



PM: Product Management and Development

Week 9 – Pricing

Module Overview

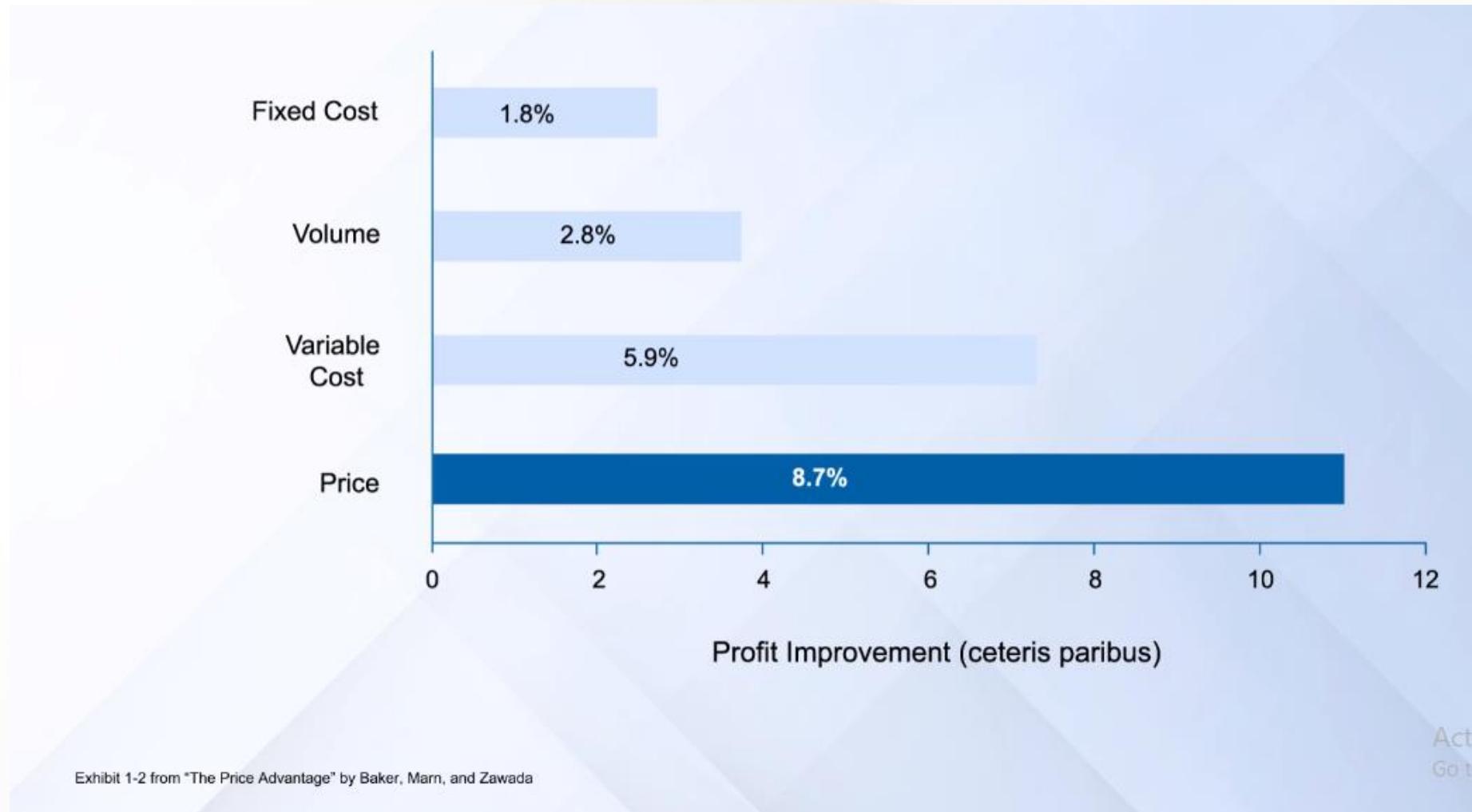
Fundamental Axiom of Economics



