Contradictions
Y = Driving Speed

What are the Knobs?

Driving Speed = f (Ground Hardness, Pile Diameter, Tip Angle …)
Pile Driving

- Driving Speed is Slow
- Ground is Hard
- Pile Diameter is Large
- Tip Shape is Sharp
- Tip Shape is Blunt
- Support is Poor

Contradiction

Use a knob and a setting

- Thin
- Thick

Pile Diameter
In order to drive fast, the pile must be **sharp**. In order to support heavy loads, the pile must be **blunt**.
Compromise Solutions

Conflicting Requirements

Supporting

Driving

Sharpness

Time Consuming

Guarantees Risk

Delays the Solution
Idealized Solutions

Conflicting Requirements

Supporting

Blunt

Sharp

Driving

It must be sharp and blunt