

Data Migration Research Study 2017

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Research Methodology

This independent data migration industry research study was carried out during April 2017 by Data Migration Pro and sponsored by Experian.

270 respondents, from more than 30 countries and 50 industry sectors, took part in the study.

Most of the respondents had considerable expertise in either data migration technology or data migration methodology.

To gather research data, respondents shared their experiences via an online survey. A sample of respondents were also invited to provide more detailed responses in a series of more in-depth interviews.

The focus of the survey was to study the experiences of data migration practitioners when delivering data migration projects in the modern era of large data volumes, tight deadlines and increasingly complex architectures.

Our primary goal with the research was to learn from the successes (and failures) of recent projects, so that future data migration projects can achieve a successful outcome.

Sponsor's Message



Jason Goodwin: **Managing Director, Experian Data Quality, UK & Ireland**



Our goal in supporting this research initiative was to help organisations become more aware of the drivers for a successful data migration.

Too many organisations are still playing 'fast and loose' with their data migration strategy and ultimately it is the business, and their customers, that pay the price.

Data migration is the keystone to business transformation. Without an effective data migration, the new target environment will fail to realise its potential.

Experienced data migration practitioners understand the importance of doing data migration 'the right way', but they don't always get the support (and recognition) they deserve.

At Experian, we are keen to reverse this trend and are particularly committed to championing the importance of the Data Migration Lead.

For many years, we have seen how the Data Migration Lead plays a pivotal role in ensuring organisations are adopting the right approach across the data migration lifecycle.

What this research clearly illustrates is the importance of not only hiring experienced Data Migration Leads, but giving them the resources and tools they need to succeed.

With Experian Pandora (our flagship data management technology) we have helped many Data Migration Leads deliver successful data migration initiatives.

By equipping project leaders and data migration specialists with a next-generation data management platform, they have been able to not only accelerate and de-risk their data migration initiatives, but deliver far greater collaboration and engagement, particularly amongst the user community.

Getting everyday business users involved in activities such as data quality, data discovery and data migration, continues to be one of the driving forces behind the design of Experian Pandora.

Whether it is delivering scoping and impact assessments, landscape analysis, mapping and design, data quality management and reconciliation testing, archival and decommission, or even post-migration data quality assurance, Experian Pandora continues to be adopted by highly collaborative teams.

If you would like to see how Experian Pandora can support your data migration team, please request a personal demonstration with one of our consultants by using the following contact methods:

Web: <https://www.edq.com/uk/contact-us/>
Tel (UK): [0800 197 7920](tel:08001977920)
Email: dataquality@experian.com

Alternatively, learn more about how Experian Pandora can support your data migration project by visiting our Data Migration knowledge centre:

<https://www.edq.com/uk/data-migrations/>

Section 1: Key Findings

In this initial section of the report, we outline the key findings from the research, giving an indication of what it's like to deliver a data migration project in the modern era.

In later sections of the report we have created several sections that provide practical advice and best-practice guidelines to help address some of the issues observed in the research.



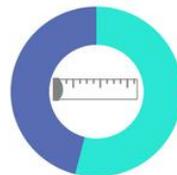
69% of projects considered successful



46% of projects delivered on time



36% of projects kept to forecasted budget



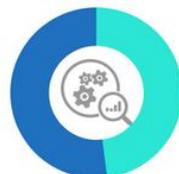
46% of projects planned and forecasted effectively



43% of projects well governed and managed



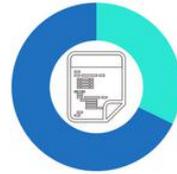
61% of projects migrated 3 or more systems



52% had effective data migration scoping



72% of projects used data cleansing software functions



64% of projects used manual coding



62% of projects used phased migration strategy

How successful are data migration projects?

Project Outcome

We asked respondents who had completed their data migration to reflect on the perceived success of the project.

As the data shows, there are clear positives to take from this result.

1	The project was a success	118 / 69%
2	The project was mostly successful	44 / 26%
3	The project was partially successful	7 / 4%
4	Other	1 / 1%
5	The project was a failure	0 / 0%

69% of projects were considered an outright success, 26% mostly successful, 4% of projects classed as partially and, encouragingly, no outright failures reported.

Project Delays

Project success is obviously subjective so we asked respondents how much of an overrun their project experienced.

What we found is that 46% of projects did not experience any delay, with 72% of projects being delivered with a 3-month overrun or less.

Encouragingly, only 7% of projects experienced delays of a year or more.

1	It didn't overrun	123 / 46%
2	Between 1 month and 3 months overrun	37 / 14%
3	Less than 1 month overrun	32 / 12%
4	Between 3 months and 6 months overrun	30 / 11%
5	Between 6 months and 9 months overrun	15 / 6%
6	Between 9 months and 1 year overrun	13 / 5%
7	Between 1 year and 18 months overrun	9 / 3%
8	Between 18 months and 2 years overrun	7 / 3%
9	Longer than 2 year overrun	4 / 1%
^	Show less	



Budget 'Creep'

The perceived success of any project is also gauged by how well the budget was kept in-check so we asked respondents about the final budget status of their project.

What we found is that 36% of projects kept to forecasted budget, with 27% of projects going over budget slightly and only 14% going over significantly.

Interestingly, 23% of respondents had no knowledge of the project budget status, which surprised us given that many of the respondents held quite senior positions on the project such as Data Migration Lead or even project manager.