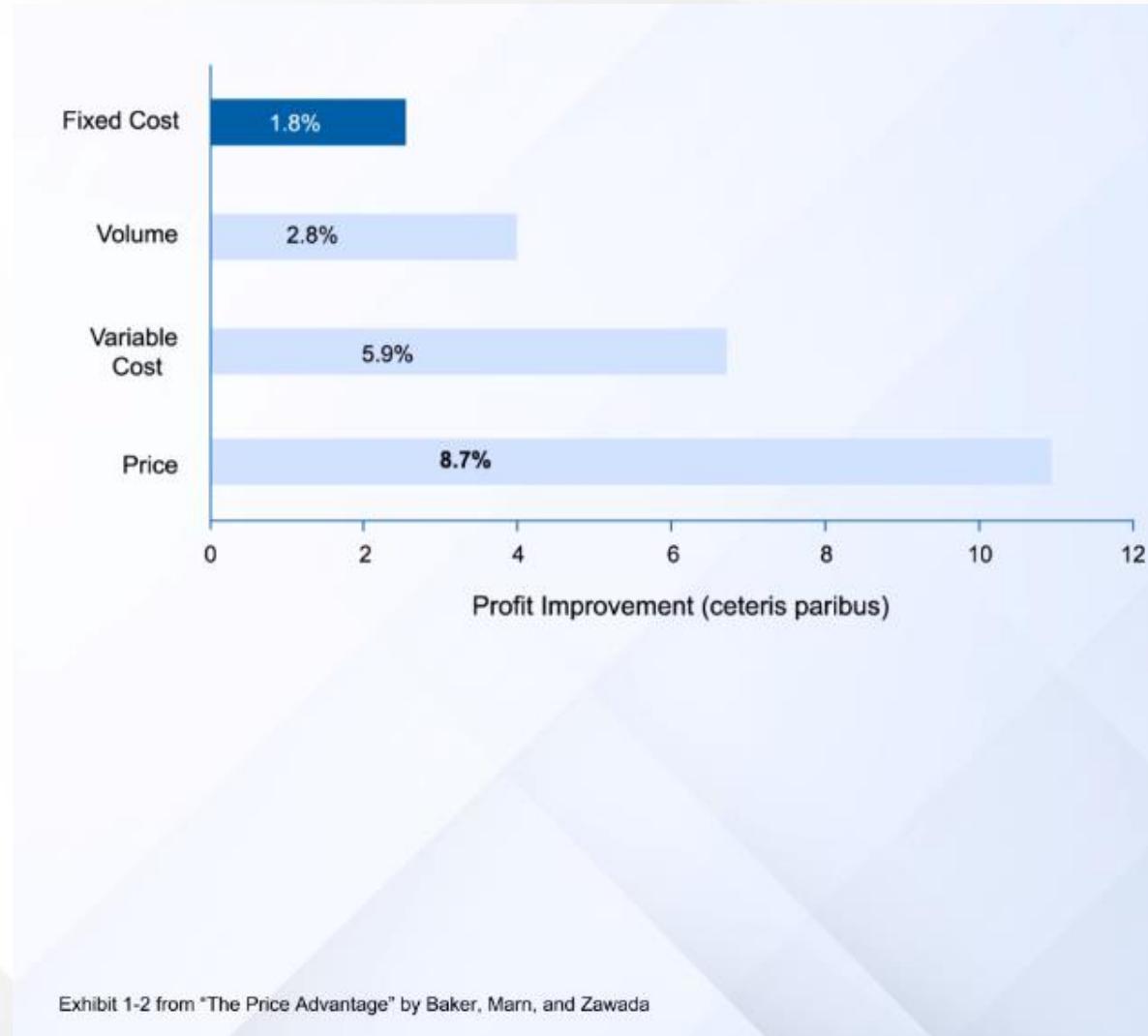
Profit Improvement Techniques



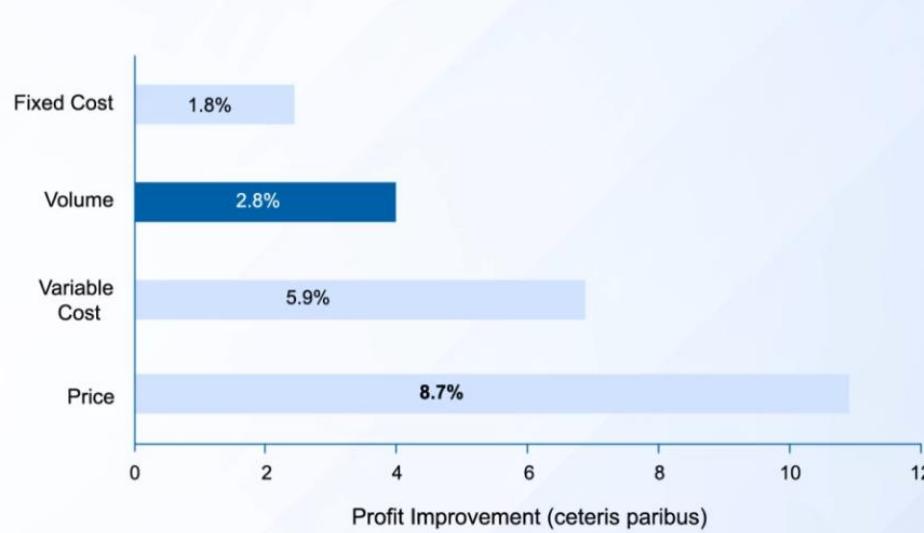
Global 1200 Profit Levers: McKinsey Study



