PRAGMA BENOY

The Power of Data - Transforming Real Estate Performance

Contents

Introduction

Data is transforming the real estate sector. It is sparking innovation and impacting the way we value assets, understand people, develop strategies, assess feasibility of commercial models, design buildings and spaces, track performance, and adapt for future use. It is optimising decision making and actions across the entire lifecycle.

A data-driven approach can pay dividends. According to PwC, data driven organisations, can outperform competitors by 6% in profitability and 5% in productivity and a recent study by Forrester found that data driven businesses are 162% more likely to significantly surpass revenue goals than their counterparts.

"While the potential benefits of a data-driven approach are profound, the wider real-estate industry has been behind the curve compared to other sectors."

At Pragma we believe organisations that recognise and embrace the power of data will not only improve the quality and speed of their operations but stand to gain significant competitive advantage in the market.

In this paper we explore how data is changing the real estate game, in respect to asset strategy, consumer insight, and decision-making across the lifecycle. We also discuss the myths and realities of AI,

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as a powerful agent of change in the sector. We conclude with a look at how the development of a clear and focused data strategy is key to making progress and unlocking the true potential of your built assets.

James is a Director at Pragma and an expert in data and analytics. He has over twenty years of experience in data, leading data transformations and developing capabilities, products, and propositions, across sectors including retail and real estate. His work focuses on the commercial end of data, helping organisations manage data assets, deliver value, and achieve sustainable change.

In recent years he has led and contributed to the data-led transformation of major global brands and some of the world's largest property and real estate asset management companies.

Revolutionising Consumer Insight

The most successful developments, be they residential, workplace, retail, or leisure focused, have always been those designed to create solutions focused on the needs, behaviours, and emotions of the people they are intended to serve.

As `adaptability´ has become something of a byword in the industry, there is a sharpened focus on understanding the changing needs of people, and the vast increase in volume and variety of consumer data (and ease of accessing it), heralds new opportunities.

Understanding Behaviour

Consumer behaviour has long felt like a weak link in the real estate puzzle, as major decisions have traditionally been made using static catchment area models and aging demographic insights.

Anonymised consumer mobility data, derived from mobile phone movement, has rapidly disrupted this staid area, offering detailed insight into the types of people that utilise locations on different days and times of the day, including how often they frequent and dwell in these places.

This data is available in many countries and is used to inform the suitability of locations for different uses, measure ongoing performance, and drive decisions for renewal and repurposing of assets, based on detailed audience insights.

Key providers of geolocation data include **_Visitor Insights_** in the UK and **_Placer_** in the US, as well as **_Mapbox_** across the globe.

At a more granular level, the likes of **O2 Motion** use their Smart Cells to provide an unprecedented level of people movement at just 5 metres, through spaces, 24 hours a day, 365 days a year. This allows micro-analysis of behaviour to measure the impact of changes, analyse competitiveness and predict use within and around spaces, including shopping centres, airports, streets, or other critical assets.

Furthermore, innovations in the depth and speed of demographic insights are offering new ways to understand the needs of people at the local level. For example, **Spatial.**

ai's 'GeoSocial' dataset, analyses anonymised data from social media conversations across 72 segments, providing trending lifestyle insights into interests as diverse as `natural beauty', `wanderlust', `animal advocates', `wealth signalling', `connected motherhood', and `coffee connoisseurs.'

