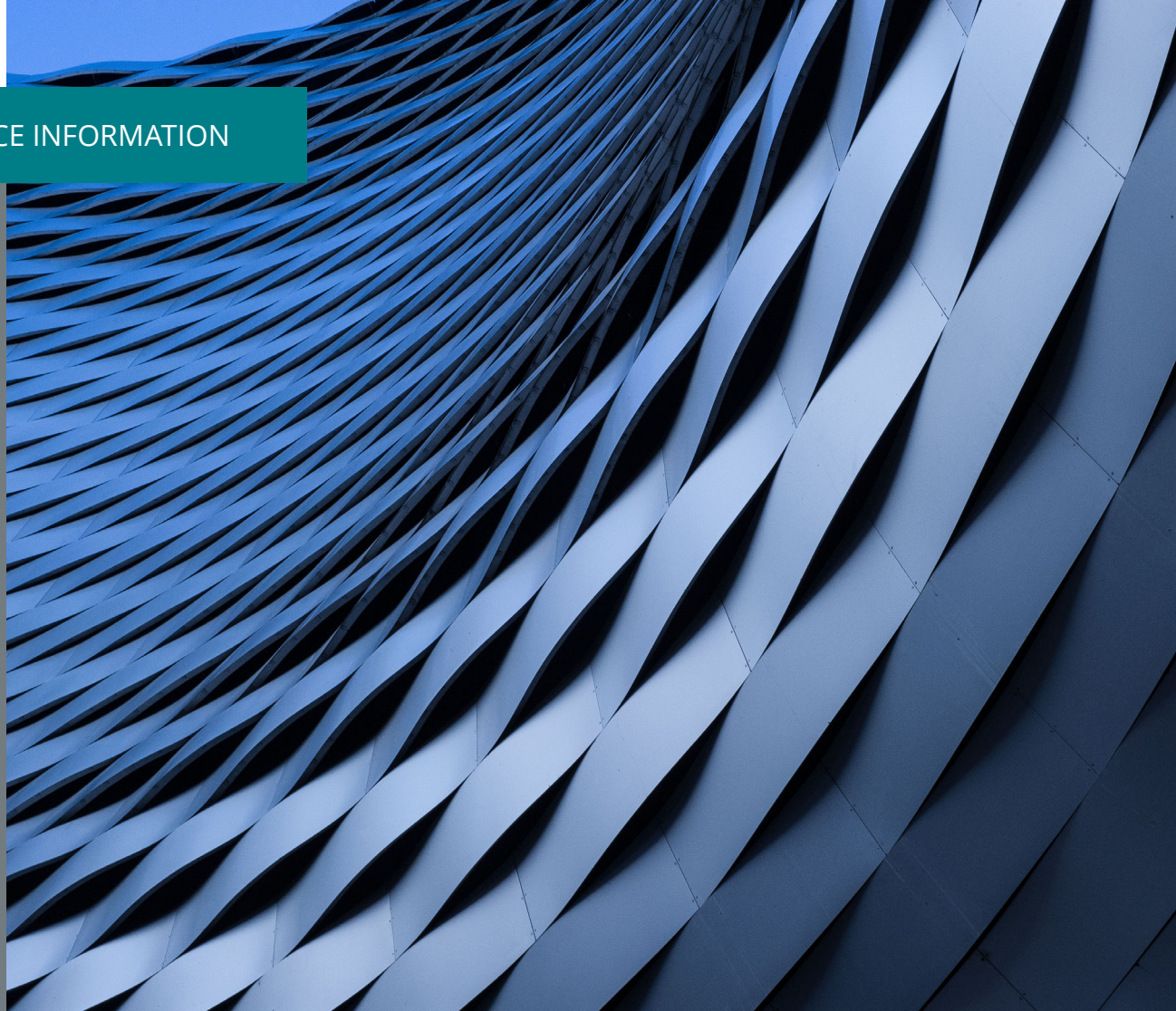




# The use and value of commercial property data

April 2019

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RICS practice information

April 2019

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# RICS standards framework

RICS' standards setting is governed and overseen by the Standards and Regulation Board (SRB). The SRB's aims are to operate in the public interest, and to develop the technical and ethical competence of the profession and its ability to deliver ethical practice to high standards globally.

The RICS [Rules of Conduct](#) set high-level professional requirements for the global chartered surveying profession. These are supported by more detailed standards and information relating to professional conduct and technical competency.

The SRB focuses on the conduct and competence of RICS members, to set standards that are proportionate, in the public interest and based on risk. Its approach is to foster a supportive atmosphere that encourages a strong, diverse, inclusive, effective and sustainable surveying profession.

As well as developing its own standards, RICS works collaboratively with other bodies at a national and international level to develop documents relevant to professional practice, such as cross-sector guidance, codes and standards. The application of these collaborative documents by RICS members will be defined either within the document itself or in associated RICS-published documents.

## Document definitions

| Document type                      | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RICS professional standards</b> | <p><b>Set requirements or expectations for RICS members and regulated firms about how they provide services or the outcomes of their actions.</b></p> <p>RICS professional standards are principles-based and focused on outcomes and good practice. Any requirements included set a baseline expectation for competent delivery or ethical behaviour.</p> <p>They include practices and behaviours intended to protect clients and other stakeholders, as well as ensuring their reasonable expectations of ethics, integrity, technical competence and diligence are met. Members must comply with an RICS professional standard. They may include:</p> <ul style="list-style-type: none"> <li>• mandatory requirements, which use the word 'must' and must be complied with, and/or</li> <li>• recommended best practice, which uses the word 'should'. It is recognised that there may be acceptable alternatives to best practice that achieve the same or a better outcome.</li> </ul> <p>In regulatory or disciplinary proceedings, RICS will take into account relevant professional standards when deciding whether an RICS member or regulated firm acted appropriately and with reasonable competence. It is also likely that during any legal proceedings a judge, adjudicator or equivalent will take RICS professional standards into account.</p> |
| <b>RICS practice information</b>   | <p><b>Information to support the practice, knowledge and performance of RICS members and regulated firms, and the demand for professional services.</b></p> <p>Practice information includes definitions, processes, toolkits, checklists, insights, research and technical information or advice. It also includes documents that aim to provide common benchmarks or approaches across a sector to help build efficient and consistent practice.</p> <p>This information is not mandatory and does not set requirements for RICS members or make explicit recommendations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

# Glossary

| Term             | Definition                                                                                                                                                                                                                                                         |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AI               | Artificial intelligence.                                                                                                                                                                                                                                           |
| Benchmarking     | To evaluate something by comparison with a standard.                                                                                                                                                                                                               |
| Big data         | A term used to refer to the study and applications of datasets that are so big and complex that traditional data-processing application software are inadequate to deal with them.                                                                                 |
| BIM              | Building information modelling.                                                                                                                                                                                                                                    |
| CRM              | Customer relationship management.                                                                                                                                                                                                                                  |
| GDPR             | General Data Protection Regulation.                                                                                                                                                                                                                                |
| GIA              | Gross internal area.                                                                                                                                                                                                                                               |
| IPMS             | International Property Measurement Standard.                                                                                                                                                                                                                       |
| Machine learning | 'Machine learning is the science of getting computers to learn and act like humans do, and improve their learning over time in autonomous fashion, by feeding them data and information in the form of observations and real-world interactions.' (Source: Emerj). |
| MHCLG            | Ministry of Housing, Communities and Local Government.                                                                                                                                                                                                             |
| NIA              | Net internal area.                                                                                                                                                                                                                                                 |
| Open data        | The idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control.                                                                                     |
| OSCRE            | Open Standards Consortium for Real Estate.                                                                                                                                                                                                                         |
| Personal data    | Any data that enables an individual to be identified.                                                                                                                                                                                                              |
| Searchability    | The capability of being searched by computer.                                                                                                                                                                                                                      |

| Term                 | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Semi-structured data | A form of structured data that does not fit the formal structure of data models associated with relational databases or other forms of data tables, but nonetheless contains tags or other markers to separate semantic elements and enforce hierarchies of records and fields within the data. Semi-structured has some pattern or structure but with variability, e.g. Extensible Markup Language (XML) or JavaScript Object Notation (JSON). |
| Structured data      | Information, usually text files, displayed in titled columns and rows that can easily be ordered and processed by data mining tools. Structured data is a database with fields organised as a table.                                                                                                                                                                                                                                            |
| Unstructured data    | Usually binary data that is proprietary, unstructured data has no identifiable internal structure. It is a massive unorganised collection of various objects that are worthless until identified and stored in an organised fashion. Examples include emails, social media feeds, document stores, images, videos, audio, etc.                                                                                                                  |

# Executive summary

Ingeniously analysed and well-presented data engages, informs and sells. So, why do people think of data as dry, boring and hard work? Maybe it is because data has long been seen as the preserve of academics. However, data is not just for academics – professions as diverse as engineering or valuation have data as the cornerstone of their work.

Data analysis is also seen as high-value work and most wealth managers have access to a specialist research team. Property researchers have capitalised on this and many have risen to senior positions in investment funds.

As the property industry adapts to the realities of a digital world dominated by cloud computing and, increasingly, artificial intelligence (AI), so the amount of available data concerning real estate is increasing exponentially. This data concerns almost every aspect of the built environment: from how we use and interact with properties as individuals and businesses, through to how a building's energy consumption and construction details are being recorded and analysed to help surveyors, asset managers, building managers, developers and investors make informed decisions about real estate.

The industry appears to be at a tipping point, with chartered surveyors and other property professionals having to use skills beyond the traditional surveying competencies. Data analysis is one such area that is growing in importance. It is no longer enough simply to possess data; the value lies in being able to use it.

# 1 Introduction

## 1.1 Scope

This practice information aims to discuss the benefits of and challenges to an increasing use of data in the commercial property market. It considers not only its availability and quality but also the skills needed by surveyors to recognise its uses and maximise the value in analysing it. The document deals with the ownership of data, its security and regulation and also makes predictions and recommendations for the future of a property world full of accurate, easily available data.

