The relationship between price elasticity of demand and sales revenue is essential in understanding how changes in price affect a business's income.

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1. Elastic Demand

- **Definition**: Demand is elastic when the percentage change in quantity demanded is **greater than** the percentage change in price
- **Impact on Revenue**:
  - When the price decreases, the increase in quantity demanded is large enough to cause total revenue to rise.
  - When the price increases, the decrease in quantity demanded is significant, causing total revenue to fall.
- **Example**:
  - If a company lowers the price of a product from $10 to $8 (20% decrease) and the quantity demanded rises from 100 to 150 units (50% increase), total revenue increases from $1,000 to $1,200.

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2. Inelastic Demand

- **Definition**: Demand is inelastic when the percentage change in quantity demanded is **less than** the percentage change in price
- **Impact on Revenue**:
  - When the price decreases, the increase in quantity demanded is small, so total revenue falls.
  - When the price increases, the decrease in quantity demanded is small, so total revenue rises.
- **Example**:
  - If a company raises the price of a product from $10 to $12 (20% increase) and the quantity demanded decreases from 100 to 90 units (10% decrease), total revenue increases from $1,000 to $1,080.

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3. Unitary Elastic Demand

- **Definition**: Demand is unitary elastic when the percentage change in quantity demanded is **equal to** the percentage change in price

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Why Does This Happen?

- **Elastic Demand**: Consumers are highly responsive to price changes. Lower prices attract significantly more buyers, boosting revenue, while higher prices drive many buyers away, reducing revenue.
- **Inelastic Demand**: Consumers are less responsive to price changes. They continue buying nearly the same amount even if prices rise or fall, making price increases beneficial and decreases harmful to revenue.
- **Unitary Elastic Demand**: The responsiveness of consumers is balanced with price changes, so total revenue is unaffected.

Key Insights for Businesses:

- For products with **elastic demand**, lowering prices can increase revenue.
- For products with **inelastic demand**, raising prices can increase revenue.
- Understanding the elasticity of their products helps businesses make informed pricing decisions to maximize revenue.