These new more accurate, timely and deeper, quantitative approaches to understanding people are offering unprecedented opportunities for commercial real estate to truly get to grips with the human implications of their developments and projects.
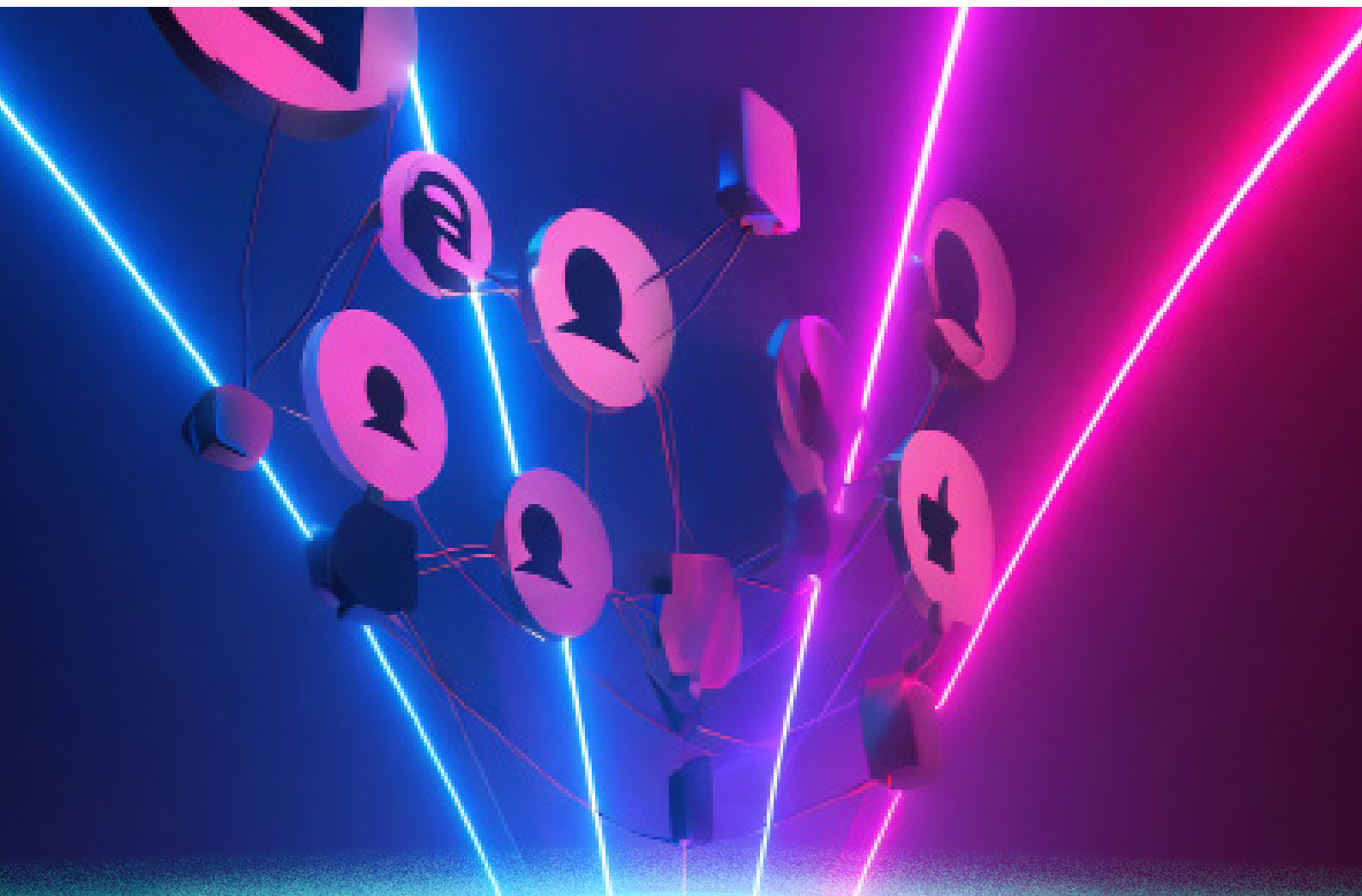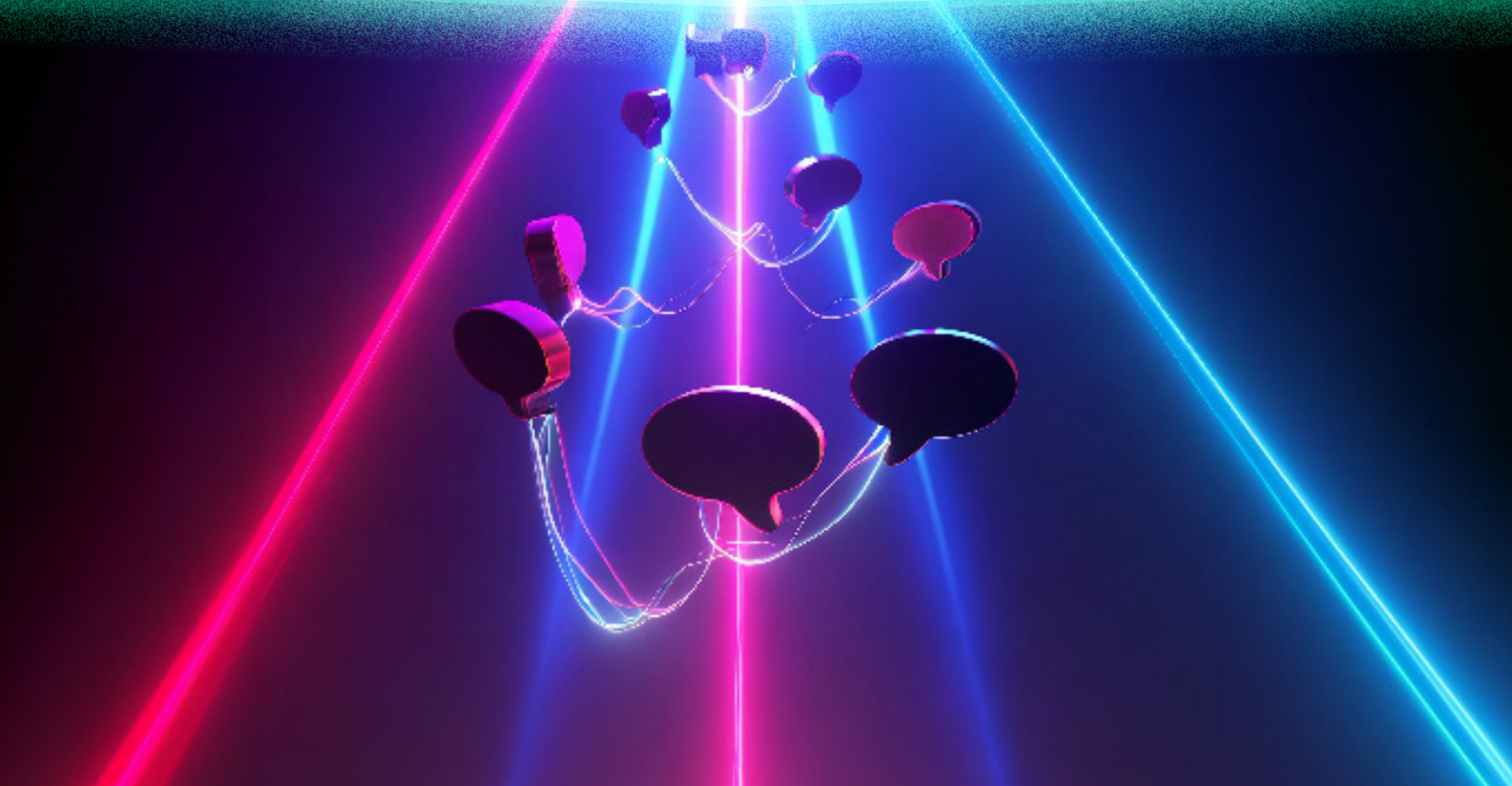
Developing Empathy