This paper considers data from a global perspective. However, the case studies are predominantly from the UK, Europe and the USA as the data case studies and associated technology seem to come mostly from these geographical areas.

To fully understand the industry's current use of and attitudes towards using data, a wide range of property professionals were surveyed and interviewed. The results of this research are presented in sections 3 and 4. The key findings of the research are:

- as data concerning all aspects of property and property markets becomes easily accessible for everyone, the value of simply owning (or having access to) it will decline
- those who can analyse data and bring added value to their clients will have an advantage over their competitors
- the concept of sharing data is still alien to many in the industry
- market data that has been available for sale is often considered poor quality: many valuers do not trust the accuracy of others' data and are not comfortable relying on it alone when undertaking valuations
- if data that is available to purchase cannot be relied on without expert interpretation, property professionals need to validate it before it can be used effectively
- there is a widely held opinion in the market that buying and analysing data is expensive and cheaper ways of obtaining data exist
- due to compliance with regulations (such as the [General Data Protection Regulation](#) (GDPR)) there are issues surrounding ownership of data and confidentiality, meaning that leases will need to include a data clause allowing landlords and their representatives to collect and manage personal information – surveyors will need to be certain of what data they are allowed to use and
- the ability of property professionals to ensure the security of data will become increasingly important to their clients.

Many of the skills of the property professional will be more valuable than ever but remembering information will no longer be a valuable skill. Businesses need to focus on finding the connections between datasets and analysing them intelligently to keep up with the rapid changes in the industry.

## 1.2 Why is an understanding of data important now?

Until now, most datasets have been unstructured and held in ways that make it difficult to transfer the information quickly or organise it so that it is easy to understand. Information about markets has traditionally been stored in the heads of agents/brokers, whereas engineers and valuers have catalogued information in a more structured way.

This is changing for three reasons.

### 1.2.1 Data availability

Firstly, real estate market data is increasingly available online through subscription-based services. This structured information augments and confirms the data held by valuers and reduces the value of having an agent/broker who can keep you up-to-date with the property market.

As data becomes more available, our brains will get used to obtaining more business data from our devices leaving us more time and 'brain-space' to add value through analysis.

### 1.2.2 Non-property data experts

Secondly, data experts from other fields with advanced techniques for analysing data and providing value, even in markets they are not familiar with, now have access to property market data. The speed of change in technology (and increased data availability) has given these 'outsiders' an opportunity to look for value in the property industry, which has for so long relied on relatively closed markets and cosy relationships. As RICS' paper [The impact of emerging technologies on the surveying profession](#) points out, the industry is not currently structured around the wide-scale use of data – many of the emerging technologies being developed for the industry come from applications in other industries.

### 1.2.3 Business process automation

Finally, technology is now integrated enough for effective automation of many basic business processes that capture, store and use data. The [2017 REMark survey](#) by Remit Consulting has found that the number of property management (PM) accounting staff has halved as a proportion of the whole PM team over the past four years. Integrated and effective PM accounting software has already transformed these jobs.

Technology is improving at an exponential rate – faster than most people can imagine. This means that currently unavailable data will be available (to anyone) faster than we think. With information in a database rather than in the heads of professionals, the true expert is one who uses data well rather than just remembers it.

As a result:

- a wider range of accurate data is available from third-party suppliers
- technology can be used to store and provide better information and
- this can be managed by people without a traditional background in property.

RICS' paper [The impact of emerging technologies on the surveying profession](#) identified that automation would change the roles of most chartered surveyors within the next ten years. The collection, analysis and use of data is where this change starts.

It is the combination of the availability of more accurate data, the increasing power of generic tools to manage it and the presence of generic data handlers able to produce value from it that makes these changes inevitable. There are already examples of data being used to refine business models or create new ones, see section 5.2 of this paper. In addition, new markets will emerge for property investments that rely on accurate data to the same extent as current stock markets – for example, IPSX, a new trading platform for securitised property. Better data makes this possible and gives scope for the whole profession to benefit from its increased value.

## 2 Obtaining and using data

### 2.1 What is it?

Data can be in the form of facts or statistics and is the basis for analysis. It can be categorised in four levels (see Figure 1) – from the micro level (asset) through to the macro (economy).

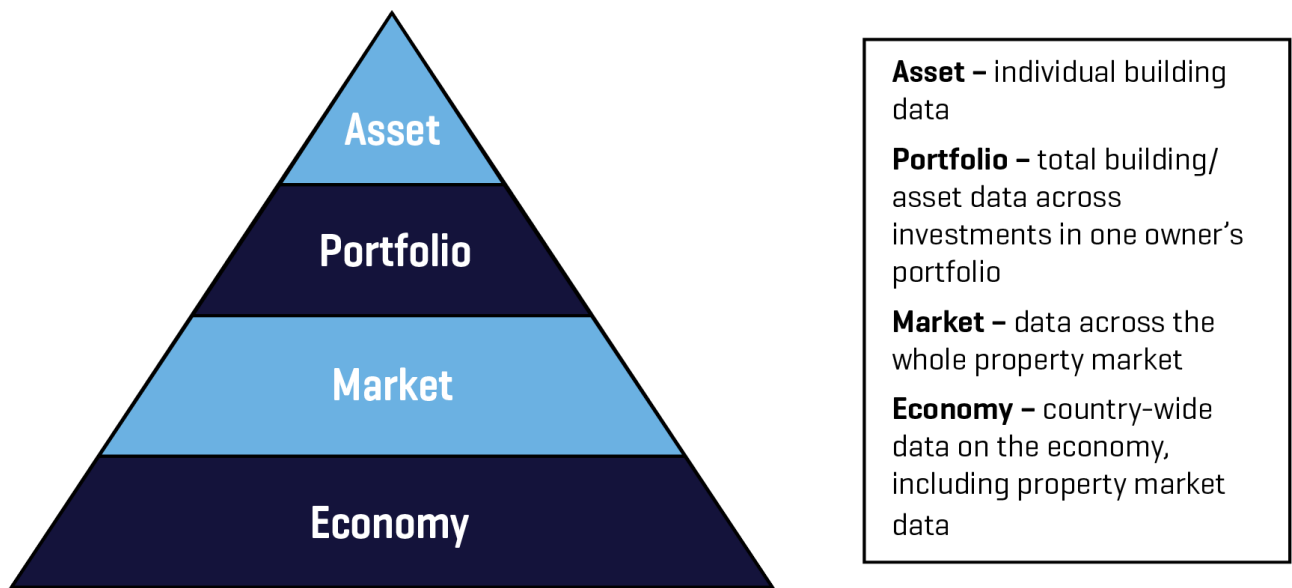


Figure 1: Types of data

### 2.2 Why do we need it?

Data is used for benchmarking, business planning, decision-making and internal and external reporting. Its target users will be just as varied. This makes it difficult to identify exactly why data is needed – specific decisions will require specific sets of data.

All decisions in corporate life should rely on data – often decision-makers rely on intuition and there is conflicting research on how effective that is when compared against data-driven decisions. In reality, most managers will rely on a combination of both approaches and, with increasing availability of data for almost any decision, it would be sensible to gather as much information as possible beforehand.

## 2.3 Sources of data

Sources of property-specific and non-property data can be categorised as shown in Figure 2.