What's interesting with both the budget and overrun statistics is the question mark around the accuracy of the original forecasts given that many respondents cited ineffective scoping and planning activities early in the project.

We explore recommendations for tackling poor scoping and forecasting later in the report.

1	It kept to forecasted budget	97 / 36%
2	It went over budget slightly	74 / 27%
3	I don't know	61 / 23%
4	It went over budget significantly	38 / 14%

"The biggest challenge was that the client dropped the ball on the upfront planning and budgeting; they just didn't scope it very well and relied too much on 'guesstimates' from their suppliers.

The project therefore went over-budget because the original estimate just didn't cover the broader scope of what needed to be delivered"

The issue of perspective

What was clear from speaking to practitioners during more in-depth interviews is that the business sponsors and target users may have shared a different perception of success compared to the predominantly data migration based practitioners that took part in the survey.

This response, from a utilities consultant we interviewed typified several of the discussions:

“Unfortunately, the customer had been so focused on the new functionality in their new billing/marketing system they forgot to understand the implication of nearly 20 years of historic and poorly managed data sources.

With the tight timeframes imposed by the programme manager and a mandate of zero-cleansing the outcome was inevitable from the start – we still delivered the data but the business had a heck of a time for months after as they struggled to make it usable.”



What was the scale of the data migration being undertaken?

To provide greater clarity around the complexity of a modern data migration we tried to get some quantitative data in the form of record counts, number of systems migrated and project duration.

How long do data migration projects take to complete?

When we examined the project duration, we found that 85% of projects are delivered within 18 months.

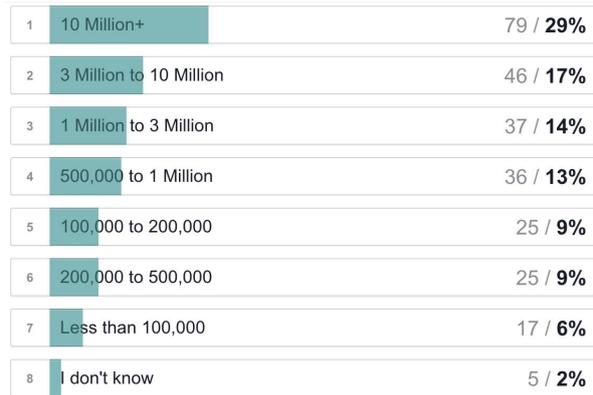
This should give some indication to senior management of just how complex and resource intensive these projects can be.

1	Between 6 and 12 months	39 / 23%
2	Between 3 and 6 months	38 / 22%
3	Between 1 and 1.5 years	34 / 20%
4	Less than 3 months	24 / 14%
5	Between 1.5 and 2 years	17 / 10%
6	Between 2 and 3 years	11 / 6%
7	Longer than 3 years	7 / 4%
8	I don't know	0 / 0%

How many records were migrated?

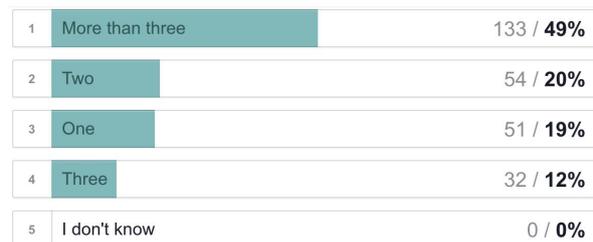
We found that 60% of projects were migrating more than a million records of data but a significant proportion (29%) of projects were migrating ten million records or more.

Clearly, the bulk of modern migrations are involving large volumes of data.



How many legacy systems were migrated?

When we look at the number of systems migrated, we clearly see that a large proportion of data migrations (61%) are migrating three or more systems, which when combined with the high record count, only adds to the complexity and scale of a typical project.



What is the link between the duration of the project and the size of migration (number of systems and record volumes)?

As expected, we found that with higher volumes of data (1,000,000+ records migrated) there was an increased project duration, with only 44% of projects completing in less than a year.

At the higher end of the spectrum, we found that very large data migrations (10,000,000+ records migrated) witnessed a 39% completion rate within a year.

If we contrast this with lower volume migrations (less than 1,000,000 records migrated) we see that 76% of projects were delivered within a year.

When we look at the impact on the number of systems being migrated, we see a similar outcome.

We found that with two systems or less being migrated, 76% of data migration projects completed within a year.

With 4+ legacy systems being migrated we see the completion rate of projects in under a year drop to 46%.

Obviously, this analysis is expected as you would expect more complex projects to take longer but the research gives a clear indication and metric of how project duration is directly linked to the volume of records and quantity of legacy systems.

This finding also emphasises the need for greater focus during the scoping, forecasting and impact assessment phases of the project to fully understand the scale of the legacy environment. These are topics that we expand upon later in the report.

Who delivered the data migration?

Only 30% of data migration projects were delivered exclusively in-house.

68% of projects involved external suppliers in some capacity (the Other category all referred to use of external suppliers).

It's clear that external providers are involved significantly in the delivery of data migration projects, either with target application providers, an external consultancy, or a combination.

1	Collaboration: In-House and External	120 / 44%
2	In-house delivery team exclusively	82 / 30%
3	Partner: External Consultancy	51 / 19%
4	Partner: Target Application Provider	8 / 3%
5	Other	6 / 2%
6	I don't know	3 / 1%

What execution strategy was used for the physical migration?

Big-Bang vs Phased?

62% of projects are adopting a phased approach, with 34% opting for a 'Big-Bang' style migration (where all the data moves in one operation).

