

WHAT WE KNOW ABOUT COMPRESSION STRENGTH OF CONCRETE ?

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PROBLEM UNDERSTANDING

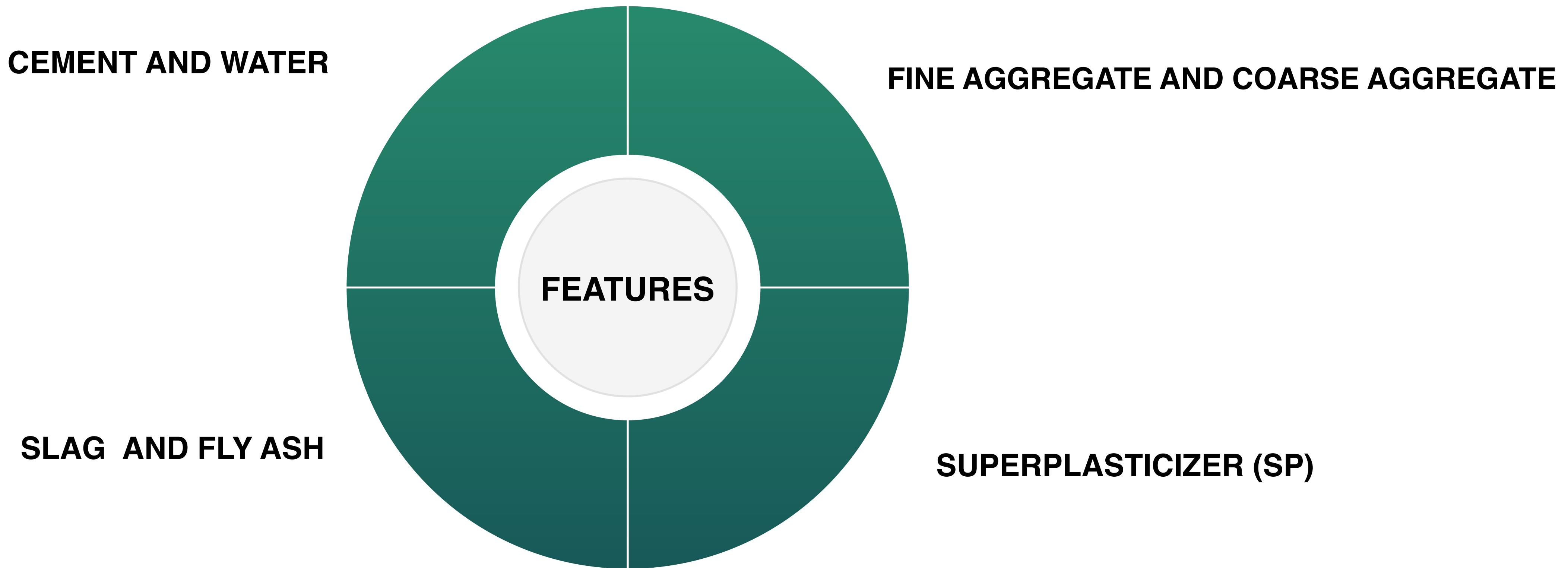
Concrete consists of a mixture of materials, including cement, water, coarse aggregates and others which influence concrete's hardened properties, and economy.

The compressive strength of concrete is the most common performance measure used by engineer in designing buildings and other structures.