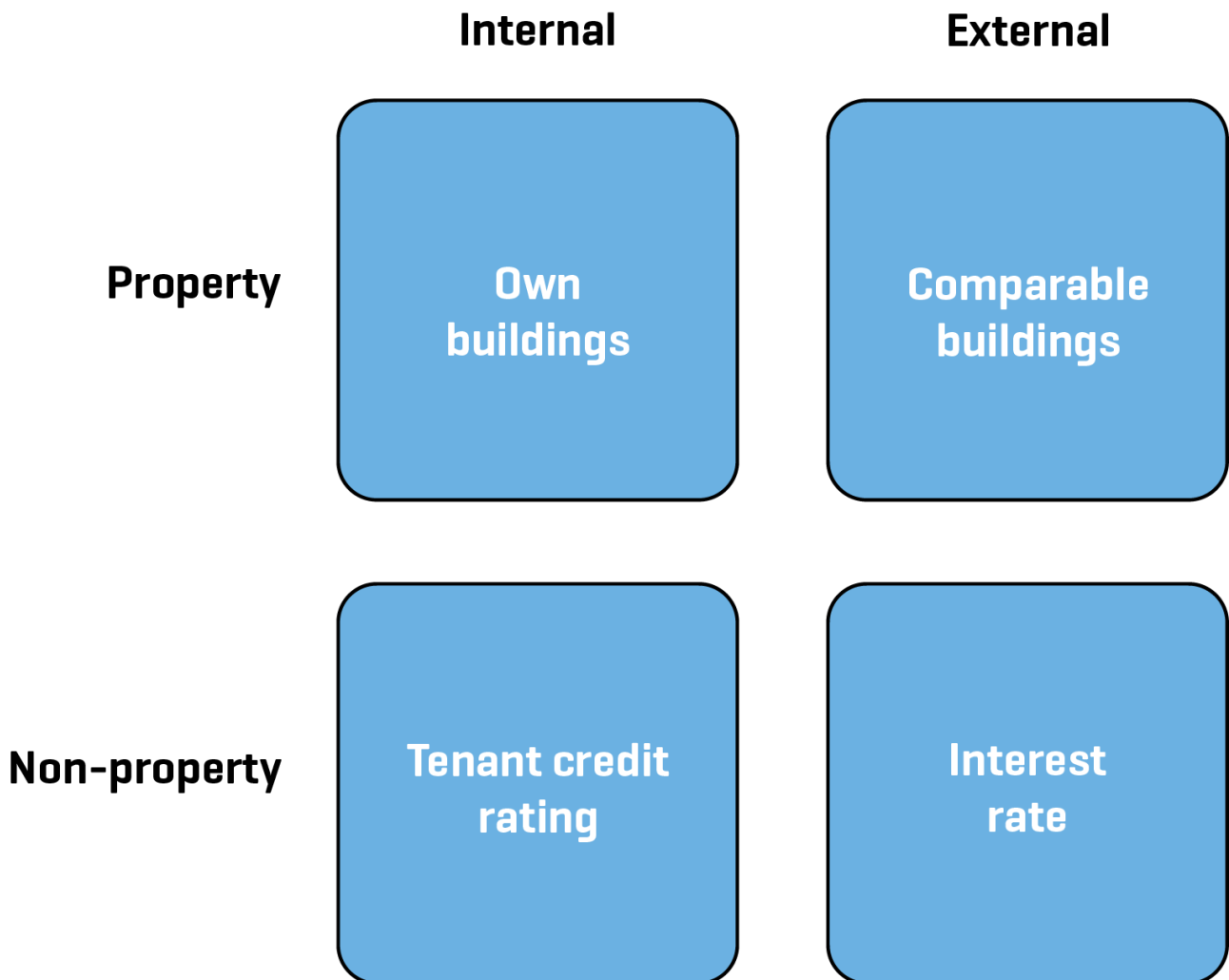


Figure 2: Sources of data

This diagram helps to identify types and sources of data to analyse and make decisions on. A table of relevant data sources can be found in Appendix A. Examples of the wide-ranging sources are listed below.

- Footfall in an area of a shopping mall can be gathered to inform a decision on where to place new shops or attractions (internal, non-property data). Gathering data through smartphone beacon analysis can show how small changes to layouts can impact the experience of shoppers or make quiet corners of malls more attractive (external, non-property data).
- User satisfaction of the cleanliness of toilets by use of smiley buttons. Data analysis in real time can indicate when it is necessary to send a cleaning operative rather than rely on timed regular visits (internal, property data). This approach has been shown to save costs and increase overall satisfaction.

### 2.3.1 Internal sources of data

In principle, data about a property owned or occupied by a business should be freely available, but there are often difficulties in finding who holds it and where it is held – is it on the company network or held in an employee's personal files? Is it structured and searchable or a disorganised mass that cannot easily be mined? Some data may still be held in hard copy, i.e. leases or print-outs where the electronic (soft) source cannot be found. All of this adds to the difficulties of data collection.

Even if data is held in a property system it may not be in a format that is compatible with similar data from external comparable sources. An example of this is the difficulty of analysing measurement information before the implementation of the [International Property Measurement Standards](#) (IPMS) – a standardised global method of measuring data improving market data and transparency.

Although UK property may have been consistent with the use of NIA or GIA, international measurement was varied and precluded easy comparison. This illustrates one of the benefits of standards being introduced across all data sources.

### 2.3.2 External sources

External data may or may not be property-related. The former will include data on other properties not owned by the client. The latter may be financial, economic, socio-economic, political, technical, etc. and used to inform strategic decisions.

Such external data is now more readily available than in the past, although the better-quality information will not generally be available for free. However, there are now emerging sources of open data that have been made freely available and can be combined with other sources.

Suppliers of such data are included in Appendix A. The availability to purchase it has removed the need for companies to have large in-house teams collecting and processing data. Figure 3 illustrates how some of these sources might be used by different groupings of users.



Figure 3: How data might be used by different users

Figure 3 relates some of the current major property data providers (in green) to the systems that are commonly used to collect and provide data in different areas of the industry (in orange). The references in the diagram to BIM and BMS relate to generic descriptions of systems that generate and store data at building level. There are many systems available that would support these areas. The other brand names are typically companies that provide data from databases that they maintain.

## 2.4 Getting started with data

To think about the role data will play in the future, companies will need to review their business plans and strategies. They will need to have a reasonable understanding of their current data assets.

Figure 4 can be used to estimate a business's current position on data against a benchmark. This diagram uses the concept behind the Capability Maturity Matrix developed in research funded by the US Department of Defense for grading IT capabilities in an organisation.

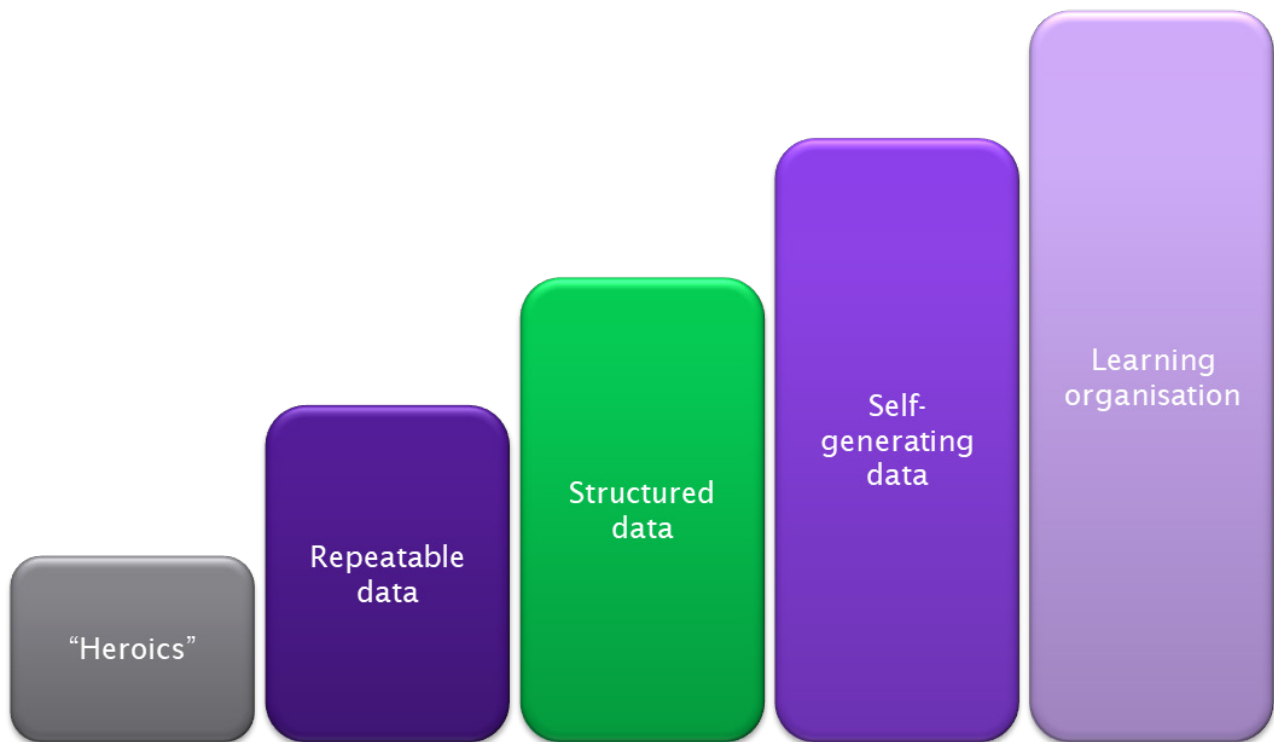


Figure 4: Capability Maturity Matrix (Source: IEEE software)

**Stage 1** – Many property organisations are at the ‘heroics’ stage where data is gathered afresh from the team each time it is needed – for example, from separate spreadsheets or the memory of relevant professionals. It is difficult to be sure that all the company’s data is being used effectively and decision-making may be haphazard.

**Stage 2** – Perhaps informed by accidents along the way, there has been some attempt to capture past datasets so that they can be built on with new data each time it is needed, making it ‘repeatable data’. Decisions rely on the data being quickly updated to reflect changing circumstances and may be rushed.

**Stage 3** – In the structured data stage, there has been some analysis of what data is likely to be needed on a regular basis and the organisation knows how to capture and create the relevant data. There is probably an accurate body of datasets that can be used regularly.

**Stage 4** – If processes are aligned and datasets continuously updated, there will be a high degree of consistency and accuracy in the data. The data is relied on by many people, not just the few who work with it each month.

**Stage 5** – In every decision the learning organisation is informed by a high level of consistent and accurate data generated from across the organisation.

This five-stage approach will deal with regular data requirements – there may be ad hoc requirements for data to support decisions and it could be expected that a more structured approach to data generally will help the business address this.

Once a business has understood where they want to create value from data, they will have conducted a high-level audit of available data and will have a good idea of what needs to be done next.

## 3 The survey

To establish the industry's current view on commercial property data a wide range of property professionals were surveyed online in June 2018 and interviewed face-to-face in August 2018. See section 4 for the responses of the interviews.

The online survey was completed by 150 people of which half were chartered surveyors and half non-chartered. Consequently, there was no bias towards RICS members given that many people working in the real estate industry are from complementary disciplines, e.g. accounting, finance, HR, IT, economists, analysts.

### 3.1 Results

The main issue derived from the surveys was the lack of sharing property data – from the interviews it is clear that this problem exists both internally and externally. This suggests that not enough data may be available for efficient analysis and also suggests a need to buy in more data than might be expected.

Figure 5 illustrates where the property industry believes better data is needed for property professionals to do their job more efficiently.