1	Phased (migrated in phases or chunks over time)	168 / 62%
2	Big-Bang (all migrated in one operation)	91 / 34%
3	Other	7 / 3%
4	I don't know	4 / 1%

Our research confirms a trend towards more sophisticated, phased migrations, in contrast to the traditional one-off 'Big-Bang' projects which can often incur greater risk and business upheaval if problems are encountered.

The Other option all cited a hybrid strategy where both phased and big-bang tactics were used. For example, one project carried out an initial big-bang followed by several phased migrations, others did the reverse.

71% of data migrations relied on phased execution with 4+ legacy systems

The link between scale and strategy

What was interesting from the research was the clear push for a phased strategy even with the lower volume projects. There was no noticeable swing to adopt a Big-Bang strategy as the volumes decreased.

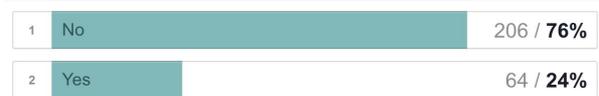
Where the migration strategy was more marked however was when the number of systems increased.

With two or less systems being migrated, 49% of projects opted for a phased delivery strategy. This contrasts to 71% of projects taking the phased option when four or more systems were migrated.

As the legacy landscape becomes more complex, it appears data migration practitioners are adopting a more flexible, phased delivery model.

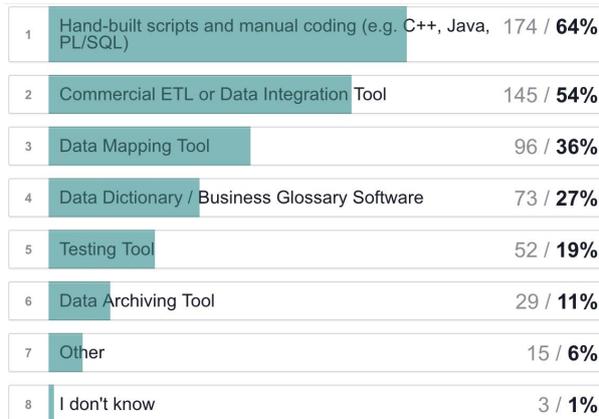
What technology was used on the project?

Was the target system a cloud application?



Despite the growth in cloud systems in recent years, we still found that the bulk of migrations (76%) are focused on non-cloud targets.

What core tools were used (non-data quality)?



Coding was found to be the most popular tool of choice on projects, particularly amongst data migration developers.

Our interviews found that a lot of seasoned data migration practitioners still prefer to use tools such as SQL and PL/SQL, particularly to execute the mappings and transformation between source and target environments.

Speaking to professionals during the study, it was also clear that there often wasn't budget assigned to the project for more advanced tools.

This would appear a short-sighted move given the scale and duration of the projects observed.

64% of data migrations used manual coding in their architecture

We also found that the complexity of a project, in terms of record volume and legacy system count, had no bearing on the adoption of coding on the project, coding remained the most popular option.

The low adoption of some form of data dictionary is also noted. Many of the respondents we spoke to made use of 'home-grown' solutions using tools such as Excel or Microsoft Access. Particularly for the larger migration programs, a more robust solution is obviously desirable given the volumes and number of legacy systems typically involved.

What data quality software functions were used?

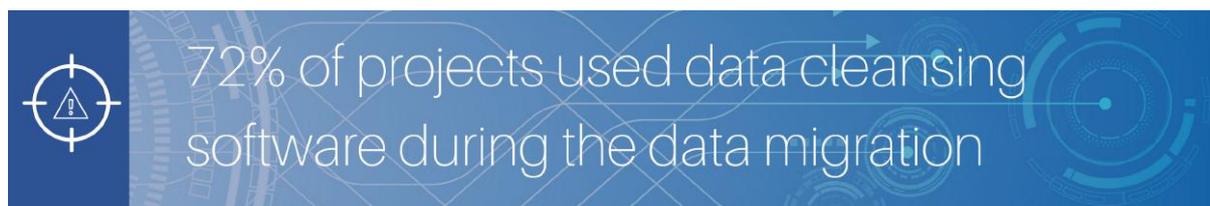
Knowing how important data quality management is to a data migration we split data quality software into its own category.

What we observed was that 72% of projects were making use of data cleansing or improvement software.

59% of projects used data profiling. We would have expected that to be higher so interviews were had with some of the practitioners who took part in the survey to explore this further. What we found is a large proportion of people are still using manual analysis techniques (e.g. SQL/ Excel) to understand the structure, content and quality of legacy data. Clearly, this is time-consuming and non-optimal given the scale and scope of many projects researched. You cannot effectively discover, measure and assess data quality manually with the types of complexity we witnessed on this study.

In addition, the use of some form of specialist software to manage data quality rules appears low at 42%. Speaking to practitioners during the study we found that practically everyone was still relying on Excel and Word documents to track changes to data quality rules and their associated mappings. The danger with this approach is scaling a collaborative model, particularly as team sizes were found to be typically large on most migrations.

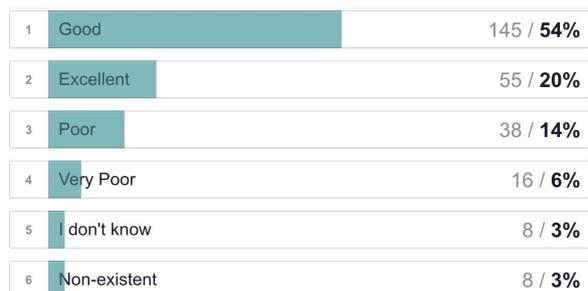
We explore the issue of data quality adoption in more detail later in the report.