Big data's benefit is the volume and variety of empirical observations of how people use space, but this does not replace the crucial need to also understand the attitudes and wants of people. Surveys of opinions, preferences, and perspectives of people are nothing new, but technology is making it easier to gather these insights.

Various platforms offer on-demand access to target audiences, allowing commercial real estate organisations to understand how people feel, think, act, buy, and interact with locations and types of spaces.

Traditionally a very expensive form of research, accurate insights can now be gained within hours from diverse and representative audience panels, at modest cost.

"This is allowing real estate players to develop greater empathy with the potential or actual users of spaces, driving better and more human-centric decisions."

Consumer and people insights are critical to informed decision making throughout the real estate lifecycle. They allow organisations to anticipate the implications of market trends, identify investment opportunities, tailor their offer to customers' demands, and make the right call on adaption or disposal of assets.

From development and planning to marketing and sales, and from property management to investment, people insights are changing the real estate game.

Driving Innovation Across the Lifecycle?

The difference between a successful built asset and a missed opportunity has always boiled down to making informed decisions.

No matter scale or sector, real estate and space planning is a risky business, poor decisions about location, use, operating models, and design, can lead to costly and debilitating effects, for stakeholders, people, and the environment.

Until recently, the wider real estate market relied on static information and instinct to navigate the complexities of the asset lifecycle.

However, digital technology and data are transforming decision making, allowing us to tap into faster and deeper insights, answer critical questions more effectively and unlock the potential of spaces and built assets with greater confidence.

"Harnessing data to power built asset decisions through different lenses, such as concept, feasibility, optimisation, monitoring, and repurposing is a capability which separates successful organisations from the rest."

Strategy
Vision for spaces & locations

Feasibility
Suitability of formats for spaces & locations

Repurposing
Scenarios for adapting spaces & locations

Commercial Property Strategy

Optimisation
Business models for spaces & locations

Monitoring
Performance tracking across spaces & locations

Strategic Lens: *Vision for Spaces*

The process of designing and developing spaces begins with conceiving the most viable and valuable use. Gone are the days when conceptual decisions were based solely on intuition or past successes. Today, data and insight are key elements of the tool kit at the conceptual phase.