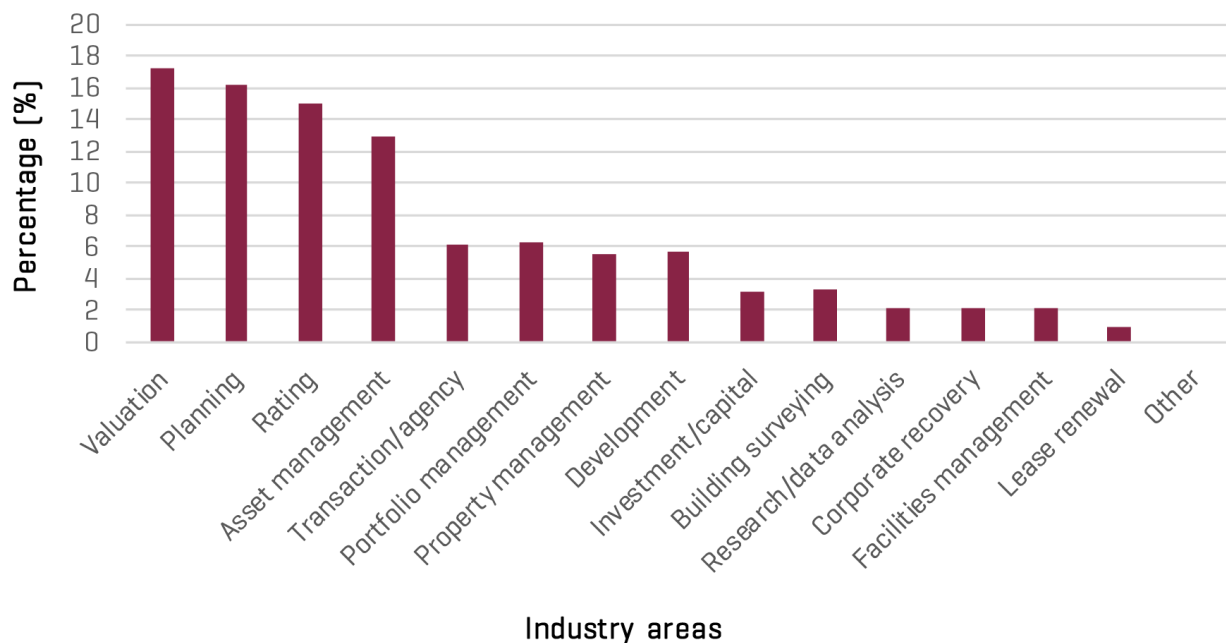


Figure 5: What are the top three areas in the industry that could benefit from better data?

Most of the frustration from respondents seems to lie with the lack of available data in valuation, planning and rating. However, it is notable that responses suggest that most

disciplines lack sufficient data. Asset management being fourth highest in the list is interesting considering this is not a traditional specialism.

It was interesting to see how different specialisms varied on which areas were thought to need improvement. For example, researchers thought that portfolio data is the most difficult to obtain, while 100% of valuers believe that valuation data is the most difficult to get hold of, which could either challenge the confidence of today's valuations or protect valuers' position as experts in analysing available data.

Asset managers believe rating to be the area that could be most improved by having better data while facilities managers believe data in an asset is the most difficult to source. Does this suggest facility managers are not given proper access to the asset management database or perhaps do not work closely enough with asset managers?

The 'Other' option represents a mix of data requirements, including customer experience and tenant satisfaction where empirical data is perhaps the most difficult to obtain and measure. Nevertheless, these areas are increasing in importance and may achieve better satisfaction in terms of data availability in the next few years.

### How do we improve?

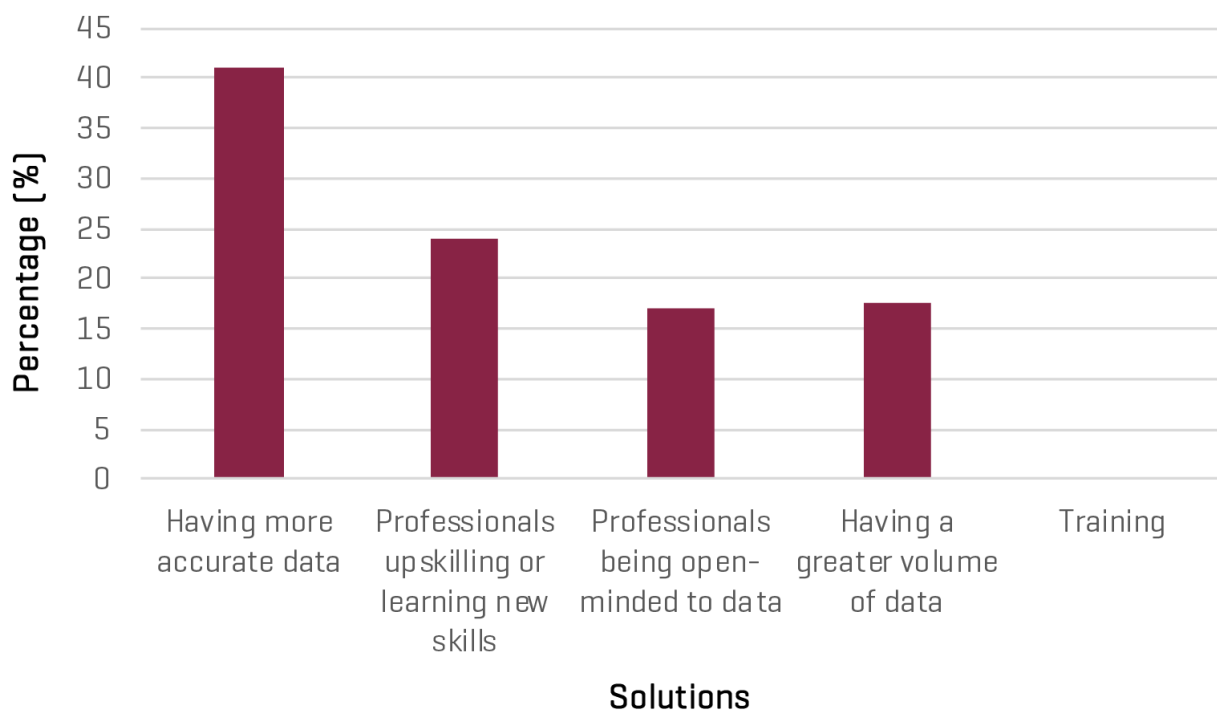


Figure 6: What needs to happen to improve performance using data?

Figure 6 shows how the need for accurate data outweighs the other options considerably. Better availability of external data sources and better business processes could swiftly improve this and it will be interesting to see how this develops.

Perhaps slightly surprisingly, training was the least popular option for improving data, despite the need for professionals to upskill being the second most popular option.

The respondents' view of professionals being open-minded to data is worrying considering the future of real estate will involve a higher level of data analysis. It is important that going forward all property professionals are more open-minded to the changing millennial market as this will require new skills.

### 3.2 What data is needed?

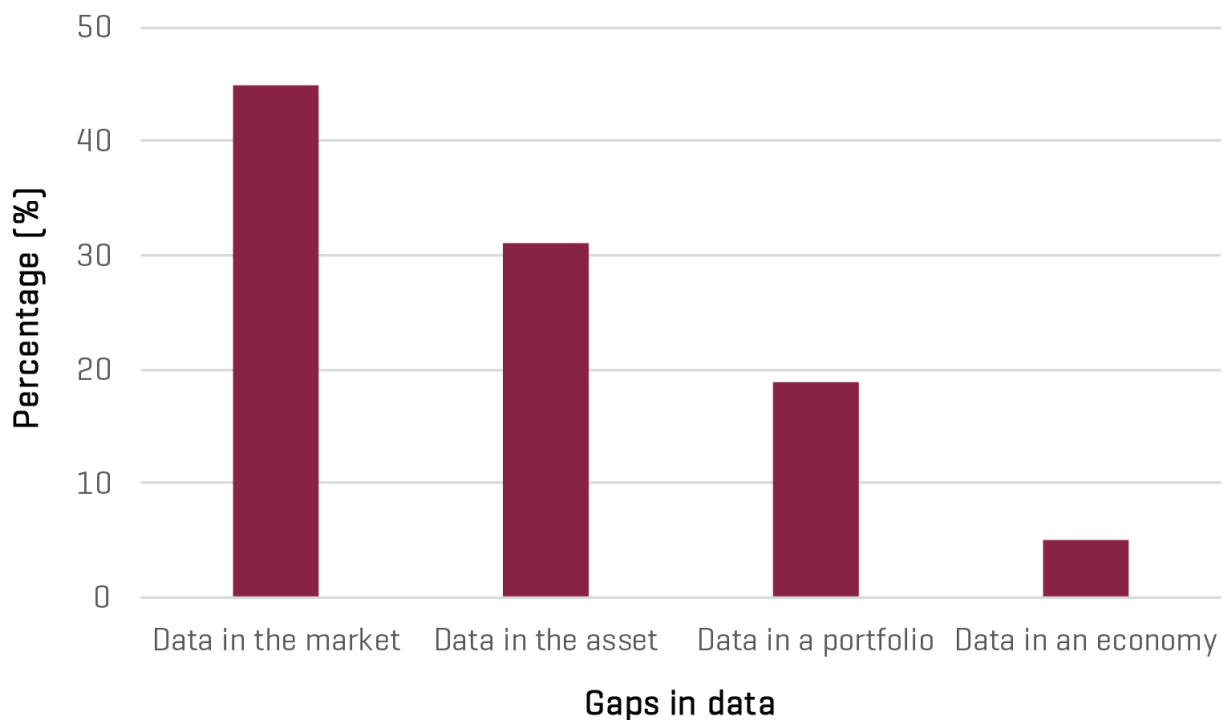


Figure 7: In the data you currently use – internal or external – where are the largest gaps?

Of the respondents, 45% said the biggest gaps in data are in the property market and in individual assets (see Figure 7). This is not surprising, but these are two of the key areas that investors might expect to be well covered.

### 3.3 What is stopping data from being used

Lack of data in an asset leads to questions about what systems, models and reporting methods are currently being used and what could be done to increase efficiency. Data feeding into an asset management system is key to ensuring accurate data and there are recent technological improvements in capturing basic data. For example, Levertor now provides an AI powered data extraction tool that converts unstructured data from leases to structured data. It then integrates the data into property management systems.