What was the impact of the Data Quality Strategy?

How effective was the data quality strategy?

74% of respondents said that their data quality strategy was either good or excellent which is encouraging.

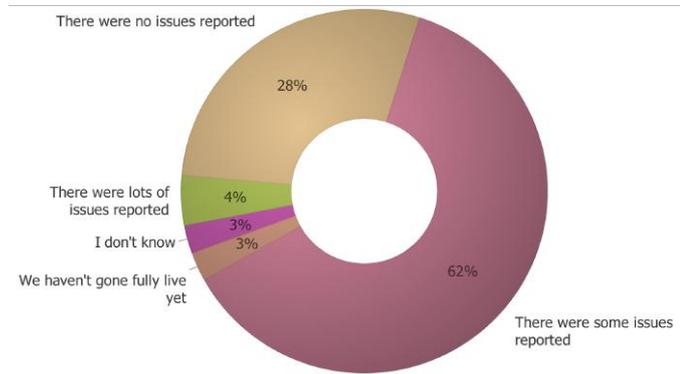


Clearly the message is getting through that data quality management is critical to project success.

What was the state of data quality in the target system following migration?

We found that only 28% of projects experienced no data quality issues at all following the migration.

As anticipated, the effectiveness of the data quality strategy appears to have a clear impact on the quality of data found in the target system.



Where the data quality strategy was classed as 'Excellent' we found that 44% of projects reported no issues in the target environment.

Conversely, we found that non-existent, poor, or very-poor data quality strategies resulted in only 14% of projects experiencing no issues reported.

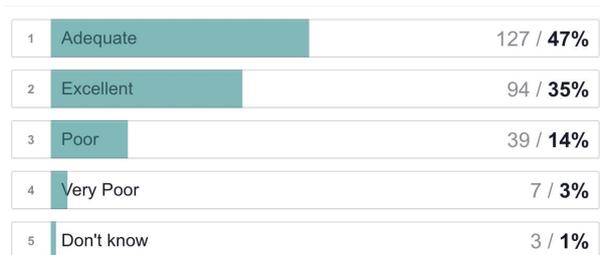
A poor data quality strategy also increased the likelihood of significant data defects from 4% to 17%. This increased defect rate contrasts markedly when we compare with the adoption of an excellent data quality strategy. In this case, we witnessed only 2% of projects experiencing lots of data quality issues in the target application following go-live.

What was concerning during the research is that there is still the perception that poor quality data in the target environment is 'the norm' for migration projects. Several respondents stated that an activity for 'mopping up' defects in the target was planned into the project from the outset, this obviously sets the misguided expectation that defects are inevitable.

"We've found that on the recent data migrations we've being asked to deliver, the customer wants to build on the data quality activities from the project and keep an ongoing data quality management environment in place - they already have all the software, skills and data quality rules created during the project so it makes sense to them."

What was the data quality skill level on the project?

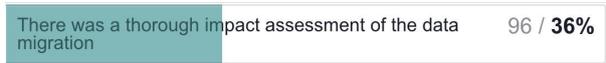
We found that 82% of projects had either adequate or excellent data quality skills on the project.



Once again, it appears the importance of data quality is getting through to data migration project leaders.

How well was the project coordinated and managed?

Did the project start with a thorough impact assessment of the data migration?

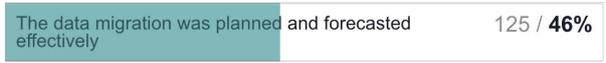


Data migration is often a complex, high-risk, and poorly understood initiative so we always recommend a pre-migration impact assessment to help scope, scale and de-risk the project at the outset. The benefits of this tactic are always positive and felt throughout the entire team at every phase of the migration.

However, we found the effectiveness of this technique to have a low adoption in our survey (36%) so we provide recommendations for implementation and improvement in the next section of the report.

“The client simply didn’t understand their source architecture at all, they completely underestimated the scale of the project and I think it’s fair to say the target system supplier didn’t help, they made it all sound so simple. The problem is [the organisation] didn’t have a lot of experience with this type of migration because they were a non-profit with limited technical expertise in the department. Would an impact assessment have helped them? Undoubtedly, because there would have been no more assumptions and guesswork from the target vendor.”

Was the data migration planned and forecasted effectively?



Less than half of projects were found to have been planned and forecasted effectively.

Given the low take-up of impact assessment activity this figure is hardly surprising but is an obvious area for improvement. If you can’t forecast the project correctly, it’s highly likely the project will appear to overrun or go over budget.

This is a serious issue which we cover in more detail in the next section of the report.

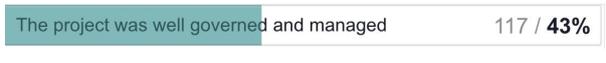
Was the data migration scoped effectively?



We found that nearly half of all projects were not scoped effectively which again could have been tackled with an impact assessment.

Given the importance of scoping the project, particularly for planning and forecasting, there is definite room for improvement here. We cover specific tactics for this in the next section of the report.

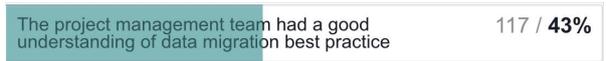
Was the project well governed and managed?



