From accessory to necessity: Embedding data governance in business operations

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Received (in revised form): 13th July, 2018

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Abstract

Corporate real estate (CRE) has become data-rich as buildings, workplaces and work itself becomes increasingly data-driven. As the universe of CRE data continues to grow, data governance is becoming a bigger challenge for many CRE teams still working with basic spreadsheets. When it is trustworthy and accessible, CRE data can help an organisation become more agile and competitive. Although the purpose of data governance varies depending on the organisation, some common components are always required. This paper details key considerations for creating a vision for the organisation’s data; defining critical data elements; and creating a business glossary and data dictionary with related business rules and data quality rules. It explains the concept of the data management model assessment and data maturity levels, to establish priorities for the data governance programme. Also discussed are steps for creating a data governance framework, including roles and responsibilities and distinguishing between data governance and data management. Since most companies lack even a basic understanding of their CRE data, having a
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strong CRE data governance programme will differentiate an organisation. CRE executives must not only think forward, but also recognise that this is a race to be the first to deploy.

Keywords: business glossary, data governance vision, data dictionary, data governance, data management, data quality, data standards, master data management (MDM), metadata, data steward, data stewardship

INTRODUCTION

CRE has become data-rich. Valuable data is everywhere — in our property listings, investment portfolios, building systems, integrated workplace management systems, lease administration databases and more. That data represents the physical environments an organisation occupies, as well as the transactions related to ownership and occupancy. When it is governed — managed to be trustworthy and accessible — your data can help your organisation become more agile and competitive.

You are probably very familiar with data relating to your properties, listings, leases, transactions, projects, facility management, equipment, etc. In addition, our CRE portfolios collect facility-related data generated by smart building management platforms, sensors, security systems, workplace mobile apps, corporate Wi-Fi, local area networks (LAN) and countless other technologies.

Some people are now combining CRE data with data outside of real estate to explore more business opportunities. By combining the more conventional CRE data with new data, and even open, publicly accessible information such as UK HM Land Registry Commercial and Corporate Ownership Data or US census or state government labour statistics available through online federal government websites, CRE teams are becoming increasingly creative in using data to improve our work experience and workplace. As described in JLL’s model for the Future of Work, technology and data are defining CRE today. Imagine your workday in the not-too-distant future: Your mobile phone wakes you up half an hour early because it is raining outside. It advises you to leave earlier to get to the office on time for your meeting. A mobile app downsizes your conference room reservation to a smaller room because the rain will likely discourage some attendees from coming to the office. The app automatically adjusts your catering service order from coffee for 12 people to coffee for six and directs the new conference room’s temperature to be automatically adjusted to your preferred room temperature. And, you are not even out of bed yet.

The enabling technology is available today. The future is now. Imagine data streams flowing through intelligent algorithms to create predictions, recommendations and alerts for your workplaces and building systems. Using machine-to-machine communications, the devices and equipment that receive the instructions generate and share new data, creating a data ecosystem.

All the Internet of Things (IoT) technologies, mobile apps and back-end platforms capture, generate and transmit a wealth of collective data offering limitless potential for CRE management. Cloud computing, artificial intelligence (AI), blockchain, augmented and virtual reality, the IoT, robotics and more are also coming into our workplaces.

In the era of digital workplace transformation, trustworthy real-time data is becoming essential to help a company creating agile workplaces to respond to the rapidly evolving world of work. However, these technology advancements add to the complexity and scope of CRE data.

As the universe of CRE data continues to grow, data governance is becoming a bigger challenge for many CRE teams. Many companies are still using spreadsheets
as the primary tool for managing CRE portfolios. Aggregating and analysing data from multiple spreadsheets requires hours of painstaking manipulation. More critically, the data will probably lack consistency, completeness and accuracy. Therefore, even if you have the time to aggregate and analyse it, you may not trust the results.

THE VALUE OF CRE DATA
CRE data can be used in various ways to produce business value beyond simply recording details about business operations. You can define the potential value of CRE data in three ways (see Figure 1).

DATA AS A CORPORATE ASSET: DATA ADVISES THE BUSINESS
Traditionally, data governance has been implemented to manage data as a corporate asset. Often, the most expensive items on a corporation’s balance sheet are related to CRE, which is why the proper management of CRE data as an asset makes financial sense.