Developers, investors, and designers can harness the power of extensive data sources including people mobility, demographics, dynamic consumer mindsets, and changing market trends to identify emerging opportunities and untapped niches

Feasibility Lens: *Suitability of Spaces*

Consumer and market insight plays a pivotal role in assessing the feasibility of different formats and uses for built assets. For instance, a property intended for retail use may have multiple potential configurations: single tenant, multi-tenant, or mixed-use. Analysis can provide crucial insights into the demographics of the surrounding area, consumer sentiment, foot traffic patterns, and competitive landscape, helping determine the most suitable format that maximises financial return while meeting broader social and environmental needs.

Optimisation Lens: *Identifying the Right Business Model*

The success of a space can be measured in terms of different forms of value, be it financial, social, environmental or a balance of all these. However, where significant capital investment is at stake, much of the success of a commercial real estate asset hinges on its profitability.

Robust analysis, founded on strong financial and operational evidence and assumptions, is key to helping us understand the relative potential of different business models. Key factors such as quantum of commercialised space, brand type, market positioning, and proposition will all influence the potential of different business models in specific locations.

Developing a robust business model is inherently data-driven, and allows us to allocate limited resources effectively, minimise operating costs and enhance revenue streams.

Monitoring Lens: *Tracking Performance*

Once an asset is operational, the journey is far from over. Data remains essential for monitoring its performance over time. By collecting and analysing data across financial, social, and environmental KPIs it is possible to track and monitor ongoing `asset health'.

A broad range of metrics can be measured, including sales performance, customer footfall, occupancy rates, maintenance costs, energy performance, and customer satisfaction measures. Near real time data allows for swift responses to emerging challenges and the ability to capitalise on promising opportunities promptly. In addition, performance data can be used to benchmark against industry standards and wider portfolios, enabling us to gauge how well our assets are faring compared to others.

Repurposing Lens: *Adapting Spaces*

As markets evolve and consumer preferences shift, many spaces face challenges or become obsolete in their original use. Instead of leaving assets to languish, data and insight allow us to explore alternative uses that align with current market demands.

For instance, a struggling retail space in a densely populated area might be repurposed into shared office spaces to cater to the growing demand for flexible workspaces. Data analysis provides the necessary insights to make such strategic decisions that breathe new life into struggling assets.

Data-driven decision making is revolutionising asset planning decisions across the lifecycle, empowering us to make well-informed choices from concept to repurposing. By harnessing the power of data, we can identify opportunities, mitigate risks, and maximise the potential of our assets. As technology continues to advance and data becomes even more accessible, those who embrace data-driven practices will have a significant competitive advantage in this rapidly changing landscape.

AI in Real Estate: *The Myths and Realities*

Artificial intelligence has been on the rise in commercial real estate for some time. However, the recent explosion in interest, sparked by the adoption of generative AI such as Chat-GPT, has intensified interest like never before.

This rapid advancement is prompting serious questions about the impact of new technologies on commercial real estate and asset planning in general. AI is a conversation rife with conjecture, hype, and not a little anxiety.

"Considering Open AI has suggested around 80% of jobs in all industries may be disrupted by AI, a high level of curiosity and concern is hardly surprising."

While there is little doubt AI has great potential and most senior leaders are aware of impending disruption, there is limited clarity on the true nature of its opportunities and threats.

First, A Quick Definition

AI involves enabling a machine or system to sense, reason, act, or adapt like a human. In other words, simulate human intelligence to solve problems, mimic decision-making and perform complex tasks. AI is powered by machine learning algorithms that allow machines to identify patterns in data, extract knowledge, and learn from it autonomously.

artificial intelligence noun

1: *the capability of computer systems or algorithms to imitate intelligent human behavior*

- Merriem Webster 2023

Its great benefit is that it performs tasks, using far greater volumes of data and faster and deeper analysis than humans can; allowing us to take decisions and actions at far greater speed and scale.

AI in Real Estate

The integration of AI into built asset decision making is already evident across the lifecycle.

Data is having a profound impact on strategic decision making around valuation of space, commercial models, and development feasibility. Traditionally this relied heavily on manual appraisals and subjective assessments. However, predictive analytics is changing the way the sector analyses historical data, identifies patterns, and predicts future market trends, property demand, and investment opportunities.

Given the huge volume of historical and market data, AI models are proving adept at identifying patterns humans may overlook and forecasting property values, so that people can make more accurate and informed investment decisions. Moreover, AI has an important role to play in risk assessment and the optimisation of property portfolios; given its potential to also deal with a multitude of variables, such as economic indicators, market trends and geopolitical factors.

For example, Israeli-based *Skyline AI* utilises a massive commercial property transaction database, blending traditional and alternative data to reveal key insights into economic growth. It discovered that the number of Airbnb listings correlates with rent price fluctuations and that car ownership rates and credit card data can serve as reliable metrics of investment feasibility in an area.

