

OVERCOMING OBSTACLES TO DATA SHARING

Barry Tuckwood (pictured) says there is a common way to overcome the barriers to data management, whatever industry or role you are in.



Here's what we know about data. Data should be simple but the purposes for which we use it are complicated. Data needs to be useful to specific customers for their given purposes – but we cannot know what the customer will want to use data for, so we need to trust them to use the raw data in whatever way they choose. This use of data is made even more difficult because of the obstacles to sharing data successfully.

The good news is there are common obstacles to data management, regardless of industry or market, and there are ways to improve data and its management for all users. To illustrate this, let's look at six examples of data sharing problems drawn from different areas of business and domestic life:

1. Property data.

In its simplest form, this is what we might think of as 'addresses'. But nationally there are multiple organisations involved in creating address information and considerable difficulties in sharing this data. Why?

The organisations involved all have vested interests, which can cause difficulty in ensuring that everyone is paid for the essential task of maintaining the data and providing it for the users – local authorities, central government and their agencies. And this is before we add any personal data, an extra layer of complexity with its own obstacles, through the need to comply with freedom of information and data protection legislation.

2. Patient data.

The volume of patient data held by local surgeries is enormous, running in some cases to over 500 pages per person. And even though a lot has been converted into an electronic format, it is not readily accessible to every medical practitioner who might need it at a hospital or other surgery. Additional medical data on dental and optical conditions is held separately by specialist practitioners.

Summarising this, although the data exists, the person who wants to use it might not have access to the specific elements they really need. But why not?

3. Internal building information.

This covers everything from the initial planning of a new building to its eventual occupation and later its demolition. The data is in all formats – text, numbers and graphics – and is used for design, construction and subsequent building management.

Time and effort is wasted here through the ineffective use of this data at all stages of the process, from initial concept through design and construction to eventual demolition. Why is this? Who manages the data over the whole life of the building, and why is it so difficult to keep track of simple information like where the pipes and the power cables are, or where the partitions are?

4. Customer relationship management (CRM) systems.

How many of us, as hapless customers, have had to repeat information endlessly to different people in order to try to resolve what might be a minor problem? Why is it that some organisations have mastered the art of creating and maintaining data in a way that enables seamless connections across departments and functions, while others seem to be connected only by a crackly telephone line and a common language of awkwardness?

5. Logistics.

We have all sent things by post or courier to be delivered by a supplier direct to a friend or customer. When we do, we like to

know when the item arrives, and do not expect to need to await a thank you note or, worse, a complaint for non-delivery. Some organisations manage to provide excellent tracking systems while others are woefully inadequate. Why is this?

6. Travel data.

Travel is always subject to dramatic intervention by the weather. Take the snow storms that hit Britain last November and the travel crisis that ensued. In response, it is vital to give people information on the areas affected so they can take rational decisions about their travel plans. The internet is an ideal vehicle for such information – yet many people felt the websites of the airports and airline operators were inadequate at the time.

As one letter to *The Times* pointed out: “What we need is one universal website which, when given a flight number, will collect and correlate information from all other relevant websites and present this information in a simple manner, telling people what their options are and including a link to a page specific to each option.”

This solution is of course based on the premise that the data is available at any time when we choose to want to use it, and

