Real Estate Valuation Analytics

Issues & Objectives

➢ Loans by a large financial company in India to real estate developers are repaid in a mix of cash and inventory
➢ The projects under development will only be ready for launch (sale to buyers) a number of years after the loan is taken
➢ The financial company therefore requires prediction of property prices at time of launch and a number of years post launch
➢ They commissioned Smart to build customized software for such price analytics

Solution

➢ **Software developed** on R Shiny platform
➢ An **NLP technique**, Word2Vec was used for specification and amenity data
➢ Clusters of micro markets were formed by **hierarchical clustering** method
➢ Algorithm **for forecasting velocity of sale** was developed
➢ **Link with the database** for comparison of any new project

Challenges

➢ Data missing for 50% projects
➢ Data mismatches
➢ One-third of the real estate project records could not be used for modeling due to missing price or inventory data
➢ Project amenities specified using free text; same amenity could have multiple descriptions

Benefits

➢ Property valuation at launch as well as comparison with competition in few clicks
➢ View relative position of the project in the same locality
➢ Valuation in next 5 years post launch is instantaneous

	Post launch	Expected Price(Rs./sq ft)
1	1st year	21,652
2	2nd year	22,816
3	3rd year	23,322
4	4th year	25,665
5	5th year	27,313

Table 4: 5 Year Price Forecast