Consider how a typical company manages physical corporate assets such as computers, phone systems or even white boards in conference rooms. First, you attach a physical tag on a corporate laptop. Then, you maintain a database of inventory information associated with each tag, such as specifications, issue date, condition and owner. These practices enable you, at a minimum, to prohibit unauthorised access and track the asset across its life cycle from purchase and repair to replacement and disposal.

Similar discipline and rigour can be applied to CRE data. Just as you manage physical assets, you can correctly classify, tag, designate ownership, maintain and depreciate your CRE data assets. Then, you can put those data assets to work to benefit the larger business.

For a CRE team, the most obvious purpose of your data is to advise business leaders in making decisions. That is the typical use case for considering data as a corporate asset: data makes you smarter, more productive and better equipped to achieve higher results. Which facilities are most or

Figure 1 The value of data
Source: JLL
least productive? What is the true cost of occupancy or ownership of your facilities? Do you really need more space, or do you simply need to use the space you have more effectively? What kinds of workspaces do your employees prefer?

The outcomes are reliable and concise management reporting; competitive intelligence; accurate forecasts and predictions; and prescriptive actions and alerts, all created without people combing through the spreadsheets, charts and graphs. The insights produced by data assets can lead to operational efficiency, cost avoidance and, ultimately, competitive advantage.

DATA AS A PRODUCT: DATA IS THE BUSINESS

Data also has commercial value when it is packaged as a product that can be sold to other companies or consumers. In other words, data itself is the business. Of course, most CRE teams are not selling their data; its value is internal. However, it is useful to understand how data can gain marketplace value. Other industries — particularly retailers — have long been adding data as a product to their core businesses, recognising that their everyday processes generate information that is potentially valuable to other organisations.

Typically, the derivative products of business data yield high commercial value. For example, retailers sell consumer purchase data to credit reference agencies or bureaus and other data aggregators. These agencies or bureaus anonymise the data, package it, analyse it and sell it, along with indices and scores, to marketers. Additionally, some aggregators add their own proprietary data and algorithms, and sell benchmarking services to provide competitive insights. CRE teams, for example, can make property or equipment performance data commercially available.

In some instances, data may serve both as a corporate asset and as a marketable product. For example, the core business of an online commercial property listing service is to help brokers market their properties. However, this company also aggregates and sells property market data as a product. Similarly, the major real estate service providers — including JLL — aggregate, anonymise and package client CRE data for use in benchmarking services. Data standards and governance is what makes these services valuable — hence, the benchmarking analysis is trusted.

Managing products is different from managing assets. That is, data governance for ‘data as a corporate asset’ is not the same as data governance for ‘data as a product’. For example, the latter must address the market potential, costing and pricing. In addition to effectiveness and trustworthiness, you also need to focus on profitability and a product roadmap.

DATA AS THE FUEL FOR NEW BUSINESS: DATA TRANSFORMS THE BUSINESS

Digital transformation is all about using technology and data to transform a company’s business. Rather than selling data directly to buyers for profit, a company can use its data to explore new revenue opportunities and new business models. This is where leading companies excel.

Many organisations now self-identify as data companies first and product or service providers second. A famous sports shoes retailer becomes ‘a data company that sells shoes’. A biopharmaceutical company is ‘a data company that manufactures drugs’. A popular fashion company is ‘a data company that sells clothing’.

In this sense, these enterprises are not necessarily selling data as products; the claim is that data, combined with technology, has transformative power for their business and their customers. Smart retailers, for example, use data about consumer buying patterns to
minimise or eliminate high inventory costs for warehousing and distribution. An online bookstore can use its proprietary ‘you might also like’ algorithms to sell consumer goods as easily as it sells books. A web-based information portal can ‘push’ streaming videos in response to consumer preferences. Industrial companies combine sensor technology with products to create asset management and predictive maintenance service lines. The possibilities are endless.

Such disruptive innovations are the hallmark of digital transformation. Interestingly, innovators are not necessarily good at managing their own corporate data as a product or a corporate asset. Where they excel is at selectively using data to fuel new business — and that is a major undertaking most organisations hesitate to embark upon.

