Engineering and
Physical Sciences
Research Council

InFoMM
Industrially Focused
Mathematical Modelling

Predicting Online Sales

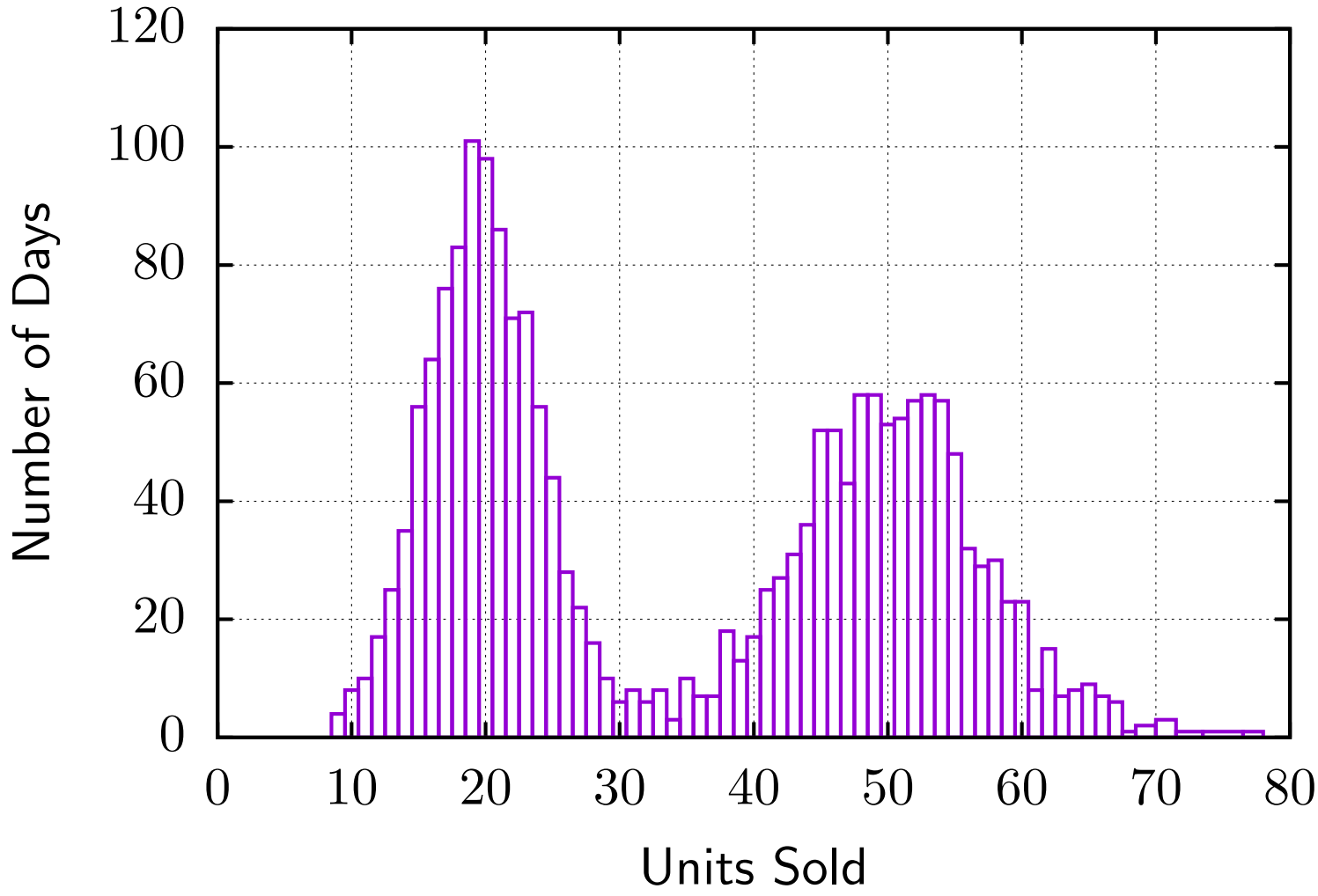
Brady Metherall

December 2019

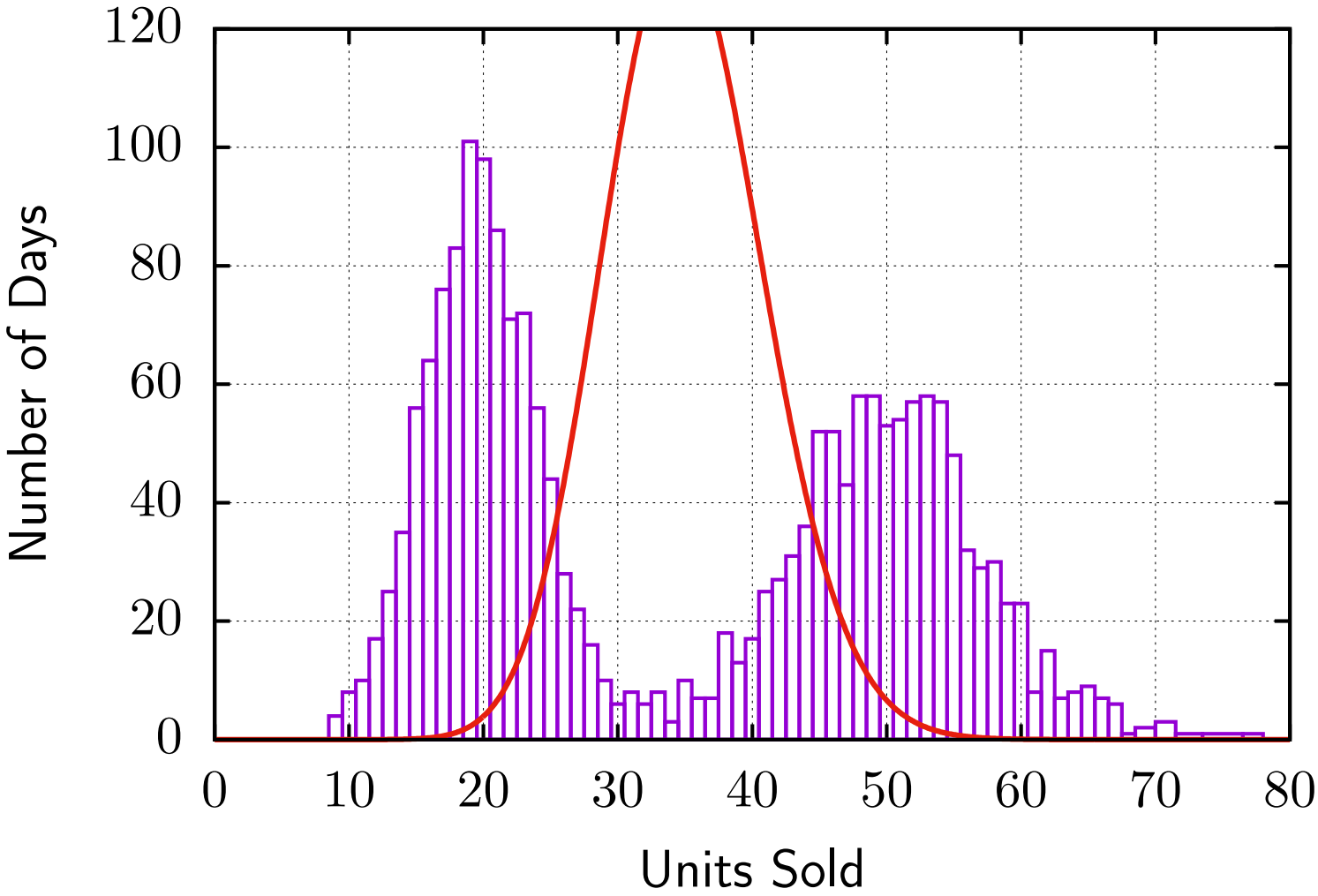
Motivation

- We have data of the number of online sales for 2000 days.
- Some days our competitors use additional marketing which effects our sales, but, we do not know which days.
- We model the distribution and use a computer to fit the model to the data.