Opening up data and sharing access appears to be the respondents' key concern about how to improve commercial real estate data (see Figure 8). This was a recurring theme throughout the research, which highlights the need to encourage professionals to disclose information and to reassure people that benefits of sharing data outweigh risks. The problems of sharing are examined in more depth in section 4.3.

Lack of consistency was a close second in constraints. A lack of standards ranked lower in comparison even though the fact that processes and standardisation vary significantly between countries is a major obstacle for many of the respondents.

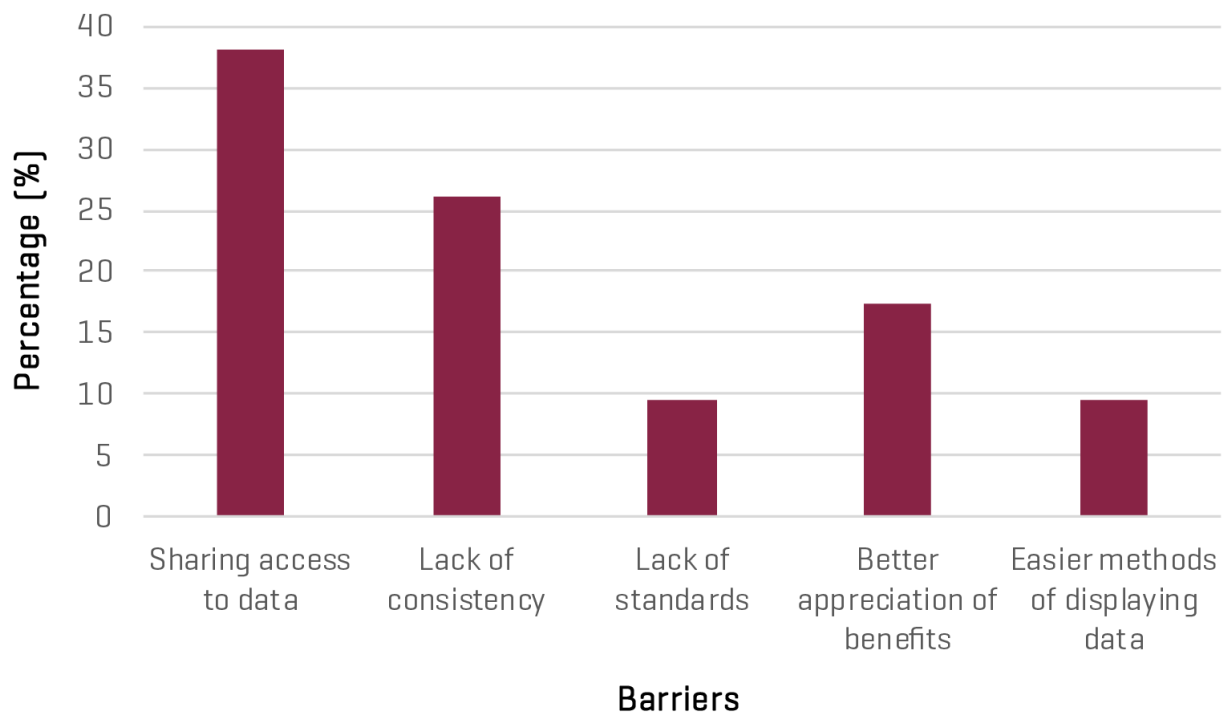


Figure 8: What are the barriers to opening up data/making it more available?

One of the barriers to opening up data, as discussed in several of the interviews, is the lack of standards in today's industry. If there were consistent standards internationally and a trusted body to hold data, people may be more willing to share.

## 4 Interviews

In addition to the online survey, there were one-to-one interviews with a range of senior people from within and outside of the industry to validate the findings of the survey. On the whole, the interview comments were consistent with the responses received from the survey. All individuals interviewed deal with data in their day-to-day jobs either as clients or as suppliers of services.

There was a general view that not much of significance has happened in the last five to ten years in terms of large-scale application of data in property. However, the interviewees felt that there is a greater recognition of the need for data and a lack of understanding about how to use it.

Those interviewees who understood the subject well thought that technology using machine learning will be used for repetitive tasks (e.g. VAT returns) whereas humans will be required for more personal tasks that need judgment.

Another view was that data-related applications are being developed in different fields and each makes a modest difference to that area – planning, building surveying, valuation, workplace, transactions, etc. However, most respondents said that they still hold data in several silos across their organisations and aim to be able to view, analyse and report on a bigger scale.

One respondent said that his company had undertaken a significant amount of research during this period on what is possible with data and there should be better definitions of concepts and applications.

Interviewees were frustrated that in the 21st century organisations are still using standalone spreadsheets to undertake data collection and analysis. There was a desire to move towards shared database applications to allow wider access to data across their organisations.

A researcher that was interviewed suggested that in their current job they spend 75% of their time sourcing data and 25% of their time producing reports. This could be reversed by more accurate and more relevant data. If similar efficiencies can be achieved across all roles, a business case to clean and expand data use should be straightforward.

### 4.1 Efficiency

Efficiency seemed to be the watchword for the future. Transactions (lettings or sales) could be made more efficient if building data was held in a standardised form and instantly available rather than spending days gathering raw information needed for each transaction. Reference was made to the transformation in the residential sales market with innovators like Zoopla and Purple Bricks moving from a slow paper-based process into a more digital data era.

Another suggestion was the potential collection of data providers in certain fields. Larger and more efficient data suppliers may either take over or cause the demise of the slower and less adaptable businesses.

A number of people referenced the retail market and how shopping centre owners would need to use data to respond to the changing shopping patterns (in shop vs online). Data can be used to demonstrate to retailers how shopping centres can attract shoppers who may browse and then return home to purchase an item from the retailer's website. This is important to landlords because they need to consider whether having a physical store is worthwhile.

Combining different data sources for greater value seems to be both a desired as well as likely outcome. An example given in corporate real estate was combining property data, organisational outcomes and qualitative data on employee experience of the workplace.

## 4.2 Sharing data

In the last five years many more open sources have become available. However, data through government sources and mandated recording of data could still be made more readily available.

Many interviewees thought that, in the future, the surveyor's role will be more about the advice given rather than the data collected. However, it still comes down to having accurate data to do this.

There are some good examples of surveyors adapting their skills and approach to the new data-rich world. One surveyor in the role of a fund manager volunteered to become a project lead for a digital change project across the whole organisation.

However, some surveyors are still protective over the use of their data and do not understand that by sharing it they will have access to a richer pool of data, which adds value to their advice to clients. The EG Property Podcasts (Estates Gazette, 2018) contain examples of surveying practices' experiences of the relatively new [Radius Data Exchange](#). Senior management in several surveying practices talk about how employees have now seen the benefits of sharing, are inputting their data into a bigger system and are reaping the benefits of more accurate and accessible data.

## 4.3 Challenges

Sharing data is still a major challenge for the industry. Changes are starting to happen, but it is far from universal. Confidentiality clauses act as an obstacle to wider data sharing.

'Dirty data' is still a challenge. There is the ever-present challenge of seeking consistent and trusted data. One group of agents in a UK city were pooling data to an agreed standard to try and overcome this issue.

For those organisations that own property across several countries the issue of data standards is important. While the [International Property Measurement Standards](#) (IPMS)

help to standardise measurement of assets there are still data fields that do not have a global standard.

Privately held data required to understand development capacity is an ongoing challenge. Utilities data is held in several private companies and not freely available online, which makes development options analysis time-consuming.

Having too much data can be a challenge. Searching through a large amount of data and establishing what the right data is will be a skill required more. Some organisations are still storing data in case it may be useful, but they are unsure what they are going to do with it.

Moving from spreadsheet to database is a challenge facing many organisations and they will need to be taken through this transformation.

Some people find the data landscape a maze and are unsure where to start. This comes down to knowing what decisions need to be made, what reports need to be generated and therefore what data is needed. In the context of the workplace, it was suggested that the right data is still not being collected and there is no defined process for its analysis.

## Research summary

Survey respondents were also asked an open question about key issues in relation to data. The same point was raised during the one-to-one interviews. The main points arising from the surveys and interviews can be grouped under three broad headings – people, process and technology (see Figure 9).

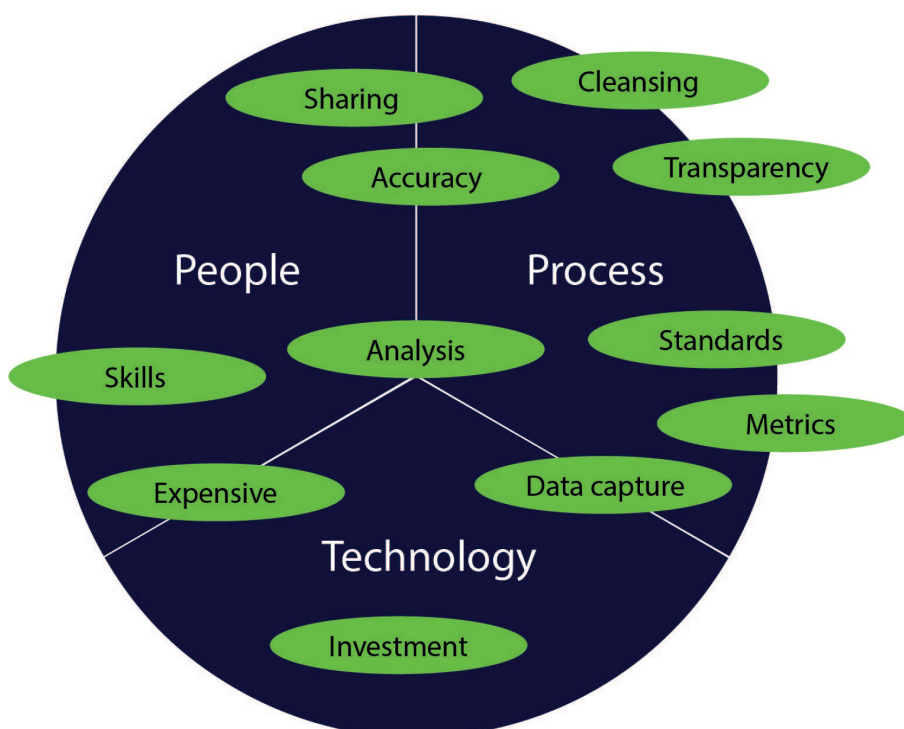


Figure 9: Key issues in relation to data (© Remit Consulting, 2017)

Most issues fall either in or across the process group. Organisations could do more to improve their business processes, whether it be in relation to cleansing datasets or having standards that govern how data is collected and stored.