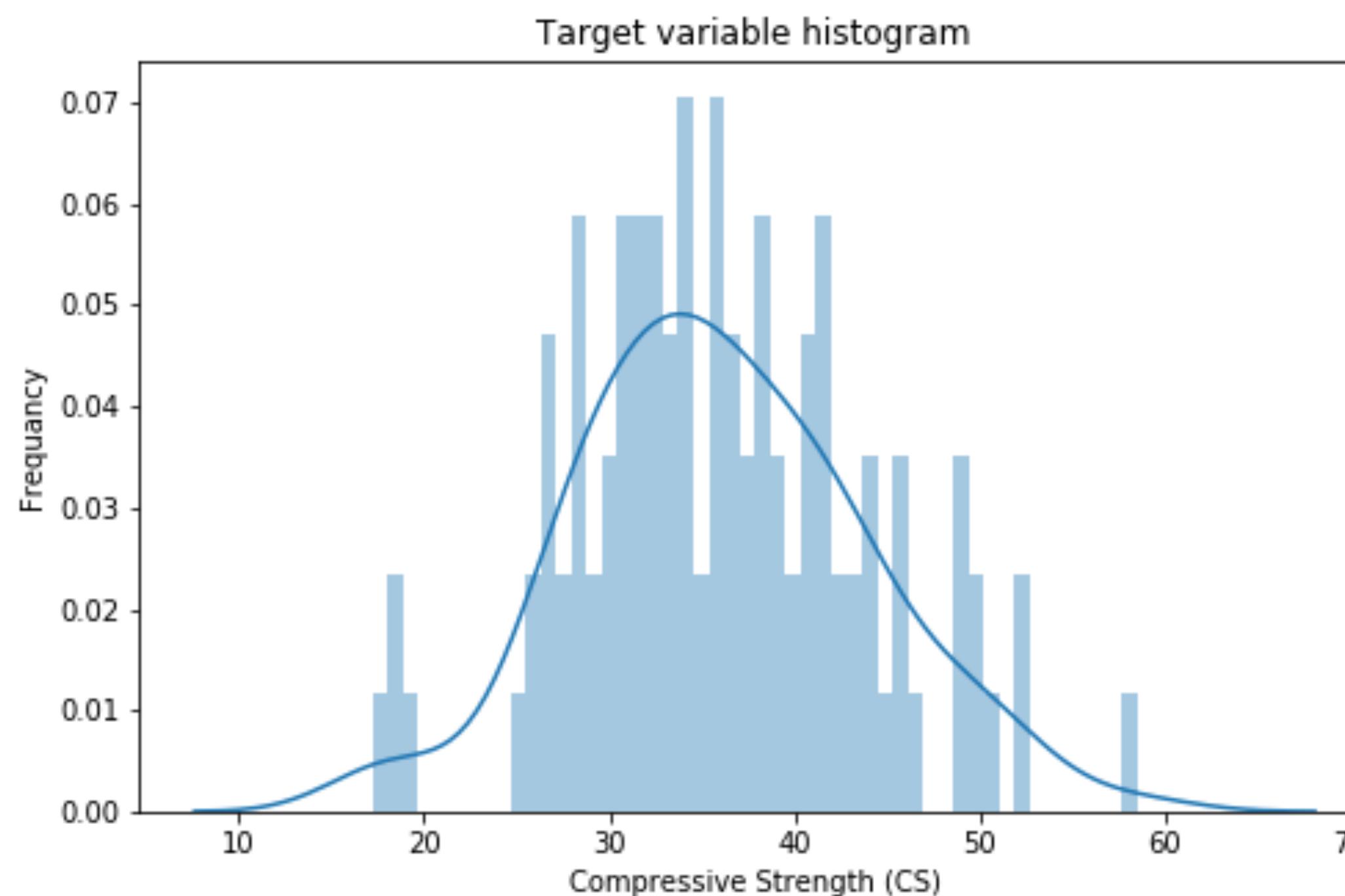
Business use cases

1. Optimization of the materials used to form the concrete in order to decrease the costs of construction and at the same time meet the workability requirement of concrete
2. Increasing the safety
3. Preventing the expenses in case of emergency

