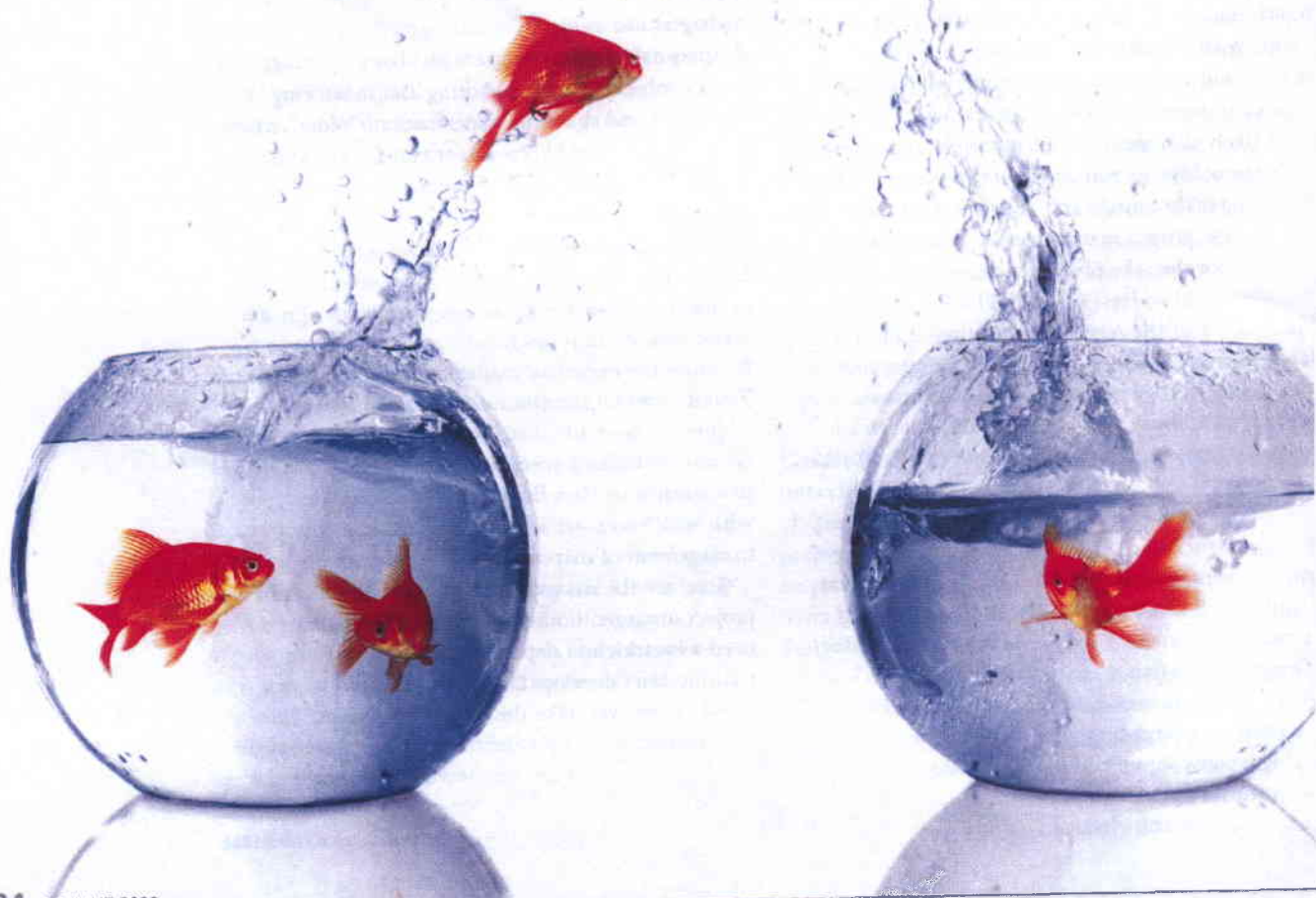


# Moving critical data

Migration of data critical to a business has a high failure rate. **Tony Sceales** and **John Morris** outline the four golden rules of successful migration.