DATA GOVERNANCE — ENABLER, NOT RED TAPE
Some companies define data governance as ‘the formal authority to govern business data within an organisation’ or something similar. In that case, data governance is usually perceived as checks and balances and rule enforcement. Rather than viewing data governance as bureaucratic red tape, or a roadblock, view it as a performance enabler that can help advance the organisation.

Without data governance, data is much less valuable. Your CRE team cannot use confusing, misunderstood or unreliable data to advise the business. Ungoverned data is not a viable commercial product and you cannot trust it to effect change. Thus, the number-one outcome of data governance is trust — being able to use your data without doubting what it tells you.

Secondly, data governance provides a framework and processes for establishing standard definitions, terminology and data formats, and maintaining accuracy to make your data consistently trustworthy. It increases the value of data by implementing and managing data policies and procedures. It clarifies what should happen with the data and who is responsible for it. In other words, it defines accountability.

Data governance also enables a CRE organisation to more easily integrate, synchronise and consolidate data from different sources. It enables you to exchange data among different service delivery applications or business lines in a common format, and create insights for real estate decision-making. Data governance allows you to make faster and less costly CRE and business decisions with better results.

A data governance programme addresses the common data issues that can impede a CRE team’s ability to use its data to add value (see Table 1). Inaccuracy is the just the tip of the iceberg. Other issues include siloed and fragmented data requiring manual reconciliation; uncoordinated updates; data that is difficult to access and use; and lack of security, controls and compliance with privacy regulations. A common major issue is simply inconsistent labelling and definitions — when the same type of data is stored with varying abbreviations, spelling and naming conventions.

CREATING DATA GOVERNANCE
Data governance is a permanent function, not a one-time project or a programme. Data governance requires formal, explicit and ongoing effort, on the part of dedicated staff and broad participation, processes and technology. Although the purpose of data governance can vary depending on how the value of data in a CRE organisation is defined and positioned, some common components are always required.

A CLEAR VISION
The first step of data governance is to identify a vision for your organisation’s business data. The vision is not a pie-in-the-sky
concept, but a realistic statement of why data governance matters and the benefits it will bring to your CRE team and the larger enterprise.

The vision should be easy for a business user to understand, without terminology that only an IT or data governance specialist would know. That is, do not use words that you would not use after six o’clock with your family and friends.

For example, the ultimate goal of data governance is to help ensure that the information used by a company to service its clients and manage its business is accessible, trusted, properly protected and widely understood. A successful data governance implementation ensures that the right data is accessible at the right time in the right form so that the right user can use it for operational or analytical decision-making.

Achieving the vision requires an understanding of what your data consumers want to accomplish. With a clear data governance vision, you can prioritise governance of the data your business users most need and want (see Figure 2). Once you have identified the scope of the vision, it is important to lay out how supporting functions should operate, such as aligning data classes and business function. Elements should include a process for producing the required format and timing of the data, as well as a process for creating a single version of truth for selected and prioritised data.

### ESTABLISH PRIORITIES

An important step toward data governance is to identify where your data comes from. Once you map your data sources, you can determine which are most important or most trustworthy. As Albert Einstein said, ‘Not everything that can be counted counts, and not everything that counts can be counted’. That is, you will need to focus your data governance resources on the most important and useful information.

Without priorities, data governance becomes focused on the ‘squeaky wheels’ rather than on critical data needed for management reporting, CRE portfolio strategy, regulatory compliance and other strategic decisions.

Start with the information — the critical data elements (CDEs) — that is important to the people who need it. CDEs vary from