Technology is not a major issue with only three of the issues falling in this category. Technology is available and systems can be procured to support many back-office functions. What tends to be the problem is the lack of business process to define exactly what the business need is and therefore which system is the best solution for the organisation.

Five issues fall in the people section, including skills, which seems to be a key theme in this paper. Surveyors need different skills in:

- dealing with larger quantities of data
- interpreting and adding insight to data
- providing a brief to an external party to undertake data analysis for them and
- deciding what data is useful and what is not required.

RICS has already modified the APC competencies to reflect data skills by introducing a data management competency and there should be more opportunities for training in this area.

# 5 New business models and approaches

## 5.1 Using new types of data

Businesses from outside the property industry are already applying data to real estate opportunities in ways that challenge traditional property businesses. Google's parent, Alphabet, is using various data sources to scope their own property development in the USA and this may just be the tip of the iceberg. Data, not traditionally seen as the domain of property companies, is being used to aid property decision-making.

The property industry is used to capturing and using property data – leases, market rents and investment yields are all catalogued in a range of styles and formats. However, many other datasets can inform how we use, value and trade real estate. Increasingly, companies are finding ways of capturing data either by traditional means (e.g. walking the streets) or through digital sensors. These rich seams of data provide the opportunity to add value and create new services.

Whether the data is footfall in shopping centres or photographic evidence of flood areas, there are ways of capturing information that would have been out of the question for the previous generation of surveyors.

## 5.2 Case studies

There has already been disruption in the residential market by organisations such as Zoopla and Purple Bricks challenging the traditional approach of the residential agents. Another example of this is the new estate agency, Nested.

### 5.2.1 Nested

Based in London, Nested has used better data to take the traditional UK estate agency model a step further. The company aims to improve the relationship between the public and estate agents and has identified that over-inflated agents' valuations are one of the key problems with the traditional model. Nested relies on the public's perception that estate agents will give you a high valuation figure at the start and, once on their books, the realistic sale price can be shown to be much lower.

Nested sells its services on two key differentiators. Firstly, it uses more detailed analysis of market data to accurately predict the sale price at the outset and then the team tracks the market response to the property over the first month to validate their valuation. Secondly, at the end of the first month, if the property is not sold, Nested will provide an advance of

90–95 per cent of the valuation, freeing the seller to move to a new property immediately. Nested takes the risk that the property eventually sells for less than the valuation and absorbs any loss. Anything over the valuation goes to the seller.

This model uses the company's confidence in its valuations to underpin a bridging loan. It appears to genuinely offer a useful service to sellers who do not want to get caught in a chain. The services are priced so that the basic estate agency fee is a typical 1% and the option of using the bridging facility is 3%. Nested provides support for all aspects of the move so that it can be used as a one-stop shop.

Without its confidence in its data and valuation methods, it is unlikely that Nested could have secured the funding necessary for the bridging element. This represents a step forward for many sellers when compared with traditional estate agencies and may force the market to confront the way estate agents sell their services. Better data makes all this possible and upsets the playing field.

### 5.2.2 Knight Frank

Changes are happening in the commercial property market too. The value of real estate is derived from its usage. For example, fewer people are visiting the UK high street and the impact on retail is well documented. With more and more people working from home could the same be happening to offices?

Knight Frank have found ways of sourcing data from non-property sources that has huge implications for the office market globally. Knight Frank's Strategic Consultancy team has mapped out usage in London's offices. The team is not using real estate data per se, but data derived from mobile phones. This is highlighting an overall decline in office use.

When monitoring activity in one specific building, it is uncommon to find usage over the course of the year to be above 40% (Knight Frank). This would suggest that the office real estate market needs to start being more proactive, managing not just the building but the activity within it. Businesses may need to understand how to curate an experience that will encourage people to invest in the commute, even on a Friday. Knight Frank is using data and workplace apps to connect people and entice them into the building everyday through events and an overall experience that is better than working from home.

Both landlords and occupiers have a vested interest in getting this right – landlords may see values fall if usage decreases and occupiers will be reluctant to pay for buildings that are not being used.

The potential for the alignment of interest between occupiers and landlords in this area is huge. There is evidence from Knight Frank of landlords in Europe offering a top slice of rent over and above the market rent, geared to experience, in a similar way to turnover rents in retail. One segment of the market has already recognised this: the co-working operators typically have 100% usage in London, even on a Friday (Knight Frank).

Landlords and occupiers need to understand the power of data from many different sources such as access control, wi-fi, sensors, apps, etc. in the same way as retailers and shopping centre investors have had to over the last few years to provide insight into how to drive footfall and experience.

### 5.2.3 Google Maps

Some approaches are not planned but are a reaction to disruption, for example, the natural disaster Hurricane Katrina in the USA in 2004. After the storm had caused damage, property owners were faced with the task of providing insurance companies with data on their damaged assets. In some cases, records had been destroyed by the storm and in other cases the quality of the data was not good enough for the insurance companies to use. Some assets could not be inspected due to the dangerous ground conditions in the affected areas, but some organisations realised that there was a faster and more accurate way of collecting the data required.

They asked Google to update the satellite photographs for the area so that they could identify the location and scale of the assets from Google Maps. The well-prepared owners had linked the properties to asset ownership data from the US Land Records.

Examples are not just limited to the private sector. Local government has been finding better ways of sourcing and using data to help make better decisions in planning and guiding the development of cities.

### 5.2.4 Space Syntax

In Milton Keynes and Exeter socio-economic data is being used to inform urban or building form. Also vice versa, urban form is influencing travel patterns and health outcomes.

Space Syntax's analysts have collected data from buildings and other sources into a model to analyse how the systems in a city combine to affect day-to-day choices, e.g. links between the likelihood of obesity and commute mode. Known as an integrated urban model (IUM) it combines data on spatial location, land use, transport, health and other social demographics. It is a more comprehensive form of modelling than traditional transport approaches and is typically much faster and lower cost.

In Milton Keynes, the models look at how likely people are to drive or use active and public transport on their commute. The analysis identified an over-reliance on private vehicle transport in accessing local facilities. They identified the degree to which a modal shift from private vehicles to public transport was required if the goals of the 2050 growth plan were to be met. The analysis helped identify locations for providing additional social infrastructure facilities.

In Exeter, a similar integrated model has been used in Cranbrook as part of the Healthy New Town programme. The data from the model has also been given to the Devon Public Health team whose analysts found relationships between a measure of urban form describing

walkability and life style diseases such as obesity. This allows public health interventions to be made as required.

The public sector is also looking system-wide at how local data can be collected. So instead of relying on a national census once every ten years, for example, data can be captured more frequently and in real time to provide a more accurate picture of an area. The Ministry of Housing, Communities and Local Government (MHCLG) have collaborated with the Government Digital Service to produce a Local Digital Declaration. This encourages all public bodies to work toward a register of open data standards, common platform tools and local service standards. Early pilots of these were the [Brownfield Land Registers Data Standard](#).

A similar initiative is underway to help shape data standards for Local Plans and Local Development Schemes. This links to work being undertaken by Future Cities Catapult on helping to digitise the planning system. Local authorities currently develop their Local Plans and planning policy in slightly different ways, but they are all working towards the same broad outcome.

### 5.2.5 Future Cities Catapult

Future Cities Catapult has been working on digitising the planning system 'PlanTech'. Working with organisations like MHCLG, Land Insight and Open Systems Labs they have analysed the clunky and manual processes in the planning system to see how data can be better harvested for public benefit. Four themes emerged:

- planning policy
- site search and appraisal
- planning applications and decisions and
- public engagement with local plan and planning applications.

These data sets are currently difficult to source other than by manual or laborious means. Data is held in PDF documents or in non-searchable formats. The aim is for the data to be digitised in a standard form and to be publicly available, allowing a new market of digital planning products and services to emerge that create a speedier, more efficient and more transparent planning system for developers, public planners and citizens.

### 5.2.6 Grimsey Review 2

The Grimsey Review 2 (a national report on the health of high street retail) shows how the private and public sector could work better together in the use of data in the high street.

The report had data at its heart for two reasons – as evidence to substantiate the review itself and as a theme for three of the key recommendations:

- establish common key performance indicators to measure the economic and public health of each town

- set up a national urban data knowledge portal to support the implementation of data platforms for high streets and town centres and
- introduce clear high street assets ownership accountability by establishing a landlord register for each town.

Some of the outcomes were:

- it established what data is credible, could track data over time and see how data could be used for improvement in town centres and
- it understood multiple datasets including micro and macro to make a positive impact.

The key here is that individual retailers only know about consumer habits in their stores, individual landlords only have data on their properties but local authorities, who may have data on their residents, are a third stakeholder in the high street.

### 5.2.7 Australia

Landlords in Australia are actively collating much more sophisticated customer relationship management (CRM) views (e.g. Salesforce, HubSpot, Infusionsoft) across all touch points, i.e. aggregating and analysing customer complaints, service requests, customer satisfaction survey response rates and tenant engagement. With this they can better predict growth, renewal, contraction, etc. and also prioritise account management.