Our research highlighted that only 43% of data migration projects could be considered well governed and managed. Given the critical importance of data migration initiatives we provided some recommendations for improvement in the next section of the report.



Did the project management team have a good understanding of data migration best-practice?

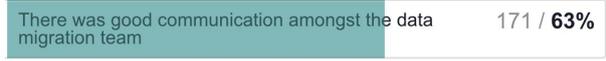


Only 43% of respondents stated their project management team had a good understanding of how to run a data migration effectively.

This is obviously on the lower end of the spectrum so is a cause for concern that we address in the next section of the report where we provide detailed recommendations for improvement.

“We even bought data migration best-practice guidebooks for each of the management responsible for the migration, we tried to do everything we could to increase the awareness and show them how far off their perception of the project was but even with all this, they still didn’t appreciate the complexity and challenges until we got well into the project and they could finally see how big this thing was.”

Was there good communication in the project team?



We found that there was some room for improvement with respect to communication amongst team members as 63% stated communication within the project team was good.

The response to this question remained the same, regardless of team size. Even with very large projects (e.g. 100+ team members), 64% of respondents still stated that the communication on the team was good.

This clearly indicates the need to scale your communication strategy as your team increases.

Was there good communication with the target application team?



The research indicates that just over half of respondents found their communication with the target system team to be good.

Clearly, there is room for improvement and something for project managers in particular to plan for in any future projects.

Was the business fully engaged in the data migration?

The business was fully engaged in the data migration 135 / **50%**

Business engagement on data migration projects has been proven to be a key driver for success but we found that half of all projects lacked adequate business engagement on the data migration.

Interestingly, we found that where projects had overrun significantly (beyond 1 year) only 21% of projects had full business engagement. This appears to show some form of correlation between engagement and project outcome.

Was the data migration methodology effective?

There was an effective data migration methodology applied to the project 152 / **56%**

Just over half of respondents claimed to have an effective data migration methodology applied to their project which is obviously a concern, especially as the bulk of projects (70%) had some form of external supplier involvement.

We also found that where the Project Management team had a good understanding of data migration best practices, the number of projects with an effective data migration methodology increased to 73%.

Was the appropriate technology used on the data migration?

The appropriate technology was used on the data migration 163 / **60%**

60% of respondents said their data migration had appropriate technology on the project.

What we found particularly surprising was that even when respondents used scripting instead of ETL or other data integration tools, 65% still said their technology for data migration was appropriate.

We explored our sample set of practitioners for more insights and found that most of them used some form of scripting, and had done for many years. It appeared there was often a reluctance to adopt new technologies, particularly amongst the more senior practitioners we interviewed.

Was there an effective data migration testing strategy?

The data migration had an effective testing strategy 132 / **49%**

Only half of the respondents we surveyed said their data migration testing had been effective. We found a correlation between data migration testing effectiveness and budget status. When projects went over budget significantly, only 32% of people said their data migration testing had been effective.

Also, we found that when projects used some form of dedicated data migration testing tool, 73% of respondents said their data migration testing was effective.

Data migration testing also appeared to be more effective on projects where there was more effective communication with the target application team, once again another challenge that project managers can now actively plan for.

Section 2: Setting Your Project up for Success

The research has highlighted a wide range of areas for improvement, particularly in the way projects are managed and governed during the early stages of a project.

What can project leaders and sponsors do from the outset to create a more favourable outcome later in the project?

Start with an Impact Assessment

As discussed, one metric that stood out in the research was the relatively low adoption of a thorough impact assessment on data migration projects:

There was a thorough impact assessment of the data migration	96 / 36%
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By carrying out an initial impact assessment your project can benefit in numerous ways:

- Help identify the initial scope and scale of the project
- Provide better forecasts for project budget and timelines
- Understand the specific skills and technologies required
- Get the business engaged early and focused on the 'job-in-hand'
- Discover 'hidden' data sources and stakeholders
- Flesh out any unforeseen contract and legal obstacles
- Prime the business of their commitments earlier in the migration lifecycle

When we observe some of the other key stats from the research, it's clear that many other issues cited by respondents could have been mitigated by performing a more robust impact assessment right at the start of the project:

The data migration scoping was carried out effectively	140 / 52%
The business was fully engaged in the data migration	135 / 50%
The data migration had an effective testing strategy	132 / 49%
The data migration was planned and forecasted effectively	125 / 46%
The project management team had a good understanding of data migration best practice	117 / 43%
The project was well governed and managed	117 / 43%

We will now explore some of these other areas in more detail.

Develop a Robust Scoping Capability (to Support Planning and Forecasting)

Only 46% of respondents felt their project was planned and forecasted effectively. In addition, only 52% felt that the scoping carried out was effective.

Planning and Forecasting Directly Linked to Scoping

If we combine these findings with the apparent lack of a thorough impact assessment, it's clear that there is room for improvement in the way scoping and planning is undertaken, as confirmed by one respondent that experienced an eighteen-month overrun to their project:

“The initial scoping strategy of our multi-phased data migration was very poor, resulting in an inability to scope the information that the business wanted, which in turn created poor planning and forecasting.”

The message is clear - you cannot accurately plan or forecast your project without adequate scoping.

Landscape Analysis Drives the Scoping Activity

Understanding your legacy landscape and the data required for migration forms the bedrock to the whole project and emphasises the need to set your data migration up the right way from the outset.