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**Table 1: Data governance measures: a data governance programme improves data quality in multiple ways**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Data correctly reflects the real-world object or an event being described.</td>
</tr>
<tr>
<td>Completeness</td>
<td>Data in the data set of interest is available and comprehensive.</td>
</tr>
<tr>
<td>Consistency</td>
<td>Data is identical across all systems.</td>
</tr>
<tr>
<td>Ease of use</td>
<td>Data can be accessed, used, updated, maintained and managed.</td>
</tr>
<tr>
<td>Integrity</td>
<td>Related concepts are traced and connected through validated links.</td>
</tr>
<tr>
<td>Security</td>
<td>Data is protected from unauthorised access.</td>
</tr>
<tr>
<td>Single version of truth</td>
<td>Data in a particular field, record or data set is consistent within or across systems and data repositories.</td>
</tr>
<tr>
<td>Timeliness</td>
<td>Data is current and available for a specified use and in the expected time frame.</td>
</tr>
<tr>
<td>Understanding</td>
<td>Data documentation, data standards, data models, business rules, metadata and reference data are complete and consistent.</td>
</tr>
</tbody>
</table>
company to company; what is important to you may not be as important to another CRE team. For that, you will need to engage other functions and business leaders in discussions about the types of data that are most important for their purposes. Examples of CDEs include: property key, location or address, square footage and rent or mortgage cost. As you uncover data elements considered to be critical in the larger business, you can also begin to shape key performance indicators (KPIs) to measure business performance over time.

Uncovering CDEs is not a simple or easy task. The business user may not know what CDEs they need, and it is the data governance specialist’s job to draw out what is important. How do you know whether data is critical? Start by asking whether the information is: 1) essential for keeping the business operational; 2) the only link to other data sets or systems; 3) required for regulatory compliance; or 4) used for making key business decisions. The business user may have other critical requirements, and other questions will emerge as the conversation unfolds.

For a typical CRE team, about 50 CDEs would be the correct number. Too few, you are missing priorities. Too many, you have no priorities. For instance, your CRE finance application may deliver thousands of data elements, but only a handful are considered to be CDEs.

DATA STANDARDS

For each CDE, you should consider creating data standards (see Table 2). ‘Standards’ has a broad meaning, encompassing agreed-upon definitions, values, naming conventions and other aspects of data used to support business processes or to create consistent, accurate reporting. The data standards development organisations such as ISO, OSCRE, BOMA and IPMSC (International Property Measurement Standards Coalition) may provide a good starting point.

Data standards have greater complexity than meets the eye. Many CRE teams are managing data from across the enterprise and around the world. You will need to decide when, whether and where to adopt industry standards, or develop standards tailored for
your enterprise and local or regional culture. The best practice to increase adoption is to use standards that are the least disruptive for your organisation that also support your trading partners.

For example, even if English is the business language, you will still need to determine whether to call something an ‘elevator’ or a ‘lift’, for the intended business purposes. Even if all of your operations are within one country with a common language, you still need to build consensus around data standards. Beyond standards, the data governance team may also need to take on policies, guidelines and procedures for CRE data (see Figure 3).

One area that is often overlooked is applicability and adoption. Say you want to create data standards for ‘usable area’, ‘rentable area’ or ‘gross interior area’. How do you calculate and define each type of space? What acronym do you use? Where will the standards be used? When conflicting conventions or industry standards exist, which should you choose?

Names and definitions are a fundamental starting point — if you do not have agreement on these, you cannot proceed on your data governance journey. From there, you can establish standard values and other aspects of data standardisation.

Each of the leading real estate industry bodies, vendor partners or government agencies has its own specifications and acronyms. Your real estate service providers may use their own standards. You may decide that what is best for your organisation is to adopt your service provider’s standards — or for the service provider to adopt some of your standards.

Because of the many different perspectives and considerations, start with what has already been adopted, match those practices to the dominant industry standards, and allow for necessary variations while maintaining the overall consistency of the standards. That is, you will need a process for approving exceptions.

You will also need a process for keeping standards updated and ‘evergreen’. For example, a US-based company might use Zone Improvement Planning (ZIP) codes as part of its standard building data. But, if the company expands internationally, the data governance team would selectively adopt various other postal codes as well; after all,

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**Figure 3** Defining the scope of mandates
Source: JLL
ZIP codes are an invention of the US Postal Service.

**GLOSSARY AND DICTIONARY**

Creating a business glossary and data dictionary with related business rules and data quality rules will help you tackle the data standardisation challenge. It will provide tangible evidence that you are making progress.

The business glossary, consisting of terms and definitions, describes the most frequently used terms in your CRE organisation and, where relevant, the larger enterprise. Understanding the common business terms synchronises the vocabulary and improves communication.

For example, in some organisations, the words ‘client’, ‘customer’ and ‘buyer’ are synonymous. If a company sells products or services to both intermediaries and end-users, however, the terms will have different meanings to different people.

