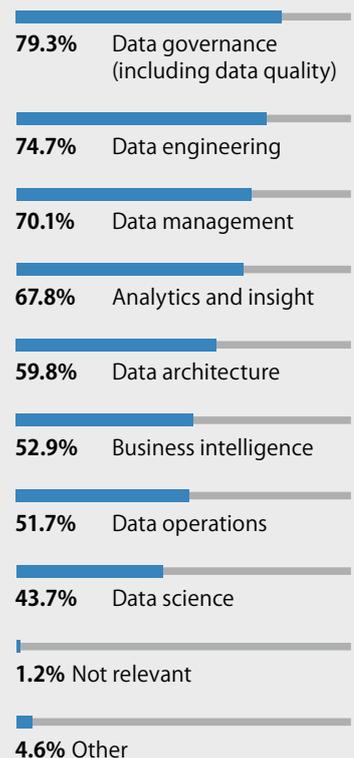
It takes many hands to keep data quality under control, led by the teams with the necessary domain expertise, especially data governance/data quality, data engineering and data management. Several of the newer data teams - data architecture and data operations - lag behind, but are also not present in all organisations.

The most significant gap is between hands-on data quality stakeholders and the value-creating teams (see Figure 2.5). Although two-thirds of organisations involve data and analytics, just over half (52.9%) get their business intelligence teams onboard. This is a potentially significant issue where the data office is trying to establish itself as the single source of data truth - BI is where reliable information becomes visible, so continued errors could undermine this goal.

Similarly, only 43.7% have data science as a stakeholder in data quality programmes. Given the high level of investment into ML and AI, poor data quality could prove to be an obstacle to their success - insights from this team into what level of data quality is appropriate to these strategic goals are critical to avoid this.

Figure 2.5

Which stakeholders in the data and analytics function are involved in solving data quality?

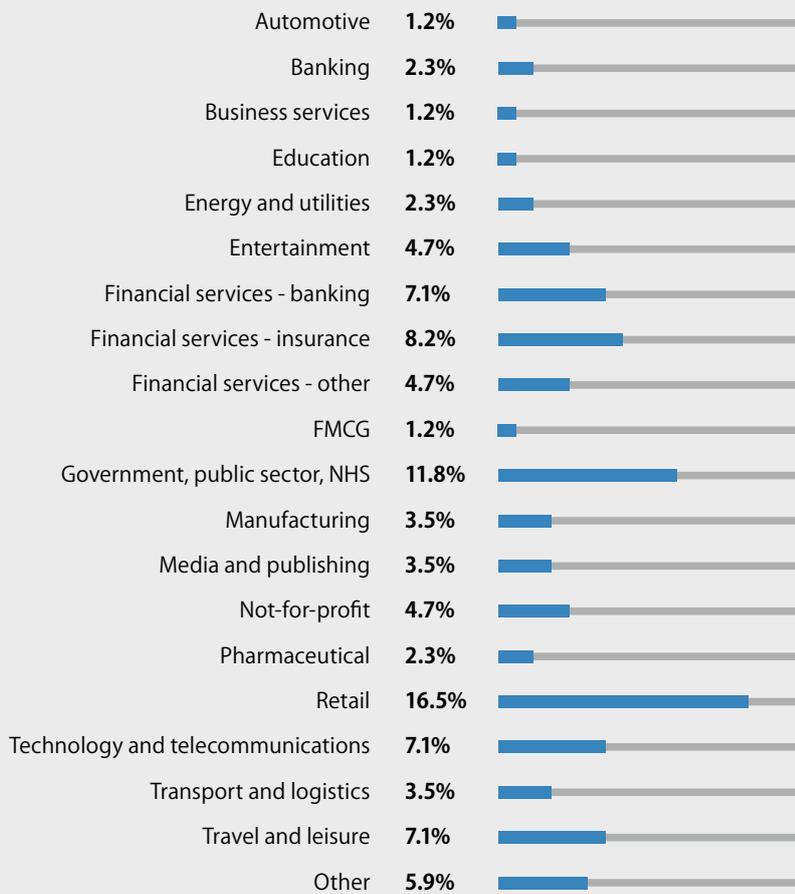|	
79.3%	Data governance (including data quality)
74.7%	Data engineering
70.1%	Data management
67.8%	Analytics and insight
59.8%	Data architecture
52.9%	Business intelligence
51.7%	Data operations
43.7%	Data science
1.2%	Not relevant
4.6%	Other

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Sample profile and methodology

