

# GEN-AI LED TRANSFORMATION IN REAL ESTATE : AUGMENTING INNOVATIVE VALUE CHAINS

BY : SHASHANK SAHOO  
(SENIOR DATA SCIENTIST)



# TOPICS TO COVER

- Real Estate : Market Insights
- Real Estate : Identifying Business Value Chains
- Rise of Gen-AI : A Real Estate Perspective
- Gen-AI in Real Estate : Use Case in CRM & Marketing
- Gen-AI in Real Estate : Use Case in HR
- Gen-AI in Real Estate : Use Case in Finance
- Gen-AI in Real Estate : Chatbot Solution Design Architecture
- Gen-AI in Real Estate : Azure Deployment Architecture

# REAL ESTATE : MARKET INSIGHTS

## Steady Appreciation

Real estate Assets have historically demonstrated steady value appreciation over time, making it ideal for long-term investments

## Sustainable Practices

The rise of sustainability and smart city initiatives is driving the growth with prominence of energy-efficient buildings, green construction practices and efficient resource management techniques

## Smart Technology Integration

AI, IoT, and blockchain backed key technologies is witnessing an increased adoption and creating multifarious opportunities to improve property management, streamline processes, enhance customer experiences, and provide valuable-data for decision making

## Demographics Shift & Government Subsidies

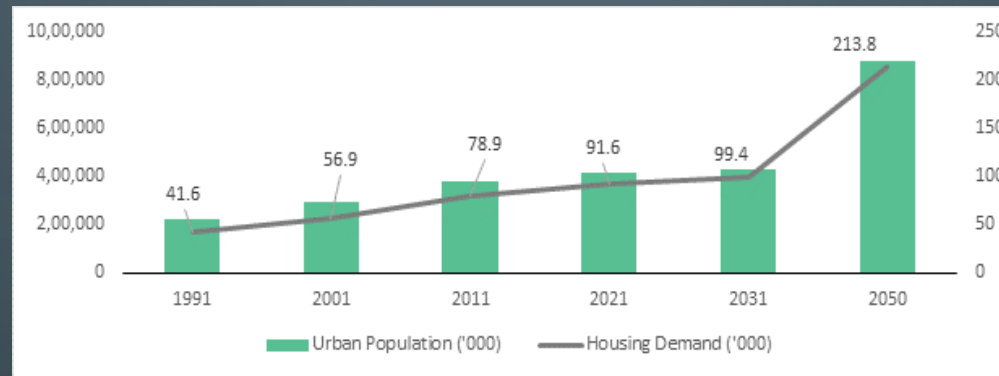
Participation from governing bodies is complimenting the demographics shift to create new growth avenues. Strategies like tax-credits, subsidies and incentives helps create new real-estate consumer base willing to get benefitted by these policies

## Passive Income Channel

Commercial and residential properties generate consistent rental income, offering a reliable revenue stream for owners and investors

## Robust Demand

The real estate market is experiencing robust growth with increased demand for properties, driven by low interest rates and a desire for more space due to remote work and flexible office trends post COVID-19 pandemic.



Source : <https://bwsmartcities.businessworld.in/>



# REAL ESTATE : IDENTIFYING BUSINESS VALUE CHAINS

## Land Acquisition & Expansion

- Market Research & Inspections
- Legal assessment
- Securing Funds through credits
- Risk assessment
- Feasibility studies and analysis
- Land sourcing & acquisition
- Expansion across cities, regions or countries

## Project Development

- Design & Planning
- Construction
- Permits & Approvals
- Quality Control

## Marketing

- Custom Ad Program
- Listing creation
- Smart marketing via social, digital and print media
- Lead Generation
- Physical and Virtual property tours
- Interior designing experience with AR and VR

## Sales

- Price estimation
- Demand capitalization
- Price negotiation
- Rental or Lease Agreement
- Lead Conversion
- Customized discounts for premium and luxury units

## Finance

- Market Research
- Securing investor
- Diversification across residential, commercial and industrial domains
- Portfolio management
- Exit Strategy
- Capital Expenditure & Budgeting Strategy
- Mortgage underwriting

## HR

- Job Analysis
- Resume screening
- Orientation programs
- Career development
- Reskill and Upskill programs
- Talent acquisition & retention
- Training & Development
- Mentorship
- Performance management