A glossary of terms and a data dictionary are not the same thing. A data dictionary catalogues all data elements, including their names, business rules, source, security and privacy requirements, structures and information about their usage. It is much more comprehensive than the business glossary of terms.

Which do you need first? It depends on whether you are working from the business side or the IT side of data governance. Most CRE teams take the business perspective, so the business glossary is the natural starting point.

As you write your data dictionary, add business rules to each data element. For instance, a business rule may specify that every property must have a country name, and that the ‘Country’ data field cannot be left blank. A data quality rule, in turn, automatically enforces the business rule across your applications and databases. If someone enters a property into an application or database without a corresponding country, your data governance tool will flag it as incomplete or erroneous.

With common terms and a data dictionary in place, you can build out the associated metadata that provides more descriptive information about how the data flows through systems and business processes. Ultimately, you need all three tiers — the business glossary, data dictionary and metadata (see Figure 4).

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Table 2: **How to create data standards**

1. Gain management and executive buy-in and support.
2. Identify critical data elements (CDEs) and data stewards who provide the subject matter expertise to drive data policies, standards and priorities.
3. Collect internal and external (industry) standards related to your CDEs. Share them with your data stewards.
4. For each CDE, work with the data stewards to develop or adopt standard names and definitions, leveraging existing convention first, and industry standards next.
5. For data that is to be codified, create allowed value and codification standards that meet the business needs.
7. For each IT implementation, define additional standards for granularity, cardinality, format and representation.
8. Define necessary data validation standards to be enforced in each application implementation.
9. Work with other security or compliance groups to define data classification and protection standards.
10. Work with other records management and the business continuity function to define records retention standards.
DATA STEWARDS

Along with creating the end-state vision and identifying CDEs, you will need to create a governing body or authority. In addition to data governance experts on the dedicated team, you should leverage your CRE subject matter experts (SMEs) on various teams in your organisation. These SMEs are your data stewards, providing the brainpower and knowledge base to drive data policies, standards and priorities. It is your job to organise them into effective committees with specific mission statements — that is, the data stewardship programmes. No data governance is complete without data stewards who constantly attend to data quality and enforce mandates.

Your data stewardship framework should be tailored to your organisational culture, structure, strategic initiatives, data needs and the decision-making process. So how do you start?

First, define seven to 12, or up to 20 at most, data classes. A data class encompasses data pertaining to particular topical or functional areas. Then, create a data stewardship programme for each data class with executive leadership, manager or data owner and data stewards (see Figure 5).

At the top, the data governance executive leaders are the ultimate decision-makers who authorise and empower your data stewardship managers or data owners with decision rights and who approve data policies and priorities. Their role also includes the important task of communicating the value of data governance to the larger business.

Second in line are your data stewardship managers or data owners, who define data policies, standards and business priorities, and define changes to the people, processes and technology related to data governance. Data stewardship managers or data owners also approve business rules and implement design decisions, resolve cultural issues and organisational conflicts. Their role includes communicating the business value of stewarded data.

At the day-to-day level are your data stewards who work under the leadership of the stewardship managers. Each should be a SME representing a unique perspective — business function, geographic location or influence in a particular class of data. In a global organisation, you also need local
SMEs to provide a cultural perspective on data standards. Your data stewards will likely directly or indirectly maintain data contents according to selected targets.

Of course, a data stewardship programme may initially consist of a very small group or a single person. It takes time to establish a complete programme. Whether your team is large or small, one of your initial goals will be to build a business case that will help secure management buy-in and more resources to advance your data governance agenda.

Your data stewardship team ensures that your data governance programme stays aligned with the current needs of the larger business. They will be responsible for developing data definitions and standards, and proactively identifying data issues and driving continuous improvement in data quality.

**MAKING DATA GOVERNANCE A NECESSITY, NOT ACCESSORY**

Gaining stakeholder buy-in: Using data quality as the face of data governance

Thoughtful communication will be important when you are addressing business users or C-suite managers who are not data experts — and are not interested in the minutiae. Real-life use cases illustrating the powerful advantages that result from investing in data governance will resonate with these leaders.