Data science is also helping companies identify areas experiencing significant growth potential, ensuring they invest in property assets before prices change. This allows them to arrive at more accurate valuations and assessments of suitability of locations, capitalise on emerging opportunities and maximise their returns.

From a strategic insight perspective, AI is already being used to analyse and predict foot traffic patterns and consumer mobility and behaviour in retail spaces. The emerging capability to harness real-time data feeds, from sources such as social media, also means AI powered consumer sentiment analysis, is becoming a powerful tool for identifying emerging trends and behaviours of consequence for the ways we use spaces. This has the potential to transform decisions about the use and branding of spaces, tenant mix, and strategies for maximising commercial returns from locations.

Furthermore, AI-driven insights also have a role to play in the optimisation of spaces, balancing economic, social, and environmental value. For instance, predictive maintenance powered by sensors and AI can anticipate equipment failures and ensuring timely maintenance. Enhancing tenant satisfaction, energy usage, and consumer experience.

IoT (The Internet of Things) devices and machine learning are increasingly deployed in property management to better understand the performance of buildings and spaces. Sensors can be placed in heating systems, elevators, and workspaces to understand insights such as energy consumption, people movement and occupancy. For example, *PointGrab* uses a computer vision and machine learning platform to optimise the utilisation of workspaces, while *BuildinIQ's* Predictive Energy Optimisation service uses sensors in heating, ventilation, and air conditioning (HVAC) systems to improve the energy efficiency of buildings.

AI is also making inroads into the design of spaces, revolutionising the way they are conceived, planned, and executed. Applications include, generative design, where architects use AI tools to explore multiple design options.

For example, generative design software, such as text to image applications *Midjourney*, *DALL·E2* and *Adobe's Firefly* (the latter, has been used to create the imagery for this paper) are being used to generate design concepts quickly, so architects can evaluate options more effectively.

AI is also being used to in conjunction with building information models to allow designers to create digital models of their spaces, to identity issues and improvements. Machine learning and simulation is also being used to optimise energy efficiency of buildings at the design stage,

harnessing vast amounts of data related to sites, such as environmental conditions, sunlight exposure and wind patterns to optimise the placement and orientation of buildings to maximise energy efficiency and comfort.

"These examples are just the tip of the iceberg. There will be many AI use cases across real estate in the coming years and there is little doubt we're witnessing the start of a revolution."

As a final point, generative AI has enormous potential across the sector. Most organisations sit on vast amounts of information, often fragmented and underutilised. Applying generative AI to proprietary knowledge bases, has the potential to help organisations answer new questions and connect insights in ways never predicted.

Human-AI Symbiosis

What of the threat from AI? While disruption is inevitable, it is a step too far to suggest AI will cause serious job displacement in the wider industry.

We need to see the integration of AI in space planning as not about replacing decision makers, but rather enhancing their capabilities. AI serves as a tool that will enhance productivity and complement human expertise. This will allow professionals to focus on high-level strategic thinking and creative problem-solving.

AI provides decision makers with insights that facilitate more informed choices, but the final decisions will still rely on the nuanced understanding that humans bring to the table.

Indeed, the synergy between AI and human judgment is likely to lead to more innovative and holistic strategies, resulting in better outcomes overall.

These are exciting times, however as ever we need to add a note of caution. Embracing AI without a firm data strategy and understanding of business priorities, risks investing precious resources without a clear plan.

Those organisations that harness AI most effectively, will be those with a clear-headed understanding of their current data capabilities and a pragmatic approach to improving their overall management of data and analytics. AI depends on strong and well managed data, and solid data capabilities are fast becoming table stakes for any organisation that wants to be part of this revolution.

Becoming Data-Driven – A Strategic Approach

The effective use of data, analytics and AI is vital to the future of real estate. Informing decisions and actions about how we envision new and repurposed spaces, consider feasibility of different uses, optimise those uses, and monitor their environmental, social, and economic performance and impact.

While the possibilities feel endless the harsh reality is that many organisations in our sector are not yet ready to truly tap into this potential. Many at the heart of commercial real estate, be they developers, designers, investors, asset managers, or operators, are struggling to properly harness data and analytics.

The promise of data and AI can feel hollow, if you're wrestling disconnected data sources, copious spreadsheets, questionable data quality, and sub-optimal tools and capabilities. In this scenario, decision-making can feel drawn-out and risky, and everything seems gut feel rather than evidence led.