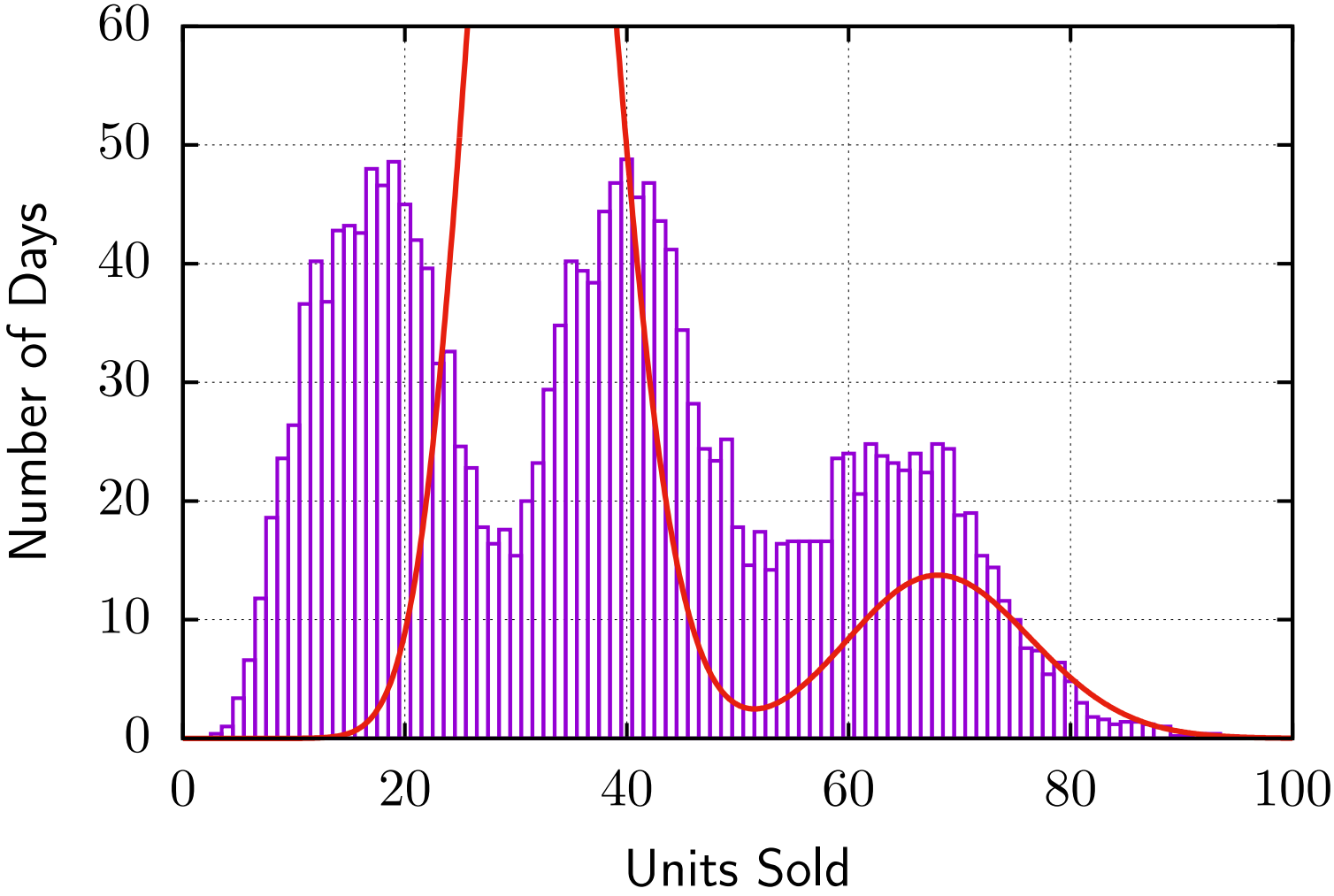
Daily Sale Data



Model Solution



Results

- Our competitors use additional marketing approximately 50% of the time.
- We sell an average of 50 units when they do not have additional marketing, and 20 units when they do.
- What if our data is more complicated?

More Complicated Data