## CRM

- Client data collection and integration
- Client segmentation and suggest property recommendations
- Customer service and support
- Feedback analysis and reporting
- Client profiling and managing across communication channels

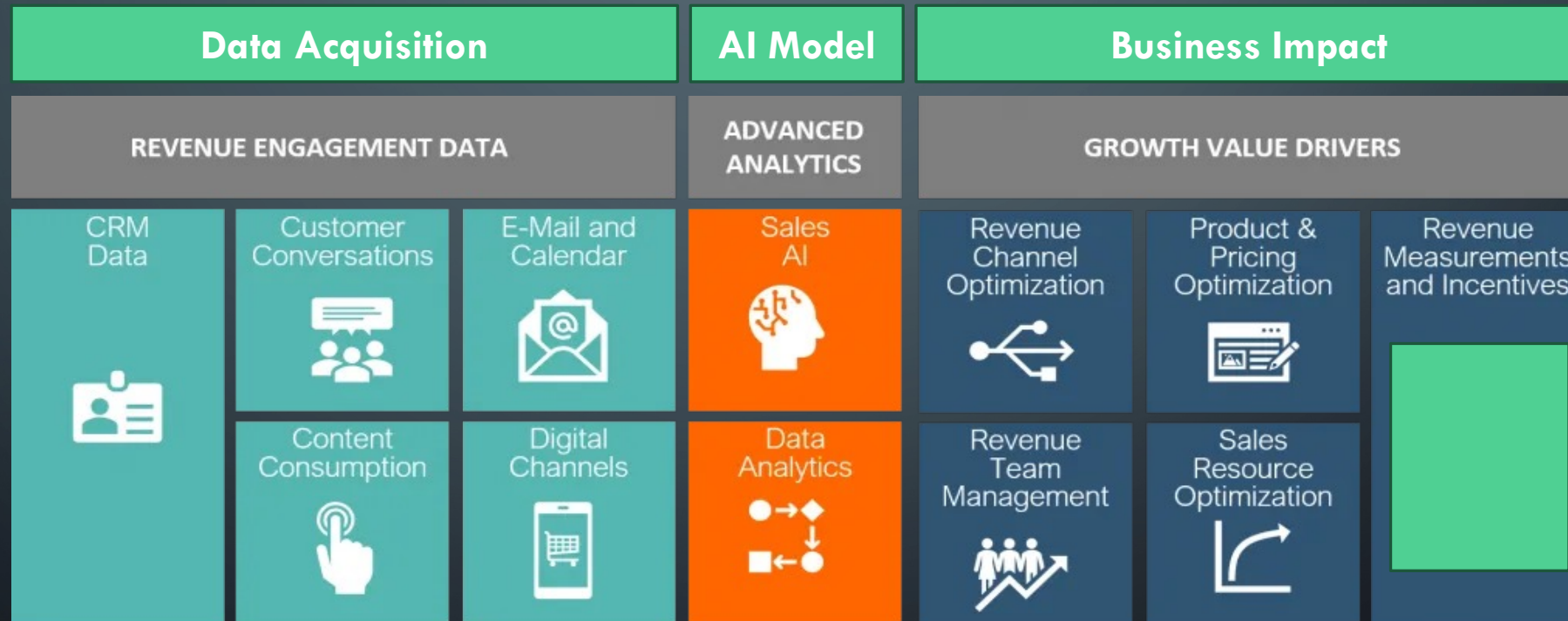
## Operations

- Property inspection
- Property appraisal
- Lease management
- Maintenance & repairs
- Accounting
- Project progress tracking with milestones and KPIs
- Property handover

# RISE OF GENERATIVE AI : A REAL ESTATE PERSPECTIVE

## The GenAI Revolution

Generative AI is revolutionizing the real estate landscape by transforming traditional practices and enhancing value creation throughout the industry. Embracing this technological wave and fostering collaboration between industry experts and AI specialists will be the key to unlocking its full potential and shaping the future of real estate. It essentially has **three** major components to realise impact and execute AI transformation



