

The Future of the Real Estate Industry: Enabling New Data-driven Business Models

- > Applying data science technology to information will bring great benefits to the real estate investment sector, yet the industry still lacks guidelines for data models and standards
- > The industry is encouraged to build a collaborative digital ecosystem to fully leverage the potential of digital technologies
- > Anchoring the great value-add of data within an organisation's culture and process landscape as well as its employees' digital mindset is key to the success of digital transformation

Digital is real

Digital is everywhere: digital change is now a reality and influences nearly every aspect of our daily lives. In a business context, digital transformation means changes to processes, organisational structures and business models as a consequence of implementing digital technologies. However, while some industries are constantly moving towards digital excellence, the real estate and construction industries still lag behind. But this provides great business opportunities, for instance in the context of real estate investment. To evaluate an organisation's digital maturity, several factors need to be considered. Apart from its technological capabilities and the quality of its data, digital excellence also needs to be embedded in the organisation's structure and strategy in order to foster a digital culture and mindset.

This paper explores the diverse ways digital technologies may be applied in a digitally excellent real estate organisation, as well

as the impact of technology on its business processes, structures and mindset.

Technological foundations: Data is key

Digitalisation offers a wide range of benefits to businesses. First of all, gathering information and data to better understand customers' needs fosters client engagement as well as allowing for personalised interactions. In addition, it potentially allows organisations to diversify their current range of products and services (which we do not explore in this paper) and to improve the effectiveness ('doing the right thing') and the efficiency ('doing things right') of their processes to achieve greater operational excellence.

However, when starting out on its digital journey, we believe that a real estate organisation should implement an integrated set of applications covering its processes from end to end, based on a holistic view of its value chain and ensuring seamless interaction between systems within the organisation.

Data and information have a big role to play in enhancing communication, both between systems and with users. For the real estate investment industry, which generates a wide variety of data and also involves many participants in its processes, the targeted use of data can have a substantial impact on business success.

While most organisations still have a huge amount of internal information stored in a decentralised physical or electronic formats, the digitally excellent real estate organisation

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will enable data and information to be accessed, reported on and presented at any place and any time from a single, trustworthy source. However, it is vital that such data is secure and that sensitive data is always handled appropriately. This is not just to comply with privacy regulations, but is also important from a cyber security perspective.

More practically, digitised information encourages the dismantling of data silos, which should in turn enrich the overall real estate value chain. There are number of potential applications in this area:

- In the context of real estate investment management, it is conceivable for internal and external data to be centrally collected, validated and stored in order to enhance transparency and allow for its automatic distribution to relevant stakeholders. One source of inputs to such a system could be a digital marketplace, which can, for instance, provide information on sources of capital as well as investment opportunities.
- This kind of digital system should allow for customer-tailored reports and dashboards, ensuring a high level of flexibility, consistency and transparency throughout the overall investment process. Technology-wise, the real estate industry could make use of Business Intelligence (BI) and its associated reporting tools. In this regard, it is critical for companies to build the required competencies for selecting, implementing and running these tools, as well as managing the underlying

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data. Such tools include Microsoft’ Power BI and QlikSense.

- Digitising physical documents, such as lease contracts, will allow business processes to become more automated, especially in real estate operations. In addition, data and information can be captured as part of the digitalisation process, via automated tasks such as data validation, the preparation of due diligence analyses and the development of new business workflows. Here the conscious use of data and data analytics may be particularly relevant to real estate transactions, where it should be possible to foster greater efficiency, transparency and quality in the investment process. Digital data including generic performance indicators and financial information, as well as asset and user data, can allow for a high degree of automation. Evana, Drooms and Architrave are examples of systems allowing for the digitisation of documents.
- Empowered by the Internet-of-Things (IoT), sensors are able to capture, process and communicate property-related and user data both for a building’s external

and internal space. This can be key to predictive maintenance and have a big potential impact on the services available to tenants, on security systems and on a building’s operation costs. In a smart building, steps can be taken in real time to improve tenant wellbeing. Such systems should also have a positive influence on overall energy consumption, and the data they generate can play a role in enhancing the sustainability of building use. The built environment still accounts for very large share of [Green House Gas](#) (GHG) emissions globally.

- Based on property and tenant data, customer behaviour can be analysed in order to offer customised services to a property’s users. This will not only allow new revenue streams to be created but also assist in ensuring customer satisfaction. For instance, Artificial Intelligence (AI) can allow a smart assistant to automatically carry out predefined activities, such as controlling and managing room temperatures or providing entertainment to the user. Data about the way occupiers use the building, for example with regard to the heating system and how they move around the property, may also have a role in real estate valuations.