Data Profiling, Relationship Discovery and Data Quality Assessment, form a core Landscape Analysis capability and are key activities during the scoping phase because they help you answer questions such as:

- What data do we have in our legacy environment?
- How is the legacy data related?
- Where are the gaps (in content and quality)?
- What is the current data quality level?

If we look at the data quality software functions that projects were using in our research, we see that a lot of projects are failing to use these scoping tools:

Q: What data quality software functions did the project use?

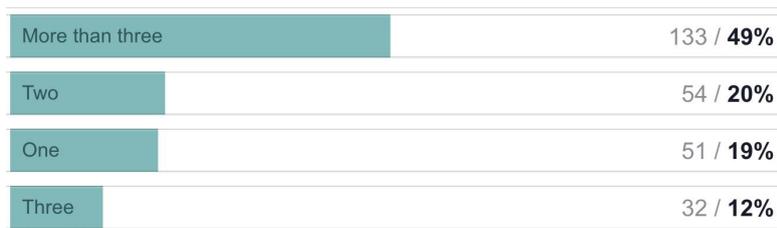
Data Quality Assessment / Validation	173 / 64%
Data Profiling	159 / 59%
Relationship Discovery	97 / 36%

Scale of Modern Data Migration Landscapes Compound the Need for More Effective Scoping Practices

As covered in the findings section of the report, we discovered several other issues that compounded the scoping challenge, namely the increasing complexity and volumes witnessed on modern data migration projects.

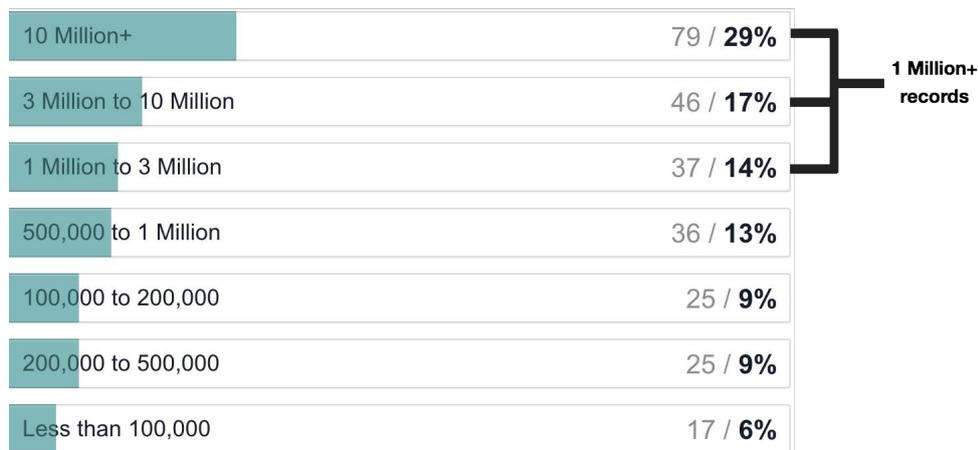
Nearly 50% of projects involve migrations from four or more legacy systems so the need for a more scalable and robust scoping strategy on these types of project is critical.

Q: How many legacy systems were migrated?



Secondly, half the projects surveyed were migrating more than 1 million records of data:

Q: How many records were migrated?



Given the scale of the task facing a project team when migrating multiple legacy systems, with high volumes of data and tight deadlines, it is strongly recommended that you appoint effective scoping skills and technologies to help create a solid foundation for the rest of the project.

Manage Scope Creep with Deeper Landscape Analysis

In addition, many respondents cited the challenge of controlling scope creep as a key problem.

By creating an accurate picture of project scope at the outset, you can more easily assess the impact of any planning and design changes.

Locking down the scope, equipping the team, and assessing the impacts of scope change, means you are more likely de-risk the project and deliver a favourable outcome because requests for scope change are common on data migration projects.

Plan for them by committing to a detailed impact assessment and landscape analysis activity, as early in the project as possible.

Assign a skilled data migration practitioner to help lead the project from the outset

As covered earlier in the report, only 30% of projects were delivered exclusively in-house, the rest involved the use of external solution providers or some form of collaborative delivery model:

Q: Who delivered the data migration?

1	Collaboration: In-House and External	120 / 44%
2	In-house delivery team exclusively	82 / 30%
3	Partner: External Consultancy	51 / 19%
4	Partner: Target Application Provider	8 / 3%

With such a strong reliance on external partners, customer organisations need to place considerable emphasis on ensuring they are still managing and governing the project effectively.

To emphasise this point further, the research below illustrates, only 43% of data migration projects were considered well governed and managed:

Q: Was the project well governed and managed?

The project was well governed and managed	117 / 43%
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The message is a clear one - it's not enough to hand over responsibility to third-parties, you still need to exercise strong leadership and oversight to ensure a successful outcome.

Appoint a 'Trusted Advisor' Role on the Project

Several of the respondents expressed a concern that project contracts were set up in such a way that the risk was pushed onto the client, not the supplier.

For example, poorly communicated data quality contract clauses can mean the client becomes unwittingly responsible for data cleansing, without fully understanding the implications.

To help navigate through the complexities of a modern migration ensure you have a 'trusted pair of hands' to help mediate and govern suppliers as one client experienced when they hired a senior data migration lead on a project that had been struggling for over a year:

"I joined a project that had been beset by poor requirements gatherings by the target supplier that in turn had jeopardised the project for over a year.