The most touchy-feely deliverable of data governance is data quality monitoring. Data quality refers to the level of trustworthiness of data. You make better decisions with the help of subject matter knowledge and the knowledge of data quality. The average person quickly assesses whether the data on a spreadsheet is trustworthy, whether it should be included in a management report or whether it should be excluded and ignored.

The fundamental question is, ‘Should I trust the data?’ Intuitively, most people believe high-quality data is important. You know the cliché — ‘garbage in, garbage out’. Yet, people often make decisions based on impulse, gut feelings and judgments about outcomes simply because they do not have a way to know how bad the data is.

Focusing on data quality is an effective way to ‘sell’ overall data governance to upper management and other stakeholders. Most business stakeholders will support a CRE team’s focus on data quality because they understand and support the value
Embedding data governance in business operations

proposition. Data quality is the face of robust data governance, and builds the appetite and appreciation for other data governance deliverables.

As your organisation’s data quality monitoring and remediation efforts mature, it will become easier to gain support for data stewardship, CDEs, data standards, reference data management, metadata and master data management (MDM).

You can measure data quality by the core dimensions of uniqueness, accuracy, validity, consistency, completeness and integrity (see Figure 6). To monitor and measure data quality, today’s technologies include a data platform that provides defined data rules using a data engine, and creates easy-to-understand scorecards.

SEPARATION OF DATA GOVERNANCE AND DATA MANAGEMENT

The difference between data governance and data management can be confusing (see Figure 7). The functions have different focuses that complement each other. One cannot succeed without the other.

Data governance sets policies and standards and data management follows the policies and standards to carry out the work. Data management executes the work based on data architectures, policies, practices and procedures.

On the surface, differentiating data governance and data management seems quite easy. In practice, organisations often face the challenge of coordinating the two because of the tight dependencies of activities. For example, MDM is a special data management process focusing on highly shared data sourced from multiple data silos in an organisation. MDM creates the ‘golden’ records that are used as the single version of the truth for data like property ID, headcount and other important facts. Consensus and standards, which emerge from data governance, are critical to MDM.

The data governance team is usually small and seasoned, and focused on a broad scope of mandates. Data management, in contrast, tends to require more hands-on

| uniqueness | A measure of unwanted duplication existing within or across systems for a particular field, record, or data set |
| accuracy | The degree to which data correctly reflects the real world object or an event being described. |
| validity | Values of data are consistent with the expected values or rules. |
| consistency | The data across all systems reflects the same information and are in sync with each other across the enterprise; |
| completeness | The availability and comprehensiveness of data compared to the total data universe or population of interest; |
| integrity | The links between data exist, and they are valid, so that all related concepts can be traced and connected. |

Figure 6 Dimensions of data quality
Source: JLL
data analysts who directly use applications or software utilities to manipulate data. They execute the data tasks to support the business within a localised scope. Even with enterprise data management, resources are typically assigned to each business area to carry out the work.

Being an effective data governance specialist requires a combination of hard and soft skills. Technical knowledge of data structure, metadata and master management, data flows and other data management essentials is, of course, fundamental. Also critical are strong industry and business knowledge, along with keen attention to detail and a drive to find solutions.

Equally important is the ability to communicate and facilitate conversations with the larger business to identify the critical data elements that should be prioritised. Being able to convey complex concepts with easy-to-digest analogies and clear illustrations goes a long way toward gaining stakeholder buy-in. Communication is also critical for the change management process required to become a data-centric CRE organisation.

In the CRE function, your team is likely to include the data experts who are largely self-taught or who have come to CRE from other industries. You also can develop your knowledge through the learning resources available through industry organisations such as OSCRE, CoreNet, DAMA and The Data Governance Institute. In addition, your CRE service provider may have data governance and data management resources expertise.

In general, a single person should not own data governance and data management. However, both roles could report to a single authority. For instance, they may report to the chief data officer, if the organisation has one.

A common confusion is where to place data stewards. Data stewards are an important part of data governance, responsible for the quality of respective classes of data. Chances are they are already in the organisation — on various IT teams and business groups. Data stewards often are also part of data management teams, and ongoing partnership between IT, business units and the data governance team will be needed.
to automate aspects of data governance. Together, data governance, management and stewardship help ensure that business data is trustworthy. Similarly, data architecture, data integration and data protection functions need to work in concert with data governance to advance an organisation’s digital capability.