Industry	Problems	Questions and solutions
Property data – eg, addresses, geographical references	<ul style="list-style-type: none"> Imperfect data – duplication, errors Relationships between stakeholders Incompatible software applications Internal relationships in local authorities (LAs) Legal 	<ul style="list-style-type: none"> Owned by central person in LA Developed a national solution Integrates data from all LAs Linked to central database Shared with other bodies Requirements defined by users Common exchange language LAs agreed to adoption
Patient data	<ul style="list-style-type: none"> Imperfect data – incomplete, errors Multiple relationships: patient, primary care, secondary care, private health Disagreement on practicality Cannot assume a national solution Provide central database Incompatible software applications 	<ul style="list-style-type: none"> Who defines requirements, format and ways in which data can be shared? Who needs data for KPIs and funding aspects? What data do they need? Who will drive development?
Property design construction and maintenance	<ul style="list-style-type: none"> Errors Misunderstandings Wasted time and effort Disagreement on practicality Incompatible software applications Trust Ownership Legal issues 	<ul style="list-style-type: none"> Major shared use amongst the whole team Efficiency improvements Cost savings
CRM	<ul style="list-style-type: none"> Personal information Shared services Multiple incompatible software applications Trust Ownership Legal 	<ul style="list-style-type: none"> Shared use by wide range of staff How can staff be trusted? Security of systems Avoidance of repetition while maintaining security
Logistics	<ul style="list-style-type: none"> Multiple delivery partners Multinational Simplicity of systems for tracking Simple processes Facility for users to track Accuracy at all times Legal 	<ul style="list-style-type: none"> Shared use by the people placing the order, and everyone in the sequence to delivery Efficient logging through accurate coding Efficiency improvements Cost savings
Travel	<ul style="list-style-type: none"> Personal information Travel service details for all types of travel Accommodation Security Emergency arrangements Local facilities 	<ul style="list-style-type: none"> Accuracy Shared arrangements through stakeholders Passenger safety

that it is then easy to put together for the various possible users for their specific purposes. But for this to occur we need to consider the wide range of data that might be required – for which there would be a considerable resource to make sure it is complete and accurate.

Complexity

The six scenarios above are summarised in Table 1, which illustrates a little of the complexity involved in ensuring that the data can be created, maintained and shared. Importantly, the Table also shows we can reach a common conclusion regarding the main obstacles to achieving this.

In all these situations, given that we have access to a wider range of communications facilities than ever before, we should ask two key questions:

- What are the obstacles to sharing data?
- How can we try to overcome them?

To answer these, we often lack:

- Clarity of who 'owns' the data – who is responsible for creating new data and maintaining existing data?
- Clarity over who gathers data and confirms its accuracy.
- Clarity over what it is for and who will use it.

In any organisation there are multiple databases, held for the organisation as a whole, for specific functions and departments, and by individuals – address lists, contacts, accounts, suppliers, customers.

It is easy to see how these proliferate. A relatively simple survey is likely to reveal that about 80% of all paper records are duplicated and may well be held in triplicate or more. Some of these will be current and accurate; the rest will not. For electronic data the situation is worse: emails and attachments are held by many people even in the same department. Overall what we lack is:

1. Knowledge of what people will actually need.
2. Access to relevant data from all relevant sources.
3. Ability to share that data.
4. Funding – whoever puts the systems together needs to be paid for it somehow.
5. Sustainability – the long-term ability to maintain and manage the data so its relevance and use keeps pace with changes not only to the data itself but also to the purposes for which it is used.
6. Trust – that those who supply data ensure it is accurate; that those who enable data sharing do not abuse it; and that those who use the data do not misuse it.

We can also see that, although the industry and the content differ, the core issues are constant. The data must be:

- Timely – available to the people who need it when they need it.
- Accurate.
- Appropriately referenced.
- Secure – meaning that it can only be found by the people who should be able to find it, and that it can only be created and altered by the people who have responsibility for it.

In fact, we can look at data in the following chain:

Data > Information > Knowledge > Wisdom

From this we can see that the services we provide are based on the quality of the data we receive and retain, so that we can convert it into information, apply our knowledge to use it, and at the highest level use it wisely.

Regardless of our sector or industry, our organisation's services depend on the wisdom of the people we work with – customers, partners and suppliers. They must have real knowledge of what they are doing based on information sourced from data.

That data, the very basis of all that the organisation represents, must be timely, accurate and appropriately referenced. It has to be available at the right time for the user; and whatever format the data is in, it must be comprehensible to the user, as well as being complete and unambiguous. If the data does not fulfil these criteria, we are at risk of creating a different and unwelcome chain:

**Data > Disinformation > Misunderstanding >
Error**

To make the best possible use of our data, we rely on the integrity of everyone involved in the data chain. We must ensure that we have reliable processes to create and maintain the data, which will lead to assurance that it is accurate. The processes for creating and maintaining it must also be fast enough for our users' needs, so must be timely. Its use must be carefully controlled both to ensure the data's accuracy and completeness, and to enable security.

If all of these are in place, the data can be trusted by the users. And trust is at the heart of data management.

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