Northwind:

Strategic Discounting & Price Elasticity of Demand

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Primer

PRICE ELASTICITY OF DEMAND:

- Economic measurement to show the responsiveness, or elasticity, of the quantity demanded to a change in its price, when nothing but the price changes

KEY QUESTIONS:

- Do you have any **products/categories** that have a greater price elasticity of demand?
- Do you have any **customers/regions** that have a greater price elasticity of demand?
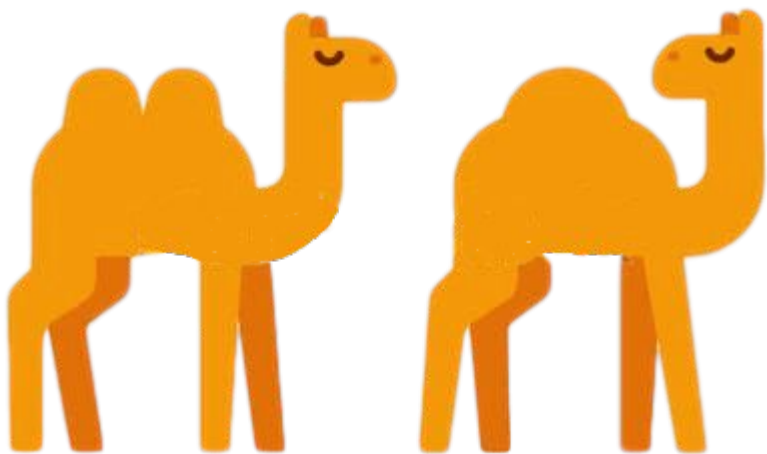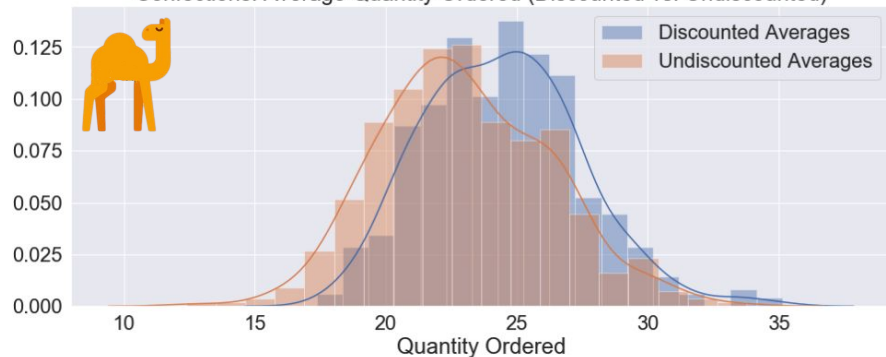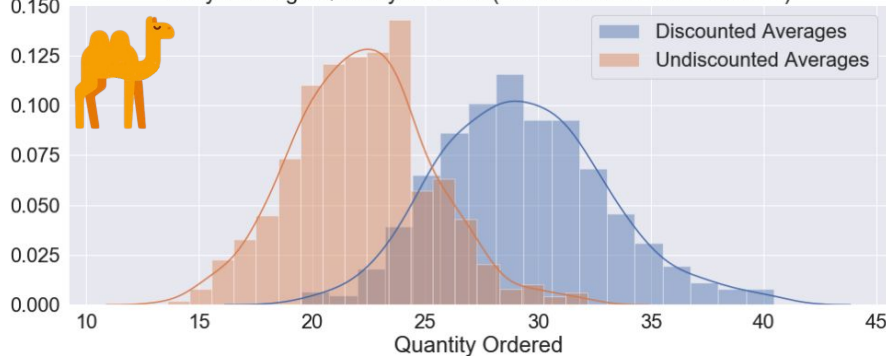
CAN YOU TELL THE DIFFERENCE?
Hint: Look At Their Humps

Confections: Average Quantity Ordered (Discounted vs. Undiscounted)

Dairy: Average Quantity Ordered (Discounted vs. Undiscounted)

HOW ABOUT HERE?

- **DAIRY** looks more like a two-hump camel
- **CONFECTIONS** looks more like a one-hump camel

SO WHAT DOES THIS MEAN?