This is the reality for many organisations, and not just those in commercial real estate, however certain characteristics of the sector can make data-led decisions problematic. There is a lot of information we need, to properly manage spaces, across a host of social, environmental, and economic themes. As well, as high dependency on third party data sources.

Place and space-making also involve many stakeholders, which requires significant collaboration to harness all critical data and generate the holistic knowledge required to achieve a full picture.

Think of an airport for example, an otherwise tightly controlled space, where data is typically disconnected. Airlines may have great information on passengers, and retail and duty-free may have strong insights into shopping behaviours, but many airport operators cannot harness these insights as they exist locked in their own ecosystems. Insights that if drawn together could have game changing potential for optimising the airport experience.
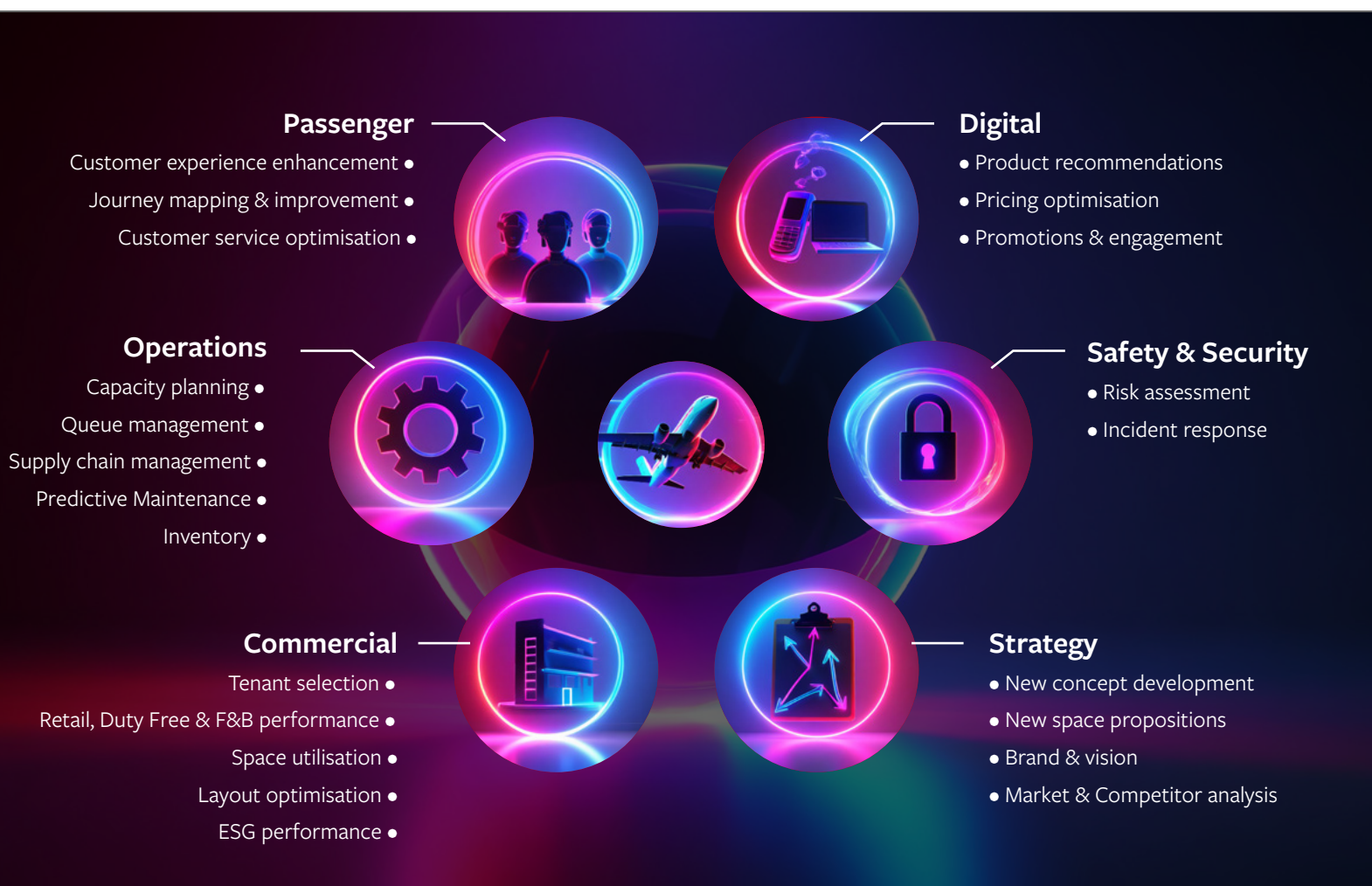
Being Strategic

An asset data strategy is a framework for harnessing data, tailored to the demands of real estate, which is fully aligned with organisational objectives, whether they are focused on driving revenue, achieving environmental improvement, or making social impact.