My first task was to create a detailed data migration inventory that immediately identified 200 missing attributes that were clearly causing major frustration to the business users. I then got everyone in a room to look at the user requirements from a business process perspective.

Once we did this we could start to 'unruffle' a few feathers, explain what the changes meant, and plan the way forward."

Educate the business (early and often)

One of the recurring themes cited by respondents was the lack of awareness, particularly from the business community, of their obligations on a data migration.

The research found that only 50% of projects had the business fully engaged.

Clearly there is much to be done here and several of the respondents shared some solutions they have found to be effective.

Tip 1: Site the Project Team in a Business-Friendly Location

Several respondents used the concept of a 'war-room' where they would invite business sponsors, stakeholders and most importantly, users, into regular workshops.

Situating your project team as close to the business as possible has additional benefits in that it makes the migration tangible for them.

Sometimes the business needs to believe that this project really is going to happen and will require their full commitment.

Tip 2: On-board a Customer Champion

To get business buy-in you obviously need to gain the support of senior management but the real key to success is to gather grassroots support.

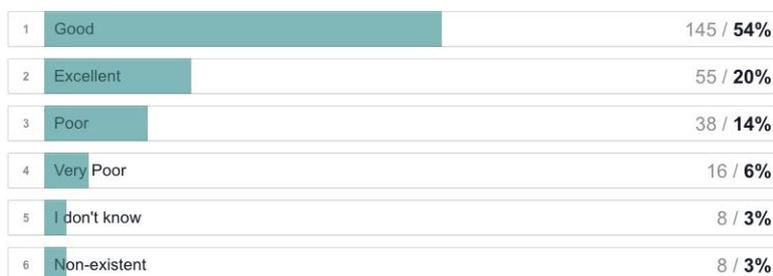
To facilitate this, start by finding the key 'super-users' from the business community and engage them early in the project. Explain how their involvement will directly improve both the data and usability of the target environment (which the user will typically be move to).

Tip 3: Ensure the business community are integrated into the data quality process

One area where business engagement is critical is ensuring a robust data quality strategy and process throughout the migration.

Many respondents cited challenges with data cleansing, despite the relatively high adoption (72%) of projects using a data cleansing tool combined with an effective data quality strategy:

Q: How would you grade the effectiveness of your data quality strategy?



Business users need to be heavily involved in the data quality process, particularly when defining the data quality rules and quality levels required for the target environment.

They bring contextual knowledge that is critical to the data mapping, data quality and data testing activities especially.

“Our biggest challenge was a lack of engagement and buy-in from the business to value the data.

For example, the client just didn’t see the value of getting business users involved in any User Acceptance Testing (UAT) activities so it became even more of a challenge to get them involved with other data aspects of the data migration, particularly data quality management.”

Adapting to a Phased Delivery Model

Earlier in the report we noted that 62% of all data migrations surveyed used a phased delivery model to get the data into the target environment:

Q: What delivery method was adopted on the project?

1	Phased (migrated in phases or chunks over time)	168 / 62%
2	Big-Bang (all migrated in one operation)	91 / 34%
3	Other	7 / 3%
4	I don't know	4 / 1%

In large migrations (where 10,000,000+ records were migrated) the bias towards phased delivery is even higher – 73% of high volume migrations preferred to use a phased approach over Big Bang.

Given the increased adoption of phased delivery, what are some of the common challenges we observed during the research, and more importantly, how can they be overcome?

Phased Delivery Benefits from a More Agile Approach to Project Management

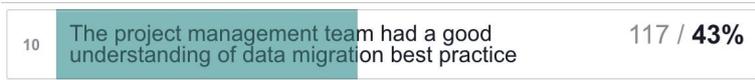
During the research, we learned that a lot of projects are still using the traditional waterfall project delivery approach, as cited by this respondent:

“[the customer] saw the data migration project as a ‘normal’ development project so used their existing software development framework. They didn’t follow the proposed data migration strategy because they just didn’t get that this was not about creating software but transforming data.”

While the classic ‘Analyse, Design, Build, Test and Release’ waterfall style framework can work well for the more traditional ‘Big Bang’ type migrations, waterfall projects are less suited to the more iterative and phased type of migrations that our respondents appeared to prefer.

A lot of these project strategy issues stem from a general lack of awareness around best-practice as our survey results confirm:

Q: Did the data migration project management team have a good understanding of data migration best-practice?



The following comment from a respondent typifies the perception many people have about data migration, particularly those in senior management:

“Poor awareness of the Data Migration Process at a management level was a real challenge. Everyone thought the migration would be a simple ‘lifting and shifting’ of data.”

We covered the importance of education earlier.

However, particularly when faced with inexperienced data migration project managers and program managers, we need to go deeper and ensure they’re adopting a data-driven strategy for migration, instead of just a recycled product development framework, as one respondent experienced:

“One issue we had was with the target system supplier, who also primed the migration phase. Because they used a product development mentality for the target app, they carried this over to the migration, to the point that they tried to scope the scale of the project using software function points”

Data migration can appear to be a software project from the outset due to the amount of coding and configuration required to build the migration ‘software’ architecture.

However, to use software function points as a metric for effort and planning is fundamentally flawed.

Data migration is far more than a software delivery project. It is more akin to a complex change management initiative where additional pressures such as business transformation, stakeholder management and extensive data quality management also need to be considered.

If you are exploring the use of a phased migration delivery model, consider adopting an Agile methodology instead that iteratively migrates ‘chunks’ of information or business functions over time.