IT IS ALL ABOUT PEOPLE

As organisations adopt the data-driven approach to bring innovation to the business, the demand for top data talent that can meet the digital challenges has become higher. A JLL survey confirmed that the inability of CRE departments to find suitable people to improve business data is one of the top three weaknesses inhibiting their contribution to overall business strategy.

A national shortage of qualified data governance professionals is affecting nearly every industry. It is a particularly difficult talent shortage to overcome in CRE because effective data governance requires not only an understanding of data governance principles and supporting technologies, but also deep real estate industry knowledge and an understanding of a company’s distinct culture and business practices.

To build a strong team, consider how you can provide rewarding career paths and opportunities. You may need to look outside your industry as well, or train staff already on hand. Job rotation, job sharing, college internships, on–the–job training, periodic progress review by outside industry gurus, etc., are all viable options for increasing the talent pool.

Your real estate service providers may also have expertise and tools to advance your data governance programme. For some CRE teams, retaining a consultant is more feasible than increasing headcount, and can also provide access to valuable expertise that might otherwise be unavailable in-house. Leading providers can also provide state-of-the-art technologies to expedite your data governance journey.

A common question is whether data governance is an IT function or a business function. It can work either way because data governance is the most effective when the team has both business acumen and technology savviness. Data governance team members need to understand the touch points and dependencies across information technology, information architecture, data management and business processes.

As your data governance programme takes shape, you will see that it is never static. Adaptability is the hallmark of a successful programme. Every new workplace technology or smart building system you introduce will deliver new data challenges and opportunities. And, the business environment will change and users of your data may find their needs are evolving.

In progressing through the ‘forming–storming–norming–performing’ stages (one of the most quoted models of group development produced by Bruce W. Tuckman in the 1960s), you will need to consider the various kinds of talent along the way. Bear in mind that your requirements and focus will change over time. Few CRE teams have enough data governance specialists at the beginning of their data governance journey. So, you will probably need to hire the talent or look to your service providers for assistance. What you do have is expertise in your company and your business requirements. Over time, you can take the ‘teach a man to fish’ approach to help your team gain expertise in data governance, too. That is, as you develop your expertise in data governance, sharing your knowledge with others will help enlarge and sustain data quality over time.

Initially, you will need to develop your expertise and maintain data governance discipline by building KPIs into performance reviews. As the larger business begins to
benefit from CRE data governance and you are able to scale up your efforts, data governance will be perceived as essential — not just as a cost centre. It has the potential to become a profit centre that has strategic value. Eventually, data governance becomes part of everyone’s job.

**TIMING IS EVERYTHING: KNOW YOUR DATA MATURITY**

Every CRE team and its larger business will have different data governance priorities. No CRE team will have the resources to ‘boil the ocean’, so you will have to prioritise the tasks and milestones. While one organisation may need to address access control and data protection for urgent compliance mandates, another organisation may want to focus on creating a data catalogue and documenting critical data assets. A successful data governance implementation is sensitive to timing and organisation readiness, rather than frustrating stakeholders with data governance initiatives that are premature or chasing a problem.

One way to address timing is to constantly measure your progress with a data management maturity model. Bear in mind that achieving a high level of maturity will take three to five years of effort — it is not a speedy undertaking.

To prioritise investments in data governance, assess your current state in the context of a particular data maturity model. You can use a data management maturity assessment (DMMA) (see Table 3) to assess data management overall or to focus on a single process or area. Whatever the scope, a DMMA can help bridge the gap between business and IT perspectives on the effectiveness of data management. By clarifying strengths and weaknesses in your data management practices, you can determine the maturity of data governance implementation in your organisation.

Whatever model you deploy, your assessment should examine the following five core processes:

1. **Data management**: How data management standards, processes and policies are defined, documented and communicated to stakeholders;
2. **Data governance**: How data governance standards, policies and processes are implemented, maintained and managed, including how different levels of the organisation engage with data stewardship and the overall data governance programme;
3. **Data quality**: How data quality is managed, assessed and improved, including the extent to which data quality is continuously improved;
4. **Data operations**: Whether your organisation has standard operating procedures or a documented approach for gathering and managing data requirements, including documentation regarding the life cycle of your data and how you manage relationships with external service and data providers;
5. **Platform and architecture**: How your data management platform and strategy are managed; the documentation of integration between systems; and your standards for handling historical data.

