

Master Of Real Estate Management

Prepared by
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Artificial Intelligence in Business

Lecture 8



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Chapter
06

Case Studies of Real AI Applications



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Learning Objectives

- ❑ Explain how companies evaluate and implement AI business applications in real settings.
- ❑ Analyze AI use cases across customer service, marketing and sales, energy, finance, government, healthcare, retail, mobility, HR, operations, and startups.
- ❑ Identify the managerial benefits, implementation requirements, and risks of AI applications.
- ❑ Evaluate how AI improves efficiency, personalization, growth, resource optimization, and process automation.
- ❑ Connect cross-industry AI cases to real estate management, smart buildings, PropTech platforms, and property service innovation.
- ❑ Develop a practical understanding of how AI moves from theory to real organizational value.

Chapter 06

1. Putting Artificial Intelligence to Work

AI creates value when organizations move from abstract technology to business applications that solve real problems.

Chapter 06

The New Economy and Competitive Pressure

- The chapter begins by explaining that the New Economy has made markets more competitive.
- Customers increasingly demand immediate services, faster responses, personalized products, and better experiences.
- Markets are global, and companies operate across many sectors, countries, and customer segments.
- In this environment, companies face pressure to innovate constantly and improve efficiency.
- AI and machine learning can support these change processes by creating strong and sustainable competitive advantages.

Real estate context

Real estate clients now expect fast property search, virtual tours, instant communication, transparent information, and personalized recommendations.

Chapter
06**Why Companies Use AI in Real Business Applications**

- Companies use AI to increase efficiency, personalize services, improve growth, and support innovation.
- AI helps organizations automate repetitive processes and analyze large volumes of data.
- Machine learning systems identify patterns, predict outcomes, and recommend actions.
- AI applications are especially valuable when there is a large quantity of data and repeated service needs.
- Practical value appears when AI is integrated into business processes rather than treated as an isolated experiment.

Business value

Efficiency
Personalization
Growth
Competitive advantage

Efficiency

Personalization

Growth

Advantage

Chapter 06

Implementing AI Applications: Managerial Steps

- Implementation begins with selecting a use case that is strategically relevant and technically feasible.
- The organization must prepare data, choose appropriate technology, define workflows, and train employees.
- Managers should begin with pilot projects before scaling AI across the organization.
- AI implementation requires continuous monitoring because models may lose accuracy over time.
- Successful implementation connects technology, process redesign, leadership support, and user adoption.

Real estate example

Pilot an AI chatbot for tenant inquiries in one building portfolio before scaling it across all properties.

Chapter
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2. AI Use Cases and Applications for Every Industry and Business Function

AI applications differ across sectors, but most successful cases improve efficiency, personalization, prediction, or automation.

Chapter
06**Cross-Industry View of AI Applications**

- AI is used across a wide range of industries and business functions.
- Some sectors use AI mainly to improve customer interaction, while others use it to optimize operations or support high-stakes decisions.
- Customer service, retail, financial services, public administration, healthcare, and operations are especially suitable because they involve large data volumes and recurring needs.
- AI is also powerful in energy, industry, mobility, HR, and startups because it supports optimization, automation, and innovation.
- The following use cases show that AI is not one single application but a family of business solutions.

Study focus

Compare sectors by asking: What problem is AI solving? What data does it use? What value does it create?

2.1 Customer Service

AI improves customer satisfaction through chatbots, NLP, intelligent routing, social listening, ticketing, and voice authentication.

**Chapter
06****Customer Service: General Overview**

- Increasing customer satisfaction is a strategic objective for nearly all companies.
- AI-supported customer service systems help companies respond faster and more accurately.
- Chatbots, NLP, voice recognition, ticketing systems, and intelligent call routing can improve service quality.
- Customer service is suitable for AI because many requests are repetitive, language-based, and time-sensitive.
- AI does not eliminate human agents; it helps route, classify, prioritize, and automate customer interactions.

Real estate application

AI chatbots can answer property availability questions, schedule visits, explain lease terms, and escalate complex issues to property consultants.

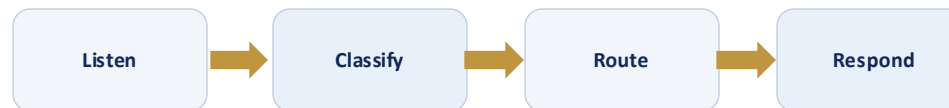
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Customer Service: Findings

- Social listening systems use natural language processing to identify customer issues and market signals.
- Ticketing systems classify inquiries and route them to the right department.
- Intelligent call routing assigns customers to the most appropriate agent.
- Call classification detects customer needs using natural language processing.
- Voice authentication can identify users without requiring traditional passwords.
- Chatbots can understand increasingly complex questions and provide 24/7 support.