Agile is also far more flexible at coping with regular change which, as discussed earlier, can be a common challenge on data migration projects.

Section 3: Committing to Data Quality Management

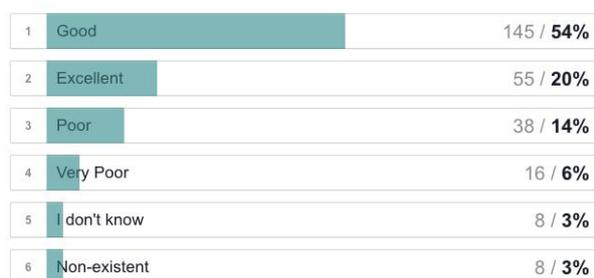
Our research highlighted a reasonably high adoption of data quality management strategies, skills and technologies.

For many years, data quality management on a data migration was considered ‘nice to have’, but not essential. All too often, the result was delays, budget increases or outright failure.

Things have clearly changed in more recent years as we highlighted earlier in the report:

How would you grade the effectiveness of the data quality strategy on the project?

270 out of 270 people answered this question



How would you describe the state of data quality in the target system after go-live?

270 out of 270 people answered this question



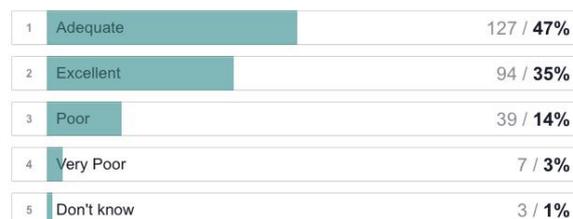
Select all the data quality software functions that the team used on the project?

269 out of 270 people answered this question



How would you class the data quality skills available on the project?

270 out of 270 people answered this question



Correlation Between Data Quality Strategy and Project Success

One interesting statistic we noted was the outcome of projects when the data quality strategy was rated as ‘excellent’.

We found that projects with an excellent data quality strategy experienced a successful outcome in 87% of the projects. Projects with a poor, very poor or non-existent data quality strategy witnessed a drop in outright success, only 55% of projects were classed as successful.

In addition, it was observed that a weak data quality strategy more than doubled the likelihood of a project only experiencing partial success.

The research clearly demonstrates that as the level of attention to data quality increases, so does your likelihood of outright project success.

For seasoned practitioners, the importance of data quality management on data migration projects has been understood for many years but you now have firm data with which to go back to sponsors and suppliers to ensure adequate focus on data quality management for future migrations.

A big problem is that management (and suppliers) often underestimate the 'change of use' that is about to impact the legacy data. In most cases, the business wants to perform new functions on the data, such as automation, single entity organisation and increased workflows. All of this adds pressure on the data due to a lack of data quality, as this respondent found:

“Our biggest challenge was coping with the Data Quality Issues. We had one major problem in that the client was changing the customer business model from B2C to B2B and therefore the underlying model is changing. This resulted in the creation of new structures such as billing relationships and customer hierarchies that the original data wasn't designed for. This obviously impacted other areas such as the cleansing and transformation of the data.

Effective Data Quality Management Proven to Reduce Project Overruns

One of the themes we heard from the research was that data quality management was often 'passed over' due to a perceived increase in budget or timescale.

The logic appears to be that due to tight deadlines, there simply isn't sufficient time to manage data quality.

Encouragingly, we found the converse to be true - where an 'excellent' data quality strategy was implemented, 67% of projects completed without any overrun.

In contrast, when the data quality strategy was classed as non-existent, poor or very poor, only 37% of projects completed without any overrun.

Once again, there appears to be a clear link between the effectiveness of the data quality strategy, and the overall project outcome.

Accurate Scoping and Planning Requires Data Quality Management from the Outset

We touched on this earlier but it needs re-emphasising: you can't accurately plan and forecast your data migration with scoping, and scoping demands excellent upfront data quality analysis.

Imagine you have been tasked with scoping a large-scale banking migration from four legacy systems into one new target system.

To accurately scope how many customer accounts you need to migrate, there needs to be some level of data quality analysis initially to fully understand:

- What data quality rules are being breached in the legacy environment?
- How many customer accounts are duplicated when combined?

- What are the top priorities for data quality improvement?
- What issues can prevent the migration from proceeding?
- What skills, tools and business support will we need?

This analysis relies on data quality skills and technologies that, as our research discovered, are often lacking on projects.

Given the scale of the modern data migration and the significant risks to business success when corners are cut, it makes no sense at all to restrict data quality management efforts on your data migration.

As our research highlights, effective data quality has a marked influence on reducing project delays so should always be a planned activity on data migration projects.

Effective Data Quality Management During the Project Enables Long-Term Data Quality Capability

During our practitioner interviews, we discovered several projects that were leveraging the data quality capabilities developed during the data migration as a springboard for long-term data quality management and data governance efforts, as one respondent commented:

“[The client] found that continuing the data quality journey after the migration made a lot of sense. For the first time, they realised just how bad their data had become. There were also a few data quality hangovers after the migration that needed to be resolved, so an ongoing strategy made sense.

I think also, our team uncovered a lot of ‘quick-wins’ for data quality during the migration. The people that have just done the migration tend to know far more about the data than anyone so it made a lot of sense to build a continuity initiative and keep the momentum for good data quality moving in the right direction.”



About Data Migration Pro

Data Migration Pro is the expert, community-driven, online resource that helps practitioners create more successful data migration projects by being better aware of best-practices.

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