**Today's telecommunication technologies** move data around the globe so easily that they provide unheard of commercial opportunities.

The data held by IT systems – of customer, product and service information is critical – and in efforts to improve or change its utility, often needs to be moved or amalgamated to newer and better software and hardware.

For example, your company is implementing a new set of applications that better meet your changing business requirements. Or perhaps you have been instructed to remove duplication and inefficiency in your IT infrastructure.

At some point, the inevitable outcome is the migration of your business-critical data. While failure is not an option, the fact is that industry failure rates for complex data migrations are worryingly high. But those that are successful share a number of common characteristics.

Many migrations are fairly straightforward and motivated purely by technical or IT drivers. For example, at the data storage level, companies may need to migrate their data to cheaper forms of storage. Or, at the database level, they might need to mirror data to another disk.

At the application level, however, data migration can be very complex in large enterprises because it needs to span both technical and business issues. According to IT analysts Bloor's Phil Howard, *Forbes* 2000 companies already spend at least \$5 billion per year on migrations, and yet 80 per cent of them still go over time or over budget.

To understand why this is the case it is important to recognise how complex IT infrastructures have arisen. Often they simply mirror an enterprise's history and have come about as the result of mergers and acquisitions, organic growth, product launches and new initiatives, compounded over many years. While individual parts of the infrastructure may be well designed, the overall structure is likely far from optimal.

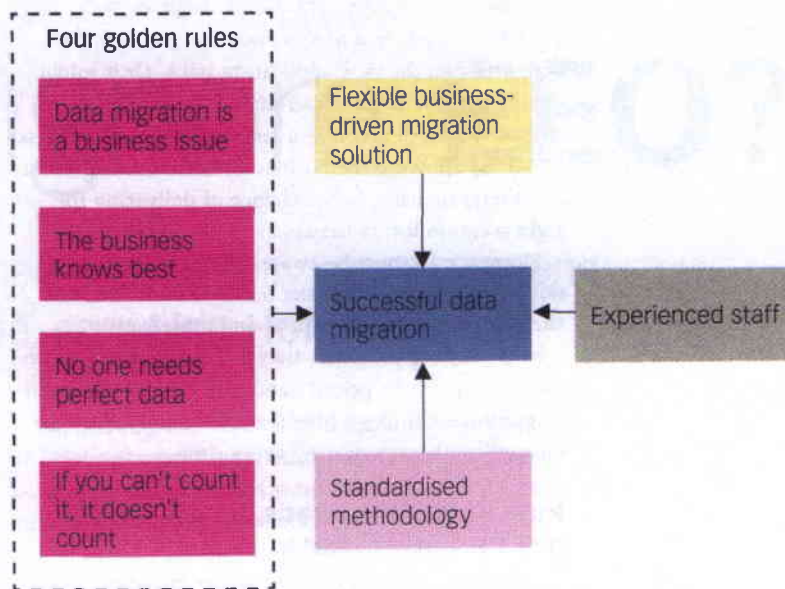
Ultimately, while optimising your IT might be a desirable goal, unpicking the complexities is often difficult and performing the actual migration comes with the risks of catastrophic failure.

As seen in the diagram above, the analysis of successful IT migration projects reveals four common success factors, golden rules if you like, with other external and contributing factors.

### Rule #1 Data migration is a business, not a technical, issue

Historically, migration has been seen as a technical issue and the pressing concern has been how to migrate data. But since IT doesn't necessarily own either the source and target applications or the data that the business uses to function, it doesn't have

## Data migration success factors



the power or the necessary knowledge to deliver what is required by the business. What's more, an increasing feature of the modern business environment is that IT has come out of the data centre and is no longer controlled by the IT department.