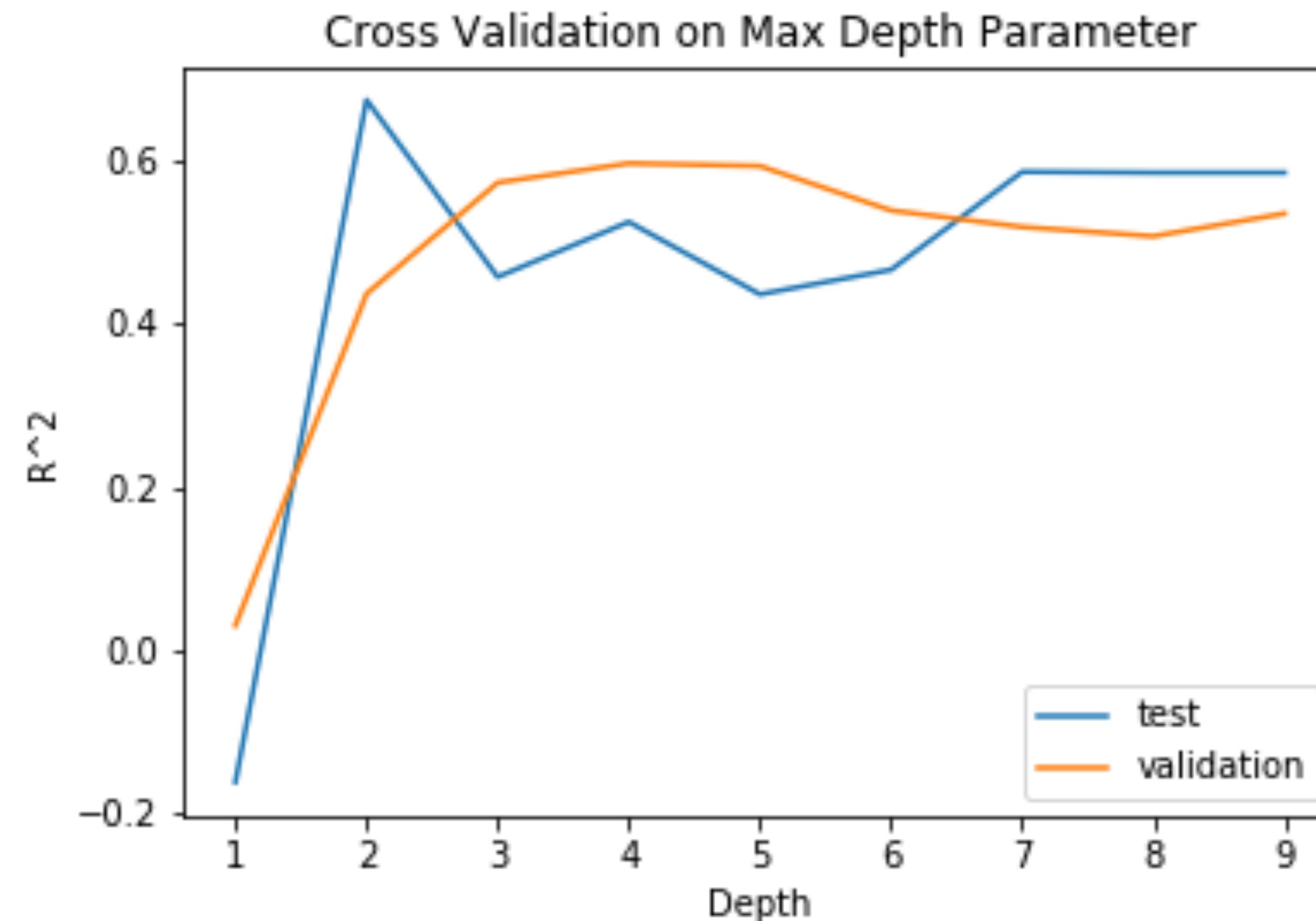
Source:



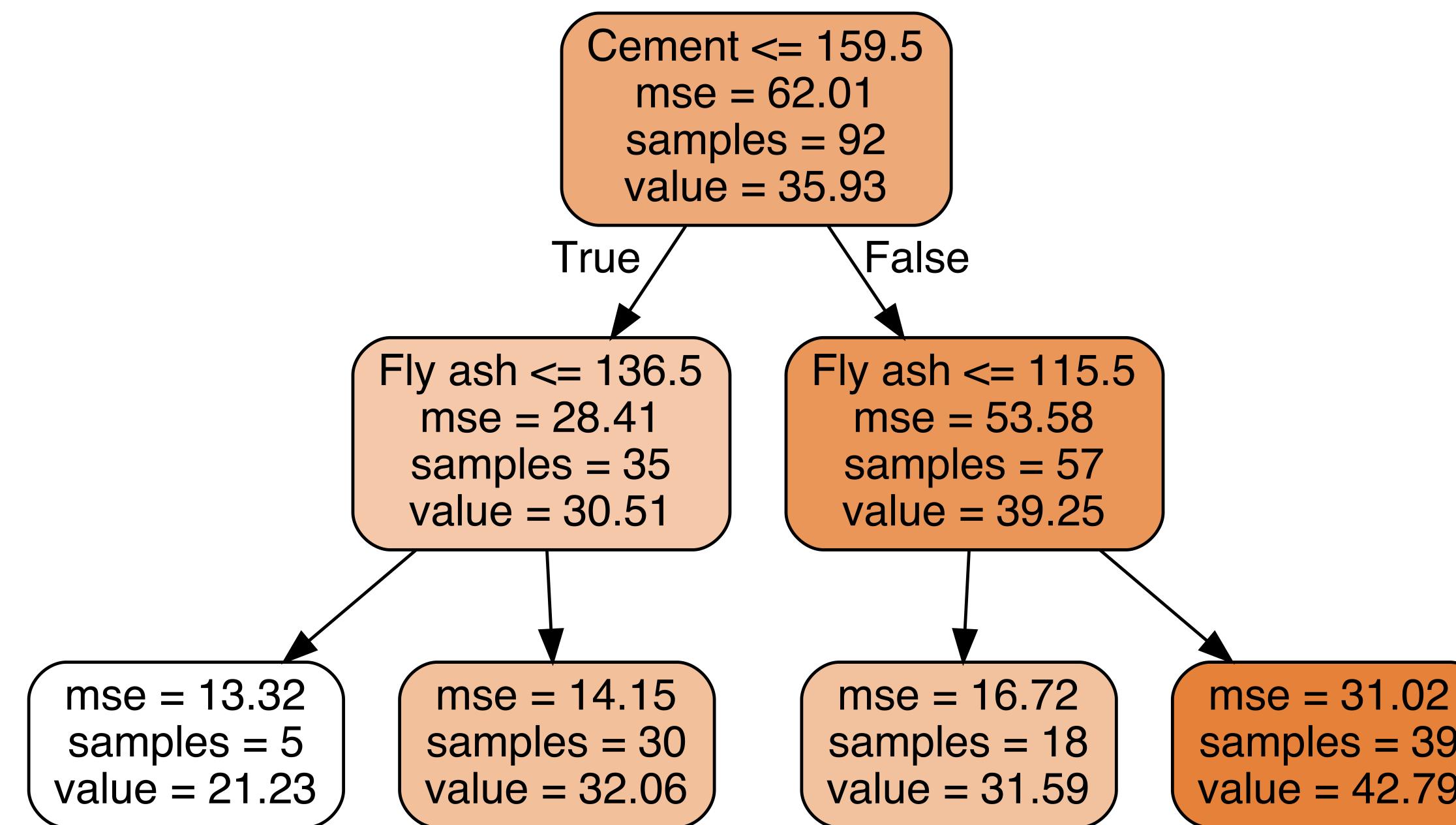
TARGET VARIABLE HISTOGRAM



MAX DEPTH PARAMETER TUNING



VISUAL REPRESENTATION OF DECISION TREE MODEL



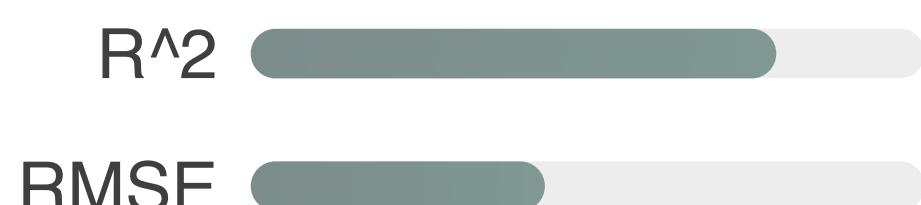
MODELING (NOT FINISHED)



**DECISION
TREE**



**RANDOM
FOREST**



FURTHER WORK

- To include more observations in data set
- To include other variables on environmental exposure and extreme working conditions
- To try other models like least squares support vector regression and artificial neural networks



Thank You!