Gathering, harmonising and analysing internal data should thus make real estate business processes much more effective. However, much data is likely to originate externally, for instance in the case of market data used to support real estate valuations or

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transactions. In this context, the industry lacks full transparency, which prevents participants from reaching purely data-driven decisions when operating in a market environment.

Models such as [Data Management Maturity \(DMM\)](#) produced by the Capability Maturity Model Integration (CMMI) Institute can change the approach of business towards data for the long term if applied positively. However, the real estate investment sector lacks guidelines for data models and data standards. INREV has recognised this and is working with its regional partners NCREIF, PREA and ANREV to create a common set of terms as a critical component of the [global standardisation of definitions](#) and data. INREV also applies strong data quality assurance standards consistently across its data collection tools, notably in the new INREV Data Platform and Datawarehouse, currently being built as part of its IT Roadmap Programme.

From the digital organisation to a digital real estate ecosystem

In order to fully leverage the value of data, the real estate industry should strive to build

a digital ecosystem. Digital technologies allow for the creation of strong networks among their users as well as enabling flexible and dynamic collaboration among a wide range of organisations. An ecosystem is a community of market players who pursue a joint purpose in order to achieve a specific target. Thus, it is likely to embody a shared platform for an open community of members as well as for external partners who intend to participate in the future. Its value lies particularly in the power to bring together human and financial resources, but is also built on the availability and accessibility of data and information as a foundation for the daily business of its members. The ecosystem will support each member’s value chain and will give market players greater power to implement and execute industry initiatives and to define relevant guidelines.

To develop such an ecosystem, collaboration and communication between the traditional real estate industry and technology providers (‘PropTechs’ and ‘FinTechs’) needs to be fostered. In this relationship, regular interchange between IT and business becomes even more important: PropTech and FinTech, the respective umbrella terms for property and finance technology, provide the technological foundations for enhancing the traditional real estate business, which itself should remain the source of real estate expertise. Already such collaboration is improving the efficiency of real estate businesses’ processes and providing a deep data source for business decisions. But to take this forward and achieve

operational excellence in the real estate investment industry, sharing data within the community and setting industry standards for data management will be key. Creating a real estate investment ecosystem would undoubtedly raise overall business value, but making data sharing a reality involves sensitivities that only strong governance can overcome.

Mindset shift: Internalising the value of data

Apart from implementing the necessary technology and processes, data’s potential to add value needs to be anchored in a company’s DNA. This requires a mindset shift in the organisation, one that is actively promoted by its people. As a firm integrates digital data, technologies and systems as part of its value-generating processes, the first steps will be taken along this road, but implementing an Enterprise Information Management Framework is also recommended. The key elements of such a framework include data governance,

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data definition, life cycle management and information access management. These are essential for promoting change and building trust, as well as ensuring the integrity of the data used by an organisation.

Specifically, appropriate ways of handling of data should form part of a firm's employee development program as well as its corporate governance. Incorporating data handling in an individual's performance goals can make a useful contribution to this, but building trust among existing employees is probably even more important for making digital transformation a success. This means gaining the support of all stakeholders via effective change management, the development of in-house expertise, and the right kind of training. Ultimately, the success of a firm's digital transformation will be linked to a broad understanding among all employees of its values, needs and ambitions. Everyone needs to feel that they are in the same boat. In this context, the company's leaders must set out a joint purpose and a compelling and tangible vision of the future, in order to motivate employees and achieve business success.

Conclusion: Operational excellence through collaboration

The real estate investment industry has started to embrace digital transformation. Even though this process may still be in its early stages, the transformation is accelerating and is leading to disruption in technologies, processes, structures, strategies and cultures.



The foundations of a digital real estate ecosystem have already been built. Available technologies, especially in the fields of the Internet-of-Things and data analytics, are allowing real estate firms and other market participants to bring data transparency to both their own organisations and the wider real estate market. The enormous quantity of data and information now available is leading to the digitalisation of physical processes, for instance in the context of a smart buildings. Such technology-based and data-driven approaches not only result in raising the efficiency and quality of processes, but also enable new products and services to be offered to clients.

The key to operational excellence lies in strong collaboration between market

participants, leveraging digital technologies and capabilities to revolutionise the way real estate investments are managed today. The INREV Technology Committee encourages the real estate industry to foster collaboration and make use of the potential that already exists in the areas of IoT, data analytics and AI.

This is the first in a series of papers from the [Technology Committee](#) that aim to help INREV members understand how technology can be leveraged to address recurrent challenges in the real estate industry. Future topics will include investment decisions and underwriting, and contracts management.

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