Then, you evaluate each process according to criteria in key categories:

1. **Activity**: Is the process in place? How well documented is the process? Do any metrics define the efficient execution of the process?
2. **Tools**: Is the process automated and supported by a common set of tools? Are the tools configured optimally to provide efficient results? Are the tools scalable?
(3) Standards: Is the process supported by a common set of standards? Are the standards documented? Are the standards supported by change management and governance processes?

(4) People and resources: Is the organisation staffed to carry out the processes? Are roles and responsibilities defined? Does the organisation provide sufficient training?

Once you undertake a maturity assessment, you have already made an important step toward robust and organised data management. The assessment will help you understand your current data management practices and will have a positive impact on operational and strategic direction. You will then be able to focus on timely and needed data governance oversight.

DATA GOVERNANCE AS DIFFERENTIATOR

As you begin your data governance journey, you will undoubtedly find many different approaches to consider. What we have presented here is the thinking that has worked for JLL, as well as numerous client organisations. We have found that our approach helps CRE teams get started and achieve the business buy-in that leads to funding to advance the data governance programme — and that is critical.

In today’s increasingly digital business world, data governance is an essential function that few CRE organisations are maximising. Yet, to succeed in the era of digital transformation, data-led CRE is mandatory. It will be impossible to use your CRE data if it is not governed. Again, data must be proactively managed to be accurate,

<table>
<thead>
<tr>
<th>Table 3: Data maturity levels: a data management maturity assessment usually defines five to six levels of maturity, each with its own characteristics</th>
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<tbody>
<tr>
<td><strong>Level 0:</strong> No Capability</td>
</tr>
<tr>
<td>No formal data management practices or enterprise processes for managing data.</td>
</tr>
<tr>
<td><strong>Level 1:</strong> Initial/Ad Hoc</td>
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<tr>
<td>Data is managed with a limited tool set, with little or no governance and a handful of experts. Roles and responsibilities are siloed. Controls are few and are applied inconsistently. Data quality issues are persistent, but not logged or addressed. Infrastructure is supported at the business unit level.</td>
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<tr>
<td><strong>Level 2:</strong> Repeatable</td>
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<tr>
<td>Centralised tools and defined roles support process execution. Organisation provides some oversight of data management. Roles are defined and processes do not depend solely on specific experts. Organisation is aware of data quality issues and is beginning to recognise such concepts as reference and master data.</td>
</tr>
<tr>
<td><strong>Level 3:</strong> Defined</td>
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<tr>
<td>Emerging data management capability. Scalable processes are being institutionalised and data management is viewed as an organisational enabler. Data is replicated across the organisation, with improved data quality, coordinated policy definition and management. Centralised design process and automated tools create more predictable outcomes.</td>
</tr>
<tr>
<td><strong>Level 4:</strong> Managed</td>
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<tr>
<td>The organisation predicts results for new projects and tasks, and has begun to manage data risks. Data management includes performance metrics, standardised tools and centralised planning and governance functions. Measurable increase in data quality and organisation-wide capabilities, such as end-to-end data audits.</td>
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<tr>
<td><strong>Level 5:</strong> Optimised</td>
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<tr>
<td>Highly predictable processes because of automation and continuous improvement. Tools enable a view of data across processes. Data is controlled to prevent needless duplication. Clear understood metrics are used to manage and measure data quality and processes.</td>
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</table>
trustworthy and accessible to the right users at the right time.

High-quality data is the foundation for smarter, data-informed decisions in occupancy planning, workplace management, building efficiency, portfolio strategy and every other aspect of CRE management in the future of work. Data governance also presents an opportunity to make your CRE team a more strategic partner to the business and better able to advance the goals of the larger organisation.

Since most companies lack even a basic understanding of their CRE data, having a strong CRE data governance programme will differentiate your company. CRE executives need to not only think forward, but also recognise that this is a race to be the first to deploy. Leaders must internalise, implement and enable new capabilities as quickly as possible to stay ahead of competition.

REFERENCES