DataIQ curated a research panel directly from its community and made up of 101 end-user practitioners in data and analytics. Responses from this panel were generated via a self-completion online survey during September 2020.
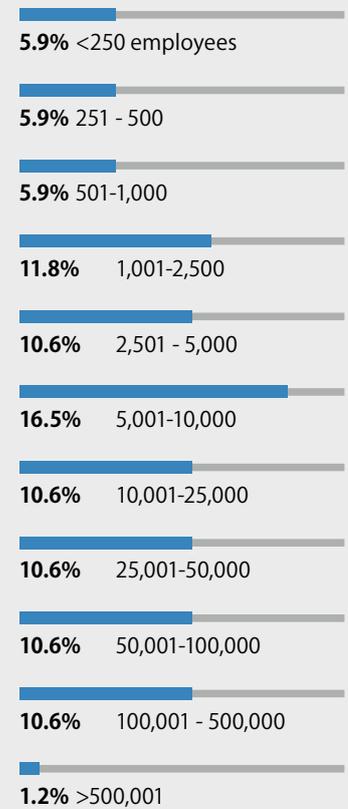
Seniority ranged from senior managers and heads of department through to directors and chief officers up to global directors.

Functions represented across the sector included analytics, CRM, data, data services, data strategy, data quality, data science, decisioning, insight and predictive analytics.

Respondents by industry sector

Sector	%
Automotive	1.2%
Banking	2.3%
Business services	1.2%
Education	1.2%
Energy and utilities	2.3%
Entertainment	4.7%
Financial services - banking	7.1%
Financial services - insurance	8.2%
Financial services - other	4.7%
FMCG	1.2%
Government, public sector, NHS	11.8%
Manufacturing	3.5%
Media and publishing	3.5%
Not-for-profit	4.7%
Pharmaceutical	2.3%
Retail	16.5%
Technology and telecommunications	7.1%
Transport and logistics	3.5%
Travel and leisure	7.1%
Other	5.9%

Respondents by company size

Size	%
<250 employees	5.9%
251 - 500	5.9%
501-1,000	5.9%
1,001-2,500	11.8%
2,501 - 5,000	10.6%
5,001-10,000	16.5%
10,001-25,000	10.6%
25,001-50,000	10.6%
50,001-100,000	10.6%
100,001 - 500,000	10.6%
>500,001	1.2%

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About Royal Mail Data Services

Royal Mail Data Services is the specialist data business of Royal Mail Group.

We are a team of data experts providing Royal Mail's business customers with data hygiene and targeting solutions, consultancy and analysis to increase marketing effectiveness, underpin data compliance and boost operational efficiency.

We're committed to supporting our customers by helping to improve business performance and we're constantly developing new data solutions to ensure businesses source, capture and maintain their data. Every day, we're providing businesses of all sizes with a combination of data for targeting, data insights and analysis and data quality management services.

Our customers work with us for so many different reasons:

To improve the performance of their marketing and customer communications campaigns.

To tap into the sales and customer retention opportunities presented by using our unique home and business mover data.

To reduce their costs of using inaccurate or out-of-date address data.

To enhance their customers' experiences by delivering more personalised, relevant communications and interactions.

To improve the overall quality of their customer data.

And these are just a few examples.

You'll find more information at www.royalmail.com/data

You can also call us direct on 03456 000 098 or, just send an email to datasales@royalmail.com

About DataIQ

DataIQ is the first dedicated membership business for data and analytics leaders and their teams. Formed in 2011 we connect, educate, and support the fast evolving data and analytics profession.

Our core purpose is to help our members build great businesses through driving value from the intelligent use of data, analytics, and getting the best from their people, technology, and data.

DataIQ delivers benefits for data leaders, their teams, and their organisations. Our members come from global, FTSE 100, large and mid-market organisations including Aviva, BBC, BT Group, GSK Consumer Health, HSBC, Jaguar Land Rover, Sainsbury's, Sky, Three, TUI, Walgreens Boots Alliance and Warner Media.

More broadly, DataIQ focuses on raising the profile of the data, analytics and insight functions in organisations and championing a positive agenda for the industry.

Believing strongly that it's people that make the real difference, rather than data and technology, we have established the industry's two most high-profile recognition programmes – the DataIQ 100 and the DataIQ Awards.

The annual DataIQ 100 identifies the most influential people in data-driven businesses - making it into the list is a recognised honour. Meanwhile, the DataIQ Awards, often referred to as the "Oscars of data", showcase excellence in the industry. Winning a DataIQ Award is a real mark of distinction for any individual, team, or business.

To find out more about becoming a member, our recognition programmes or joining our wider community visit **www.dataiq.co.uk**