AI tools

NLP
Chatbots
Ticketing
Call routing
Voice authentication



Chapter
06**Customer Service: Implementation Example**

- The chapter mentions call-system integration as a practical AI customer service application.
- ING Bank observed improved quality indicators after integrating AI into call systems.
- AI-supported call systems can reduce silence rates and improve service flow.
- Implementation often requires advanced voice recognition and NLP processes.
- Many market solutions already exist, including advanced cloud-based AI tools.

Implementation lesson

Customer service AI often recovers investment quickly because it reduces service cost and improves customer satisfaction.

**Chapter
06****Customer Service: Recommendations**

- Customers increasingly demand immediate support at any time.
- AI customer service systems will become more prominent because they provide speed, availability, and scalability.
- Companies should begin with common, repetitive, high-volume inquiries.
- Human escalation remains essential for sensitive, complex, or emotional problems.
- Implementation experience itself can become a future competitive advantage.

Real estate recommendation

Start with an AI assistant for common tenant and buyer questions, then connect it to CRM and property-management systems.

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2.2 Consumers: Marketing and Sales

AI transforms CRM, customer targeting, personalization, prescriptive selling, and sales process automation.

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Marketing and Sales: General Overview

- AI-based sales management systems are an evolution of Customer Relationship Management.
- AI supports automated data collection, personalized product offers, and prescriptive selling.
- Marketing and sales functions are strong candidates for AI because they generate large volumes of customer data.
- AI helps companies understand customer wishes and match them with suitable products or services.
- In competitive markets, AI-powered personalization can directly increase sales and customer loyalty.

Real estate application

AI can match buyers with properties, score leads, suggest follow-up actions, and personalize real estate campaigns.

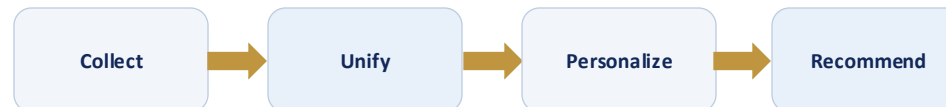
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Marketing and Sales: Findings

- AI automates sales data input by transferring data from multiple sources into CRM systems.
- AI unifies customer data and reduces manual effort in sales administration.
- Sales content personalization matches customer needs with relevant products and services.
- Sales Rep Next-Best-Action systems identify successful sales patterns and recommend the next step.
- Prescriptive sales processes compare customers with similar customers to predict future purchases.

Sales AI flow

Collect data
Unify CRM
Personalize content
Recommend action
Predict purchase



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Case Example: Amplero

- Amplero creates AI-driven marketing tools for consumer-focused industries.
- Its algorithms detect patterns in customer data to build dynamic target profiles.
- Marketing and sales teams can execute thousands of experiments at scale.
- AI experimentation can reduce acquisition costs and increase average revenue per customer.
- Amplero's tools have been used by major companies including Sprint, Microsoft, and TaxAct.

Learning point

AI marketing value comes from large-scale experimentation, segmentation, personalization, and customer behavior learning.

Chapter
06**Case Example: Drift**

- Drift uses chatbots, machine learning, and natural language processing to make the sales cycle more efficient.
- When a customer visits a website, a chatbot asks questions to identify whether the visitor is a potential customer.
- The system routes customers correctly and automates marketing tasks.
- Drift Assistant automates email responses, lead routing, and contact-detail updates.
- The company illustrates how AI can reduce time spent on repetitive sales and marketing tasks.

Real estate analogy

A real estate website can use AI to qualify visitors as renters, buyers, investors, or sellers and route them to the right agent.

**Chapter
06****Marketing and Sales: Recommendations**

- CRM systems are recommended for optimizing sales in most sectors, especially where customers are fragmented.
- AI improves CRM by identifying successful sales patterns and best practices.
- Companies should use AI to personalize content, improve lead quality, and support salespeople.
- AI should assist sales teams rather than replace relationship-building entirely.
- Sales optimization works best when AI insights are connected to real customer journeys.

Real estate recommendation

Integrate CRM with website behavior, property preferences, viewing history, and AI-based lead scoring.

2.3 Energy, Resources and Industries

AI and robotics improve production efficiency, quality control, resource exploration, climate action, and industrial optimization.

Chapter 06

Energy, Resources and Industry: Overview

- Industry is one of the sectors with the highest AI implementation.
- Robotics is revolutionizing manufacturing, resource extraction, and industrial processes.
- Sensors collect increasing amounts of data that feed AI systems.
- AI helps improve efficiency, detect failures, monitor quality, and reduce waste.
- AI is also used in climate-related applications such as energy prediction and supply chain optimization.

Real estate application

Smart buildings use similar principles: sensors collect data, AI detects inefficiencies, and systems optimize energy and maintenance.

