

# Module 5: Dimensionality Reduction

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## Case Study

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## Case Study

Domain – Health Care

focus – Cancer detection

### Business challenge/requirement

John Cancer Hospital (JCH) is a leading cancer hospital in USA. It specializes in preventing breast cancer.

Over the period of the last few years, JCH has collected breast cancer data from patients who came for screening/treatment.

However, this data has almost 30 attributes and is difficult to run and interpret the result. You as ML expert has to reduce the no. of attributes (Dimensionality Reduction) so that results are meaningful and accurate.

### Key issues

Reduce the no. of attributes/features in data to make the results and analysis comprehensible by doctors

### Considerations

NONE

### Data volume

- Approx 569 records – file breast-cancer-data.csv

Fields in Data

- Details in Module8-Dimensionality-Reduction-PCA.ipynb notebook

### Additional information

- NA

### Business benefits

Improved success rate of cancer detection and hence direct impact on revenue and profit of hospital. More than that it contributes to JCH's mission "Better Life"