If we look at our airport example again, we know that data is vital for decisions from everything from passenger experience to customer services, to space utilisation and concession performance management.
The intelligence offered by data can help airport operators drive greater performance and productivity, deepen consumer insight, manage risk, innovate, and adapt.

In fact, there are many 'use cases' for data across the airport ecosystem. All of which require a strategic approach to ensure valuable outcomes.

Passenger
Customer experience enhancement ●
Journey mapping & improvement ●
Customer service optimisation ●

Digital
● Product recommendations
● Pricing optimisation
● Promotions & engagement

Operations
Capacity planning ●
Queue management ●
Supply chain management ●
Predictive Maintenance ●
Inventory ●

Safety & Security
● Risk assessment
● Incident response

Commercial
Tenant selection ●
Retail, Duty Free & F&B performance ●
Space utilisation ●
Layout optimisation ●
ESG performance ●

Strategy
● New concept development
● New space propositions
● Brand & vision
● Market & Competitor analysis

Developing a Data Strategy

The purpose of a data strategy is to outline how data and analytics will enable your organisational objectives. It helps define and implement a vision for how you will collect, store, share, manage, analyse, and make decisions and actions with your data, in aid of business growth and performance.

It is an excellent mechanism for engaging stakeholders, energising your people on the value of data, and ultimately taking a pragmatic and commercial approach to optimising your overall data and analytics maturity.

In a world full of possibilities, it is above all an exercise in prioritisation, ensuring you focus efforts, resources, and investment on the initiatives that will make a difference to your business.

If you want to successfully power decision making, monitor asset performance, drive better customer experiences, create new data-led business models, or improve efficiency and productivity, then you will need a data strategy to light the way.

Yet, according to Accenture, 81% of businesses across all sectors still don't have a solid data strategy to help them use the full potential of their data. This is likely to be just as true for real estate.

There is a compelling opportunity to create competitive advantage through data, but how do you progress?

In essence, developing a strong and business-led data strategy boils down to answering five key questions.

1. What do you want from data?

It is important to begin with a clear vision for how you want to maximise the use of data for your asset. Do you want it to help you define a commercial strategy, optimise financial performance of different formats, and uses, or help you better understand and engage with customers?

An effective data strategy is one that aligns with your organisational objectives, meaning the best vision is one where data is embedded and driving business critical change.

2. What are your use cases for data?

Think of use cases as the initiatives that fulfil your big business objectives, like those in our airport example above. They are the projects, processes, and ways of working where data and analytics is needed to drive value for your asset. Identify them, value them, and prioritise them, as it's the job of your data strategy to make these a reality.

3. What is your current level of data maturity?

Data transformation is complex and does not happen overnight. Some of your use cases will be more achievable than others, so it is vital you understand your current capability to deliver these. This involves understanding your current state and the target state needed to deliver your use cases. It is vital you understand where you stand in respect to current data capabilities, people capabilities, processes, and technology, as all these dimensions impact the feasibility of your vision.
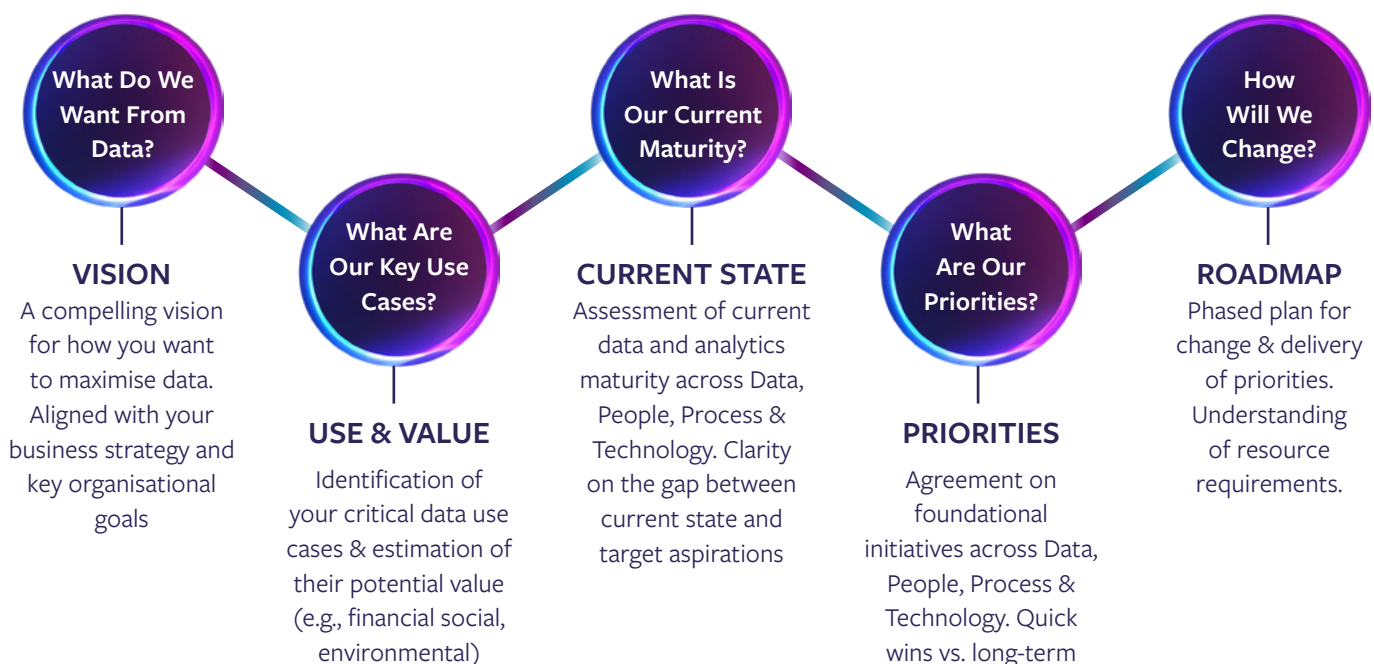
4. What are your priorities going forward?