Chapter
06**Energy and Industry: Findings**

- AI supports industrial processes by independently handling tasks and coordinating with other agents.
- AI can identify possible system failures before they happen.
- Computer vision, neural networks, and pattern recognition support quality control.
- AI detects imperfections, defective parts, and process irregularities.
- Drones and photogrammetry can study land, agriculture, gas pockets, fires, and environmental conditions.

AI tools

Robotics
Computer vision
Predictive maintenance
Drones
Pattern recognition

Robotics**Vision****Drones****Prediction**

Chapter 06

AI and Climate-Related Applications

- AI can help predict energy demand and improve energy planning.
- AI supports discovery of new materials and energy-efficient solutions.
- Route optimization can reduce fuel use and emissions.
- AI can reduce barriers to electric vehicle adoption.
- AI improves building energy efficiency, supply chain optimization, precision agriculture, and deforestation monitoring.

Real estate link

Building energy efficiency is directly relevant to property management, sustainability reporting, and smart real estate development.

**Chapter
06****Energy and Industry: Implementation**

- Industrial AI systems can be expensive and require highly experienced professionals.
- Because industrial assets often have long amortization periods, AI investment may still be attractive.
- In agriculture, some AI applications may be cheaper and provide attractive returns.
- Implementation requires sensors, data integration, technical expertise, and operational redesign.
- Companies should evaluate both cost and long-term efficiency gains.

Implementation lesson

AI is often most valuable when applied to expensive assets where downtime, defects, or energy waste are costly.

**Chapter
06****Energy and Industry: Recommendations**

- Industry has implemented AI systems for many years, and continuous improvement is creating more efficient firms.
- Agriculture and energy production are adopting AI quickly because of major opportunities.
- Companies should prioritize AI applications that reduce downtime, improve quality, optimize energy, or reduce waste.
- AI should be embedded into industrial processes rather than added as a separate monitoring layer.
- Strong technical expertise and change management are essential for implementation success.

Smart building recommendation

Use AI first in high-impact building systems: HVAC, energy management, elevators, water systems, and preventive maintenance.

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2.4 Government and Public Administration

AI can improve public service delivery, taxation, surveillance, fraud detection, and citizen interaction at scale.

Chapter 06

Government and Public Administration: Overview

- Public administrations are favorable environments for AI because they serve millions of users.
- Citizens interact with administrations repeatedly through services, applications, taxes, permits, and records.
- Many public service interactions are recurrent, making continuous learning systems possible.
- AI can improve public service quality, speed, accessibility, and efficiency.
- However, AI in public administration must be especially careful about rights, transparency, and fairness.

Real estate public link

Public land registries, permits, zoning, taxation, licensing, and urban planning can all benefit from AI-supported administration.

Chapter 06

Government: Findings

- Conversational chatbots can assist with 24/7 citizen service.
- AI can adapt communication to different citizen profiles.
- Border surveillance and road systems can use drones, cameras, facial recognition, and number-plate recognition.
- AI and Big Data can support taxation, collection systems, and fraud detection.
- Public-sector AI implementation requires deep organizational change and digitalization of professionals.

Public AI functions

Chatbots
Surveillance
Tax fraud detection
Public service routing
Digital administration

Service

Surveillance

Tax

Digitalization

**Chapter
06****Government: Implementation Examples**

- The chapter highlights tracing and detection systems used during the coronavirus pandemic as examples of public AI applications.
- NLP can streamline vaccine appointments and improve accessibility for older age groups.
- Tax and fee verification systems can use AI and NLP to detect irregularities.
- Administrative AI should be connected to service redesign rather than only technology introduction.
- Public administration needs digital professionals and institutional readiness.

Real estate example

AI can support building permit processing, property tax verification, land-use classification, and urban service requests.

AI improves people and talent management through recruitment, performance management, retention prediction, and HR analytics.

Chapter
06**HR: General Overview**

- Managing people is one of the main concerns of modern companies.
- Talent is scarce, and organizations seek tools that improve employee value and organizational performance.
- AI systems are developed to improve hiring, evaluation, retention, and HR decision-making.
- HR is suitable for AI because it involves large volumes of data and repeated decisions.
- However, HR AI must be governed carefully because it directly affects people's careers and rights.

Real estate HR example

Large property groups can use AI to recruit leasing agents, facility managers, customer service staff, and data analysts.

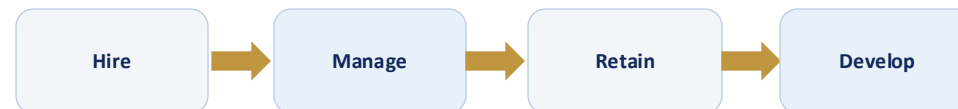
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HR: Findings

- AI is used in hiring and recruitment to identify valuable candidates.
- Performance management systems use AI to evaluate employees more fairly and consistently.
- Retention management systems detect employees likely to leave and analyze reasons for turnover.
- HR analytics studies workforce data and helps organizations act based on evidence.
- AI can reduce time spent on automatable tasks such as CV screening.