This is done by cross-referencing against broader economic data such as likelihood of the tenants' industry sector to grow, e.g. health and education industries are growing rapidly in Australia, particularly eastern seaboard CBDs, whereas office demand from mining and gas is declining in these states.

### 5.2.8 Canada

The response from interviewees is that Canada is similar to the UK. They are finding ever increasing amounts of data and software packages that help decipher and make data useful. They believe that surveyors need to:

- adapt to access the best data
- analyse it to draw out relevant information and
- provide more comprehensive, informed, data-driven advice to clients.

The Canadian market is finding that technology allows data and information to be instantly available, making it possible to be constantly involved in and informed on different markets. In many cases, this challenges surveyors to adapt and continue to add value to clients. For surveyors working in an investment role, data is driving a more analytical and informed decision-making process. With so much data openly available, this also aids market transparency and allows smaller firms/teams to more easily enter and operate successfully in markets, reducing barriers to entry.

### 5.2.9 USA

Authorities in the USA have considered the various real estate courses in US universities. Very few, if any, have data-related disciplines embedded within their built environment modules. RICS and other relevant bodies (e.g. OSCRE) have recognised this and are responding accordingly.

## 5.3 Crowdsourcing data

In some parts of the world, Google Maps has no detailed data on the buildings; it just shows roads. In the aftermath of a natural disaster, such as the hurricanes Maria and Irma in Puerto Rico in 2017, an organisation called Humanitarian OpenStreetMap Team sent out a request to volunteers on the ground to help improve the digital maps of the area, which could be used by the emergency response teams. Their approach uses a combination of opensource geospatial data, satellite images and volunteers to produce accurate results quickly.

In the UK, when the Local Data Company (LDC) set out to create an accurate up-to-date set of tenant lists for high streets, they were faced with the high cost of sending out people to survey the streets. The solution they found was to place adverts in the magazine *Amateur Photographer*, which offered local photographers £0.50 for every photograph of a shop front with its location. Very quickly this informal group of researchers helped LDC piece together a comprehensive understanding of the UK's high streets for relatively little cost.

Both these examples show that lateral thought pays off when applied to the need for data that would usually be thought of as time-consuming and expensive to source. Using digital technology significantly helps the process and many questions can be answered that previously would have been considered too difficult.

# 6 Challenges of property data

As data becomes more freely available to all, the value of simply owning (or having access to) that data declines, and there is an increasing emphasis and value in being able to use it. Skills outweigh knowledge.

However, data is not currently freely available in the property industry and there are practical difficulties in obtaining and using data.

## 6.1 Data is expensive

The perception is that buying data is expensive and that cheaper ways of obtaining data exist in parallel with the data market – for example, commercial estate agents are often willing to give away the data they hold for new work and favoured clients will be given regular updates on the market both formally and informally. Giving data away for free as a support for the agency business does not give the data any significant value and does not always guarantee new work.

This is partly a symptom of a sense of loyalty in the property industry – the networking infrastructure is long-established and buying data from a third party might therefore seem disloyal.

It is more likely a result of the poor quality of data available up until now. Most valuers only use bought data to give clues as to where to research the market – they do not trust the accuracy of the data enough to rely on it alone when valuing property. The market is used to finding its own data and distrusts data it is given.

In addition to this, the cost of buying data from third parties is increasing rapidly. In part, this is due to business models developed in countries like the USA where accurate data is publicly available and is used more heavily (and profitably) by the industry. In these countries the value of data has been proven and the data companies are beginning to price based on value rather than cost of provision. This is not popular with data users in the UK.

There are other aspects to expense: the current expectation that rental and capital value data analysis is carried out in the head of the valuer supports the argument that valuation is a skill that needs instant access to market data. Conversely, the perceived need for experienced data professionals to get the best out of, for example, shopping centre footfall analysis or the macro-economics of a region to support a retail purchase, makes the analysis of data appear an expensive option.

## 6.2 Skills shortage

Clearly, property professionals have the skills to analyse market data. What they often complain about is that they do not have the skills or experience to analyse other data relating to the retail market or logistics, for example. These markets coincidentally have far better developed data available and access to analysis skills. There should be little reason why the skills that property professionals have cannot be applied to larger datasets.

The lack of confidence in manipulating datasets creates a gap in potential employees who will come to property from other industries or via generic business training. This should be an easy gap to plug with appropriate changes to training courses. However, attracting undergraduates who recognise that a career in property might include a significant amount of data analysis may be more difficult.

It might be necessary to attract graduates of data science courses into the profession – a longer, more complicated process. At the very least, it should be possible to design a pathway for data graduates to become chartered surveyors.

## 6.3 Poor quality data

The data available to buy, and generally stored within internal systems, is of such poor quality that it cannot be relied on without expert interpretation. Even data now available from sources such as the UK Land Registry needs a significant amount of cleansing before it can be relied on.

This fact alone undermines the argument that data can be assumed to be widely available. If central sources of data, collected by legal statute, are unreliable there is a strong presumption that property professionals will continue to work with data as they have done before.

Additionally, the commercial services that collect property data are beginning to increase prices for little or no perceived increase in data quality.

## 6.4 Regional data

Property professionals still feel the need to maintain that their clients use them because they are the only ones that have the right data – the weight of difficulties in buying and analysing data seem to be enough reason not to change.

This is particularly true for regional agents who most likely have collected a far greater dataset of local transactions than might be available online through data suppliers. Unless clean, comprehensive transaction data becomes available from government agency sources, initiatives such as EG Radius can still expect difficulties in rolling out the service beyond London.

It is unlikely that local agents will retain ultimate power over local transaction data. They can protect their position in the short term by establishing clean, reliable datasets that only

they have access to, but it is likely that they will sell these or they will be replaced by publicly available data.

This may happen through any combination of the following:

- better, more accurate valuation algorithms that can deduce values of sufficient usefulness for 80% of valuations
- newly trained professionals joining firms who are used to adding value through skills rather than ownership of data and
- price competition from national firms who can provide 80% accuracy, which may be enough for a large number of use cases.

There is no doubt that local knowledge is a valuable commodity – local and regional professionals need to focus on knowledge that is not easily gathered centrally and that still retains its value against more generic, fast and reasonably accurate services.

## 6.5 Data management is a 'sticky' service

Some property managers charge transition/set-up fees because the transition of data between managers is so complex. This creates additional costs for investors and provides protection for weaker property managers.

Management of data can still be a good reason for a client to stick with a property manager but making it easy to move an instruction away is a far better way of retaining a good client relationship. If a client knows there is no data barrier to appointing a new manager, the focus will be on managing the portfolio as efficiently as possible, providing further savings. Furthermore, management of clean, accurate data will allow the property manager to analyse trends and improve the investment value to a level not possible today.

## 6.6 Data is hoarded

The concept of sharing data has been debated for decades, but the benefits of sharing would outweigh the disadvantages. Remit Consulting suggested a scheme some years ago where the most knowledgeable agents would freely distribute any information they know and would get a score linked to the accuracy and quantity of information divulged. That score could be used by potential clients to judge who knows the most about a particular market.

However, there are barriers to this.

- Ownership of data/confidentiality – it is unlikely under the terms of the appointment or regulations such as GDPR that an agent could divulge the full details of a deal or leases that are held by individuals or partnerships. The implication is that many leases will remain unreported in datasets and benchmarking will become less accurate.
- Hearsay – details of a deal reported by a third party may not reflect the full circumstances. This is a potential flaw in all the portals that rely on agents to populate the dataset.

Leases will from now on need a data clause in them to allow landlords and their agents to collect and manage personal data. All managers and investors will have to prepare their policy on dealing with personal data. Agents will need to be clear on the data that they are permitted to use and what should remain confidential.

Initially, this may mean that the market as a whole has access to less data rather than more. However, the skills of professionals will become yet more important in using what data is available to provide value to clients.

# 7 Compliance, standards and security

## 7.1 Compliance

Users of data have ethical and legal responsibilities in how data is used. Misuse of data for commercial and political purposes has prompted a tightening of the way personal data on individuals may be collected, stored, used and transferred.

The [GDPR](#), [Data Protection Act 2018](#) and [Privacy and Electronic Communications Regulations 2003](#) are designed to protect the subject of data from misuse. Although these regulations impose specific obligations on controllers and processors of data, the use of data is also subject to a complex array of common law, contract and copyright issues.

Organisations need to have policies that relate to all data that may be used to inform decisions. The provenance of the data needs to be considered.

- Was it harvested legitimately?
- Is it accurate?
- Can it be verified or replicated?
- Should it be relied on and how should it be cited?
- Is the data protected by copyright?

The regulations impose fines for the misuse of data in some circumstances and, at common law, losses incurred due to the poor use of data may give rise to significant claims for damages.

These regulations apply to personal data, which may be defined as any data that enables an individual to be identified. Care must be taken even with data that has been anonymised if, when combined with other data, it could allow individuals to be identified. It also worth noting that, in addition to individuals in a personal capacity, GDPR may equally apply to businesses such as sole traders, partnerships and individuals as company directors.

## 7.2 Confidentiality

The UK property market has relied for decades on the ability to call a colleague and find out market data. This practice almost certainly breaches confidentiality agreements as part of an agency instruction and often only uncovers part of the details of a transaction.

More accurate transaction data is released by the UK Land Registry and other public bodies, but this is incomplete. Surveyors taking a valuation matter to court or tribunal have to obtain

signed paperwork from the parties involved for the evidence to avoid being dismissed as hearsay.

While the rules on use of data are not as strict as in Germany, for example, the unreliable or incomplete data used to assess market values is insufficient for the data market to substantially improve in the near future. The UK might learn from German examples where there is a more detailed, relentless drive towards accuracy and a process-driven approach.