- Dairy price elasticity of demand > Confections price elasticity of demand
- **DAIRY:**
  - Clear change in quantity ordered
- **CONFECTIONS:**
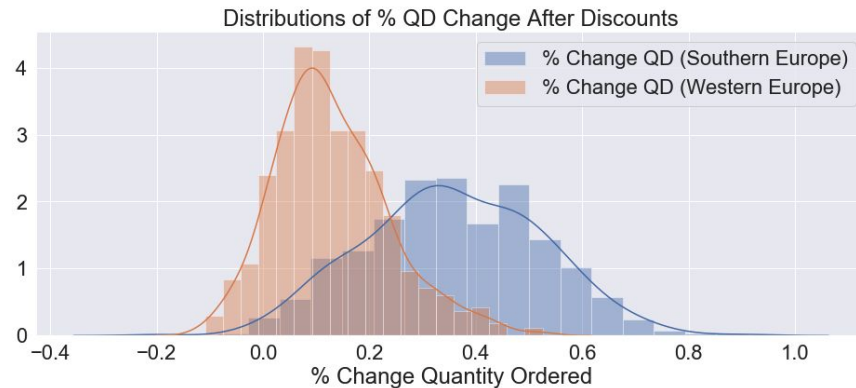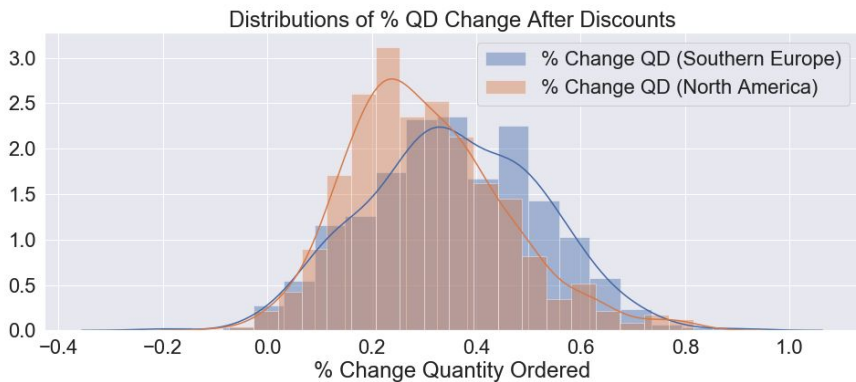 - Indiscernible change in quantity ordered (in comparison)

DISCOUNT STRATEGY:

- Focus discounts in categories that see meaningful change in demand
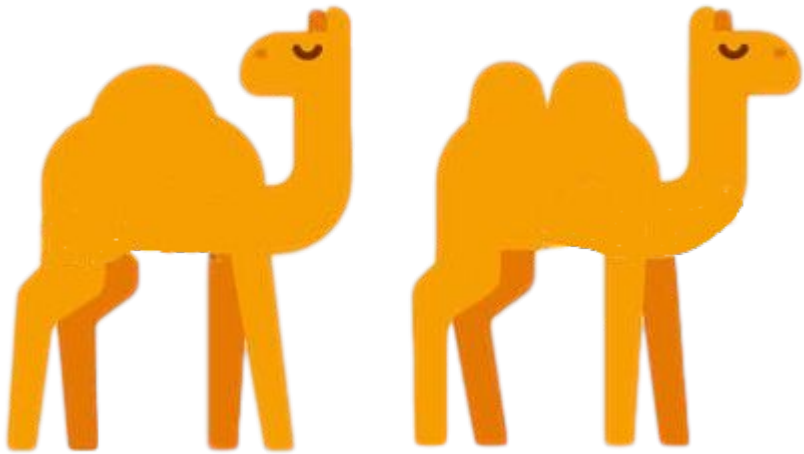
LET'S TRY THIS AGAIN

CUSTOMER REGION

Distributions of % QD Change After Discounts

HOW ABOUT HERE?

- Southern Europe & North America saw similar % increases in quantity demanded, relative to their original order sizes
- Southern Europe > Western Europe

SO WHAT DOES THIS MEAN?

- Not all your customers respond to pricing discounts in the same way
- Some regions are very responsive to price cuts (Southern Europe, North America, British Isles)

DISCOUNT STRATEGY:

- Focus discounts in regions that see significant change in demand
- Consider pairing with categorical discounts

KEY TAKEAWAYS

1. Focus discounts on product types that have higher price elasticity of demand

   a. Grains & Confections had the lowest price elasticity of demand

2. Focus discounts on regions that have higher price elasticity of demand

3. All categories & regions* saw statistically meaningful increases in quantity demand

NEXT STEPS

Include Price

Repeat tests on quantity demanded, but incorporate product prices
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Compare Regions/Categories

Repeat individual category tests by region - likely that regions
respond differently depending on product type

Fix Your Data
No actual foreign key constraints, employees hired in future