A great data strategy is one that prioritises use cases and foundational improvements to data, people, processes, and technology, based on relative complexity and value. This mindset ensures you identify those that are quick wins, versus those that will take longer to evolve and deliver. It all about focusing investment in the immediate and mid-term on critical change.

5. How will you implement change?

Finally, a data strategy is no use without a clear and phased roadmap. A roadmap that takes a realistic approach to change, balancing immediate value with longer-term transformation. An effective strategy is like a blueprint for change, detailing resource needs and a plan for fulfilling your vision.

There is enormous potential for the commercial real estate sector to harness data and analytics, however success and competitive advantage requires the adoption of a strategic and purposeful approach.

What Do We Want From Data?

VISION
A compelling vision for how you want to maximise data. Aligned with your business strategy and key organisational goals

What Are Our Key Use Cases?

USE & VALUE
Identification of your critical data use cases & estimation of their potential value (e.g., financial social, environmental)

What Is Our Current Maturity?

CURRENT STATE
Assessment of current data and analytics maturity across Data, People, Process & Technology. Clarity on the gap between current state and target aspirations

What Are Our Priorities?

PRIORITIES
Agreement on foundational initiatives across Data, People, Process & Technology. Quick wins vs. long-term

How Will We Change?

ROADMAP
Phased plan for change & delivery of priorities. Understanding of resource requirements.

How Pragma Can Help

At Pragma, we know that a strategic approach to data and analytics is key to asset optimisation, whether you deal with airports, retail, mixed-use, leisure and culture, or workplace. It is the key to unlocking sustained business growth, innovation, and transformation.

Our clients know us for our data-led support on a diverse range of use cases across commercial space planning and asset optimisation. In addition, our expert team has led data transformations across the real estate sector, so we are perfectly placed to harness our specialist knowledge to support your data strategy.

We provide a tailored and flexible approach to supporting your data strategy development, working in close collaboration, to guide you through the process.

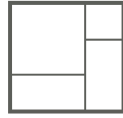If you'd like to know more about
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✉ _____

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HANDLEY HOUSE

Handley House is the parent company overseeing four international businesses. Bringing together commercial advice and strategic research, technical knowledge and design expertise, the company delivers a holistic approach from data analysis, workplace strategy, master-planning and architecture, to urban and landscape design, interior design and wayfinding.

Our companies:

PRAGMA

Pragma is a commercial advisor for investors and operators in mixed-use, travel and retail and its expertise includes customer insight & segmentation, catchment analysis, trading & performance analysis, tenant mix guidelines and rent sustainability & leasing.

BENOY

Benoy is an international firm of architects, master planners, interior architects and graphic designers working from design studios in the United Kingdom, Abu Dhabi, Singapore, Hong Kong, Shanghai and Beijing.

UNCOMMON LAND

Uncommon Land is a landscape practice, balancing creative vision with commercial viability, shaping memorable landscapes that deliver lasting social, environmental and economic value.

Holmes Wood

Holmes Wood are a leading UK based design company specialising in wayfinding, sign and graphic design solutions.