The geospatial description of all boundaries is described in the automated cadastral map (ALK), while data is kept in the automated property register (ALB). ALB and ALK are in the process of being combined into a single product named ALKIS. The modernisation and development of the cadastral systems in Germany falls under the auspices of the Working Committee of the Surveying Authorities of the States of the Federal Republic of Germany (AdV). Only Grundbuch (the German land registering system) and the cadastral systems in combination are able to give a complete overview of legal and de facto land tenure. Both registers must be constantly updated and kept in synchronisation with each other (Remit Consulting, 2012).

Suffice to say, practitioners should be careful in their use of any market data unless an affidavit declaring the details has been obtained and this is impractical in most cases.

## 7.3 Standards

Data is only valuable to a wide audience if it is in the same format and stored and transferred using a common standard. Some of the open data sharing taking place in the UK has been done to an agreed, open standard – brownfield land sites, neighbourhood plans, etc. However, this is not the case across the property industry globally.

In some cases, there are standards, but they are not publicly shared. In North America there are a number of bodies producing standards for parts of the industry, e.g. OSCRE and Project Haystack. In the UK, BSI is developing a framework for the safe and reliable use of the internet of things applications, data and devices, but this is not exclusively in the property market.

There would appear to be a gap for developing data standards for the property industry that are open-sourced and applicable globally. This is a big task but would help to ensure the next generation of surveyors are competent in using data.

## 7.4 Cyber security

All users of data should have effective policies and processes for reacting to any security breaches that occur, for controlling who has access to data and for what purpose and for handling data access requests.

Cyber security is a hot topic with several high-profile attacks being well publicised and resulting in both financial and reputational damage to those infiltrated. According to IT Governance cyber security 'comprises technologies, processes and controls that are

designed to protect systems, networks and data from cyber-attacks.’ All suppliers and subcontractors (including hosted services) must be able to demonstrate what would have been considered as very high levels of technology security but are now part of their day-to-day operational processes.

At its simplest cyber security is ensuring well-documented good practice is exercised. However, many IT applications and business processes in the real estate sector fall at these early hurdles. Examples include password discipline, audit trails of user activity, financial controls with appropriate separation of duties documented and demonstrated, etc.

## 8 Recommendations

- 1 The profession should attract graduates from science data courses.
- 2 There is a need to develop data standards for the property industry that are globally applicable and open-sourced. This would ensure the next generation of surveyors are competent in using data.
- 3 Data can play an important role in business plans and company strategy.
  - a Valuation – organisations should estimate the timing of each stage of better data becoming available and the value that can be gained from that by increasing client bases, selling more services or increasing fees to match the increased value.
  - b Property management – property managers need to gather, clean and analyse data from the whole property life cycle. They will need to factor in the data storage costs, the analysis skills for their teams and the fees that will need to be charged for a complete service.
  - c Investment and lettings agency – an agent's value is in their ability to analyse the data rather than the knowledge itself. New analysis tools will enable agents to analyse more data more quickly and free up time to make better, deeper relationships with client companies. The business strategy may be to invest in data analysts and also in 'front of house' client relationship exercises.
- 4 It is unlikely that any property organisation will have direct access to all the data it needs so many businesses will need to buy data from several sources. This can be expensive and data sources are not comprehensive. The advantage of developing a strategy is that businesses will be able to value the data to specific uses and judge whether it is worth buying a particular dataset. This will vary from case to case and can be prioritised as shown below.
  - a Essential datasets for competing effectively in the market. Clients will expect organisations to have this and will pay additional fees to access it.
  - b Datasets that are essential but can be recharged to clients as a cost of each project.
  - c Data that can be bought on an as-needed basis for specific research or competitive advantage.
- 5 Staying on top of data resources and managing/collecting data sources is perhaps not a core skill of surveyors at present. It may be that a full-time resource might help the business to stay on top of this more formalised data structure.
- 6 If data cannot be bought, it may have to be created in the future. Each property firm will have access to client data through the course of its daily business which, when collected might provide useful benchmarking. Firms will need to consider adding a contract clause to cover the use of clients' data in aggregated form and most clients will at present allow

this as long as they receive some benefits. This is also a good time to consider what resources might be needed for this work and whether the workforce has the skills and bandwidth to undertake this effectively.

- 7 The creation of specific datasets that help the industry will provide invaluable experience in dealing with data when it becomes available to buy on the open market. At that point, workforces will not only understand the value of the data, they will have the skills to analyse the data for clients – all companies will have lost is the time taken to collect their own data, which should represent a cost saving.
- 8 There is no doubt that owning a dataset of local transactions gives advantages over national firms whose own data will not be as comprehensive. If it is structured well, up-to-date and accurate, this should continue to add value to the business until comprehensive property data becomes available from other sources. That might take 2, 5 or 15 years.
- 9 Despite the advantages of open data, firms should not give away their competitive advantage by sharing their data with others. Nevertheless, there is a lot of data available that could augment these local datasets – this should add considerable richness to the dataset and make it more valuable.

## 9 Conclusion

This paper has considered the sources, availability, quality and awareness of data, as well as the skills, cost and security required. The key findings of the survey and face-to-face interviews were:

- market and asset data are the most difficult to obtain
- availability of data is the biggest barrier to change and
- more available and accurate data would improve the ability of surveyors do their jobs better.

Surveying practices are employing a wider range of skills, well beyond the traditional surveying competencies. Surveyors know better what they need to do, now they just need to do it. RICS can support the industry by encouraging the training of current and future surveyors in data analysis and management and by implementing global property data standards.

The [Lost in translation: How can real estate make the most of the PropTech revolution?](#) paper by the British Property Federation and Future Cities Catapult recommends that:

‘Organisations such as RICS, the Centre for Digital Built Britain, BPF and BEIS should work together and with industry to develop a property passport. This would be a data standard for core information to be generated and maintained throughout the property lifecycle and for different users. This might include core asset, financial and building performance information, and could build on recent BEIS consultation on standards for smart systems and a flexible energy system.’

A number of survey participants suggested government could play a key role in public and market data standardisation and transparency. There were differences of opinion regarding the types of data that should be made more open and transparent to deliver productivity benefits and whether this should extend to having a role in standardising market data.

# Appendix A: Data source table

The table below lists data sources that are relevant to specific areas of the property market and where property professionals are most likely to look for data in their field. So, for example, CoStar holds mostly transaction data and Datscha holds mostly planning and transaction data.

| Category               | Finance | Planning | Benchmarking | Transaction | Building data | Design | Marketing | Technology | Research | Place analytics |
|------------------------|---------|----------|--------------|-------------|---------------|--------|-----------|------------|----------|-----------------|
| Land Insight           |         |          |              |             |               |        |           |            |          |                 |
| Urban Intelligence     |         |          |              |             |               |        |           |            |          |                 |
| CoStar                 |         |          |              |             |               |        |           |            |          |                 |
| Datscha                |         |          |              |             |               |        |           |            |          |                 |
| Emapsite               |         |          |              |             |               |        |           |            |          |                 |
| Experian               |         |          |              |             |               |        |           |            |          |                 |
| Glenigan               |         |          |              |             |               |        |           |            |          |                 |
| Local Data Company     |         |          |              |             |               |        |           |            |          |                 |
| MSCI                   |         |          |              |             |               |        |           |            |          |                 |
| Nimbus                 |         |          |              |             |               |        |           |            |          |                 |
| Propertydata           |         |          |              |             |               |        |           |            |          |                 |
| Radius                 |         |          |              |             |               |        |           |            |          |                 |
| Real Capital Analytics |         |          |              |             |               |        |           |            |          |                 |
| Corelogic [US]         |         |          |              |             |               |        |           |            |          |                 |
| Reonomy                |         |          |              |             |               |        |           |            |          |                 |
| Property Archive       |         |          |              |             |               |        |           |            |          |                 |
| Retail Locations       |         |          |              |             |               |        |           |            |          |                 |
| Frank Steier Price     |         |          |              |             |               |        |           |            |          |                 |
| CACI                   |         |          |              |             |               |        |           |            |          |                 |
| Barbour ABI            |         |          |              |             |               |        |           |            |          |                 |
| GfK                    |         |          |              |             |               |        |           |            |          |                 |
| Mintel                 |         |          |              |             |               |        |           |            |          |                 |
| Retail Economics       |         |          |              |             |               |        |           |            |          |                 |
| Oxford Economics       |         |          |              |             |               |        |           |            |          |                 |
| Call Credit            |         |          |              |             |               |        |           |            |          |                 |
| Global Data            |         |          |              |             |               |        |           |            |          |                 |
| Kantar                 |         |          |              |             |               |        |           |            |          |                 |
| Springboard            |         |          |              |             |               |        |           |            |          |                 |
| Ipsos                  |         |          |              |             |               |        |           |            |          |                 |
| Hoxton Analytics       |         |          |              |             |               |        |           |            |          |                 |
| RCA                    |         |          |              |             |               |        |           |            |          |                 |
| Dun & Bradstreet       |         |          |              |             |               |        |           |            |          |                 |
| Telefonica             |         |          |              |             |               |        |           |            |          |                 |
| Geolytix               |         |          |              |             |               |        |           |            |          |                 |
| PMA                    |         |          |              |             |               |        |           |            |          |                 |

# References

British Property Federation and Future Cities Catapult, *Lost in translation: How can real estate make the most of the Proptech revolution* [accessed 21 November 2018].

Brownfield Land Registers, [Brownfield Land Registers Data Standard: Preparing and publishing a register](#), [accessed 21 November 2018].

Emerj., [What is Machine Learning?](#)

Estates Gazette, [EG Property Podcasts](#), [accessed 5 November 2018].

Grimsey, B., [The Grimsey Review 2](#), 2018.

IEEE Software, *What is the capability maturity model? (CCM) Process Maturity*.

International Property Measurement Standards Coalition, [International Property Measurement Standards](#), 2018.

Remit Consulting, [REMark Survey](#), 2017.

RICS, [The impact of emerging technologies on the surveying profession](#), 2017.

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