GROWTH ASSETS



INSIGHTS



VALUE CREATION

# GEN-AI IN REAL ESTATE : USE CASE IN CRM & MARKETING

Areas	Challenges	Gen AI Solution
<b>Data Management</b>	Managing, organizing, and updating client information, property details, transaction history, customer inquiries etc., can be time-consuming and error-prone	Generative AI can automate data entry and cleansing tasks by extracting and structuring data from various sources, reducing manual efforts and ensuring data accuracy.
<b>Personalized Communication</b>	Tailoring communication and property recommendations to individual client preferences and needs can be labour-intensive.	Generative AI can generate personalized emails, messages, and property recommendations for each client by analysing their historical interactions and preferences. This improves engagement and conversion rates.
<b>Customer Support and Chatbots</b>	Providing timely customer support and handling routine inquiries can be resource-intensive.	AI-powered chatbots equipped with Generative AI can handle customer inquiries 24/7, answer frequently asked questions, and provide information about available properties. They can improve response times and free up human agents for more complex tasks.
<b>Fraud Prevention</b>	The real estate industry is susceptible to fraudulent activities, such as identity theft or fraudulent property listings.	AI can analyse data patterns and detect anomalies, helping to identify potentially fraudulent activities. Natural language processing (NLP) models can analyse property descriptions for inconsistencies and flag suspicious listings.
<b>Marketing Content Generation</b>	Creating engaging marketing content, property descriptions, and listings for a large portfolio of properties can be time-consuming.	Generative AI can assist in generating property descriptions, blog posts, and social media content. It can also create virtual property tours and videos, making content creation more efficient.

# GEN-AI IN REAL ESTATE : USE CASE IN HR

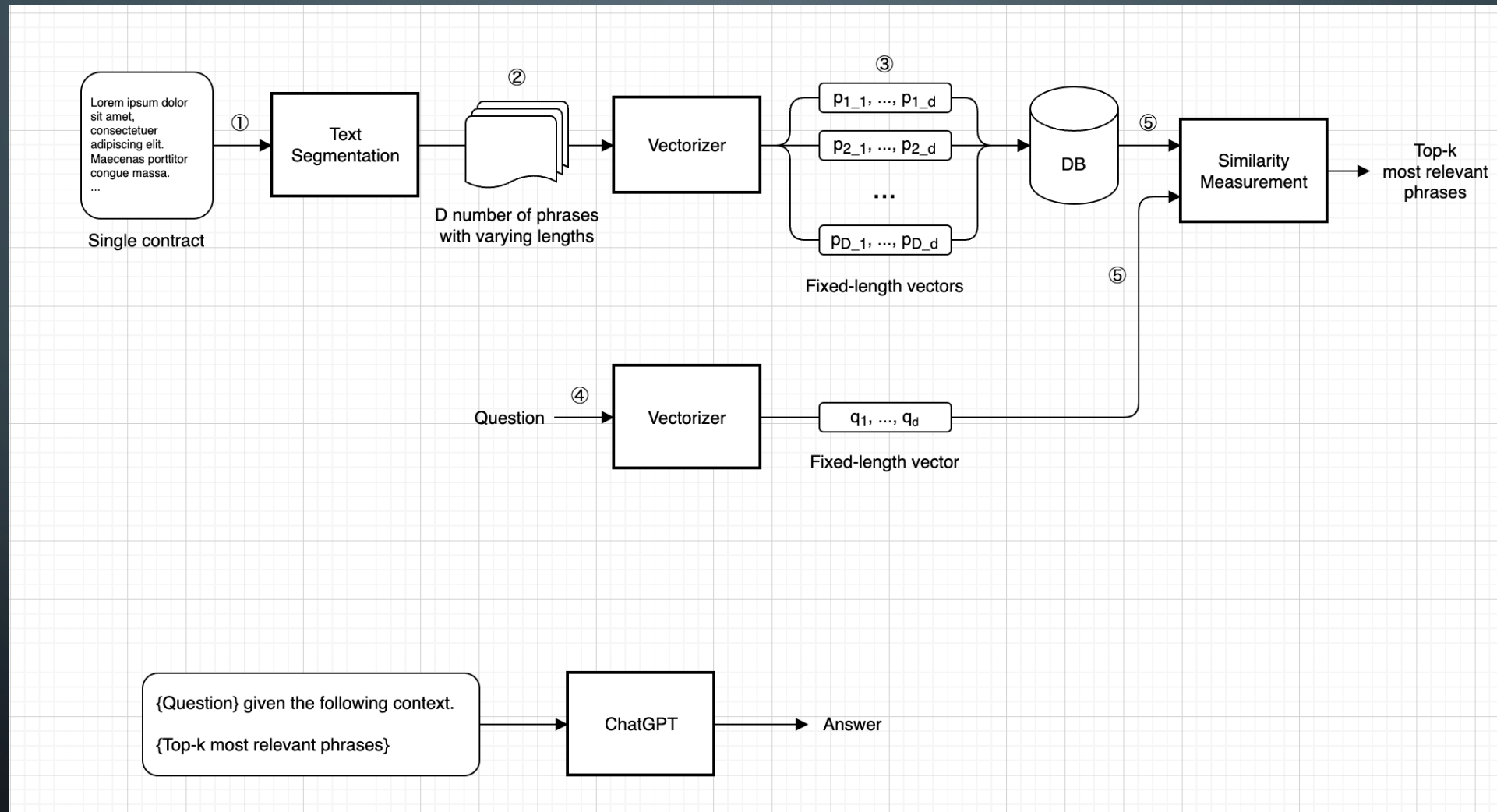
Areas	Challenges	Gen AI Solution
<b>Talent Acquisition</b>	Identifying and attracting top real estate talent can be competitive and time-consuming.	Generative AI can streamline the recruitment process by analysing resumes, assessing candidates' qualifications, and matching them to job requirements. AI-powered chatbots can also engage with potential candidates 24/7, providing information and collecting initial data.
<b>High Turnover Rates</b>	The real estate industry often experiences high turnover rates, especially among sales agents and property managers, leading to increased recruitment efforts and costs.	Generative AI can analyse historical turnover data and employee profiles to identify common characteristics or patterns leading to attrition. This information can help HR departments develop targeted retention strategies, such as improved training or incentive programs, to reduce turnover.
<b>Candidate Screening and Matching</b>	Sorting through a large pool of applicants to identify the most suitable candidates for real estate roles can be time-consuming and challenging.	Generative AI can automate the initial screening process by analysing resumes, cover letters, and application forms. It can rank candidates based on qualifications, experience, and cultural fit, making it easier for HR professionals to identify top candidates quickly.
<b>Performance Evaluation and Skill Assessment</b>	Real estate professionals often work independently, making performance evaluation challenging.	Generative AI can establish performance benchmarks and track individual and team performance against these benchmarks. It can also provide data-driven insights to help managers identify areas for improvement and provide targeted feedback.
<b>Diversity and Inclusion</b>	Promoting diversity and inclusion in a traditionally homogenous industry.	AI can help identify unconscious biases in recruitment and performance evaluations, ensuring fairer treatment and opportunities for all employees.