Involving business managers in data-migration projects is therefore essential. In fact, one of the most common characteristics of a successful migration is that they are business-led rather than technology-led. Putting the business in the driving seat means that before you ask 'how do we migrate data', you first answer a series of related questions that help to frame and scope the project:

- > Why are we migrating data?
- > What data should be migrated?
- > When should it be migrated?

These questions cannot be answered by technicians, only by business managers, which is why it is essential for the business to drive the migration. Ensuring the business makes the decisions and drives the project also frees IT up to do what it is best at, which is the technical aspect.

This suggests any technical solution to the migration must provide the business with clear visibility and control over the way the program is progressing.

### Rule #2 The business knows best

The second rule of successful data migration is linked to the first; business drivers, not technical ones, take priority. It is important that business goals should define the solution and approach selected, and not the other way around. The best technical solution is not always the best business solution. Therefore, to be successful the chief business stakeholders must define their requirements and take responsibility for driving the project.



The business is also better placed to prioritise the migration, deciding which data to migrate first. It might decide that migration be triggered by a customer selecting a new service that can only be supported on the new application stack. Or it might decide that the most important customers be migrated first, or second, or last (according to business need). By allowing the business to drive the migration an enterprise has a better chance of delivering the right solution for its needs.

However, IT must be aware that the business will not be able to predict at the outset what issues will surface during the migration, and moreover in a long-running program, they will absolutely have to handle changes in priority and direction. The chosen migration technology must be able to support such changes without restarting every time.

**Rule #3 No one needs, wants or will pay for perfect data**

Applications are only as good as the data they have available. We also know that many a data migration has been scuppered by overestimating the quality of, or not understanding, source data. Oh the joy of legacy data with its inconsistencies and redundancies.

is explored and resolved. A modern platform will provide the flexibility to continue migrating while this is done.

**Rule #4 If you can't count it, then it doesn't count**

Another challenge is how to measure data quality in order to assess the state of your legacy data and determine the quality level your business users need.

To make matters worse, data quality is not static but erodes and improves over time. It is really important that the measures you use make sense to business users and not just to the technologists. This enables you to measure deliverables, perform gap analyses, and monitor and improve ongoing data quality. It also ensures that you are concentrating your efforts on where business users see value and can quantify the benefits.

Reconciliation of the data migrated from sources to targets is always a critically important activity; otherwise, how do you know when you're done? When dealing with dynamic environments where you can't freeze the data, this becomes even more challenging and you need to be able to handle a shifting scope. Having a flexible data model and

“A business-driven migration involves decoupling the technical aspect from the business processes that use it.”

Tony Scales and John Morris

However, while enhancing data quality is a worthy goal, it is really important not to go off on a tangent mid-project in the quest for perfect data quality. Like over-specification of an application, the quest for data perfection can result in negative consequences for the project. It is where many, many projects run aground, inflating both the cost and the time to deliver the project.

To avoid this trap, data owners and users need to determine the level of quality they require at the start of the project, in order that the technologists have an appropriate goal to aim at. It is also why project managers need to be aware of the true quality of their legacy data and allow adequate time and budget to achieve the requisite data quality.

A successful migration strategy will also need to incorporate a range of cleansing strategies at different points in the life of the program – sometimes pre-migration, sometimes in-flight, and sometimes post-migration – but always with a conscious decision from a business manager. Too many historical migration approaches have resulted in bringing the whole process to a halt while a data-quality issue

a reporting capability is the key to understanding and driving this process.

**Achieving a business-driven migration**

Having put a business-driven migration project in place, the trick then is to select methodologies and technologies that can deliver. A business-driven migration involves decoupling the technical problem of moving the data from the business processes that use it. This requires a migration solution that enables you to encapsulate the business problems, while being flexible enough to cope when those requirements change.

The importance of getting the migration of data right from a business perspective was articulated at a recent British Computer Society meeting by BT's Phil Dance: "Our business case is going to depend on how good we are at getting our data across. A bad data migration means a bad customer migration, and in a competitive market that's very bad news."

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