HR AI functions

Recruit
Evaluate
Retain
Analyze



Chapter
06**HR Implementation: Recruitment AI**

- Recruitment AI can analyze microdata related to candidates' skills and capabilities.
- Selection teams often spend significant time on tasks that can be partly automated.
- AI reduces administrative workload and helps identify candidates matching job requirements.
- Machine learning can improve screening when high-quality and fair data are available.
- Human oversight is necessary to avoid hidden bias and unfair exclusion.

Ethical concern

AI hiring decisions should be transparent, auditable, and based on job-relevant criteria.

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HR: Recommendations

- People-centric companies are always interested in attracting and retaining the best talent.
- AI tools that improve talent management will likely remain attractive.
- HR AI offers scalability opportunities, especially for innovative companies handling large applicant pools.
- Companies should combine AI efficiency with human judgment and ethical safeguards.
- AI should support better workforce decisions, not reduce employees to data points.

Real estate recommendation

Use AI to support recruitment and training, but keep human interviews for assessing trust, communication, ethics, and customer-facing capabilities.

Chapter 06

Real Estate and PropTech Applications

Chapter 6 cases can be translated into real estate strategy, smart buildings, digital operations, and customer experience.

Chapter 06

Cross-Sector Lessons for Real Estate

- Customer service AI can improve tenant and buyer communication.
- Marketing and sales AI can personalize property recommendations and improve lead conversion.
- Energy and industry AI can optimize smart building systems and reduce operational waste.
- Financial AI can support mortgage analysis, investment advisory, rent risk, and portfolio management.
- Government AI can improve permits, taxation, public records, and urban planning.
- Retail AI can inspire better property search and digital customer experience.

Key idea

Real estate can borrow AI practices from multiple sectors and adapt them to property markets.

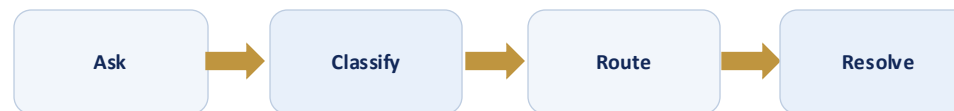
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AI Real Estate Use Case: Smart Property Service Platform

- A smart property service platform uses AI chatbots, CRM data, maintenance records, and tenant profiles.
- The platform answers tenant questions, creates tickets, prioritizes maintenance, and tracks satisfaction.
- NLP analyzes complaints and identifies recurring service issues.
- Predictive analytics identifies buildings or tenants at risk of dissatisfaction.
- The business value includes lower response time, better tenant experience, and improved retention.

AI functions

Chatbots
NLP
Ticket routing
Predictive analytics
CRM



Chapter
06**AI Real Estate Use Case: Predictive Building Operations**

- Predictive building operations use IoT sensors and AI models to monitor building systems.
- AI predicts equipment failure and recommends preventive maintenance.
- Energy optimization systems adjust HVAC, lighting, and resource use based on occupancy and conditions.
- Computer vision or sensor analytics can support safety and security.
- The business value includes lower costs, higher uptime, sustainability, and tenant comfort.

KPIs

Energy cost reduction
Maintenance response time
Equipment uptime
Tenant satisfaction
Carbon reduction

**Chapter
06****AI Real Estate Use Case: Investor Intelligence Platform**

- An investor intelligence platform uses AI to analyze transactions, rents, neighborhood trends, financing conditions, and risk factors.
- Machine learning predicts price growth, rental demand, vacancy risk, and expected return.
- NLP can analyze market reports, news, regulations, and zoning documents.
- Recommendation systems match properties with investor goals and risk tolerance.
- The platform creates value by reducing information overload and improving investment decision speed.

Risk warning

Investment AI should support expert judgment and should not be treated as a guaranteed prediction system.

Chapter 06

AI Real Estate Use Case: Digital Customer Journey

- AI can support the entire real estate customer journey from awareness to after-sale service.
- Digital advertising and SEO attract potential customers.
- AI search and recommendation engines match customers with properties.
- Virtual assistants answer questions and schedule visits.
- CRM analytics support follow-up, negotiation, documentation, and relationship management.
- After the transaction, AI supports service requests, satisfaction monitoring, and retention.

Journey stages

Search
Recommend
Visit
Contract
After-service



Chapter
06**Discussion Questions**

- Which sector in Chapter 6 provides the most useful AI lessons for real estate organizations?
- Why are customer service and retail especially suitable for AI applications?
- How can AI in financial services inspire AI-based real estate investment platforms?
- What risks appear when public administrations use AI for surveillance, taxation, or citizen services?
- How can smart buildings learn from industrial AI and predictive maintenance?
- What should companies evaluate before investing in AI startups or AI service providers?





Thank You