# GEN-AI IN REAL ESTATE : USE CASE IN FINANCE

Areas	Challenges	Gen AI Solution
<b>Risk Assessment and Management</b>	Assessing and managing various risks associated with real estate investments, such as market fluctuations, economic downturns, and environmental factors.	AI can analyse historical data, market trends, and external factors to create predictive models that assess and mitigate risks. It can also simulate different scenarios to help investors make informed decisions.
<b>Property Valuation</b>	Determining accurate property values, which can be influenced by multiple factors and market conditions.	AI can analyse large datasets, including property attributes, location, and historical sales data, to provide more accurate property valuations. It can also adjust valuations in real-time based on changing market conditions.
<b>Mortgage Underwriting</b>	Evaluating the creditworthiness of borrowers and managing the mortgage underwriting process efficiently.	AI can automate the underwriting process by analysing applicant data and credit histories, streamlining loan approval. It can also identify potential red flags or fraud indicators.
<b>Fraud Detection</b>	Detecting and preventing fraud in real estate transactions, such as mortgage fraud or property title fraud.	AI can analyse transactional data and patterns to identify anomalies and potential fraudulent activities. It can also improve identity verification processes.
<b>Transaction Efficiency</b>	Streamlining the transaction process, which often involves complex documentation and multiple parties.	AI can automate document processing, reduce paperwork, and improve transaction efficiency. Smart contracts powered by AI can automate contract execution and payment processes.



# GEN-AI IN REAL ESTATE : CHATBOT SOLUTION DESIGN ARCHITECTURE



# GEN-AI IN REAL ESTATE : AZURE DEPLOYMENT ARCHITECTURE