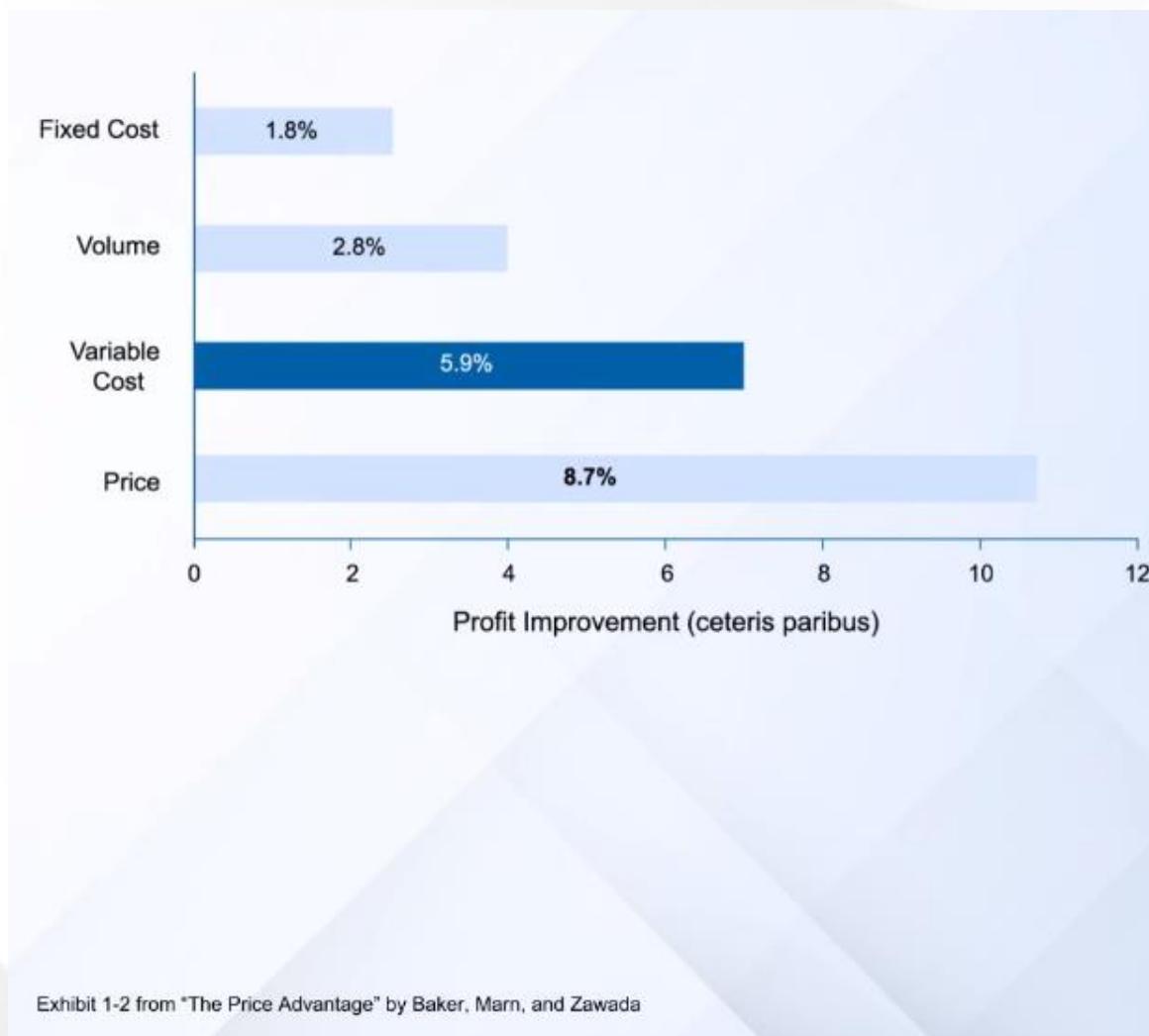
Global 1200 Profit Levers: McKinsey Study



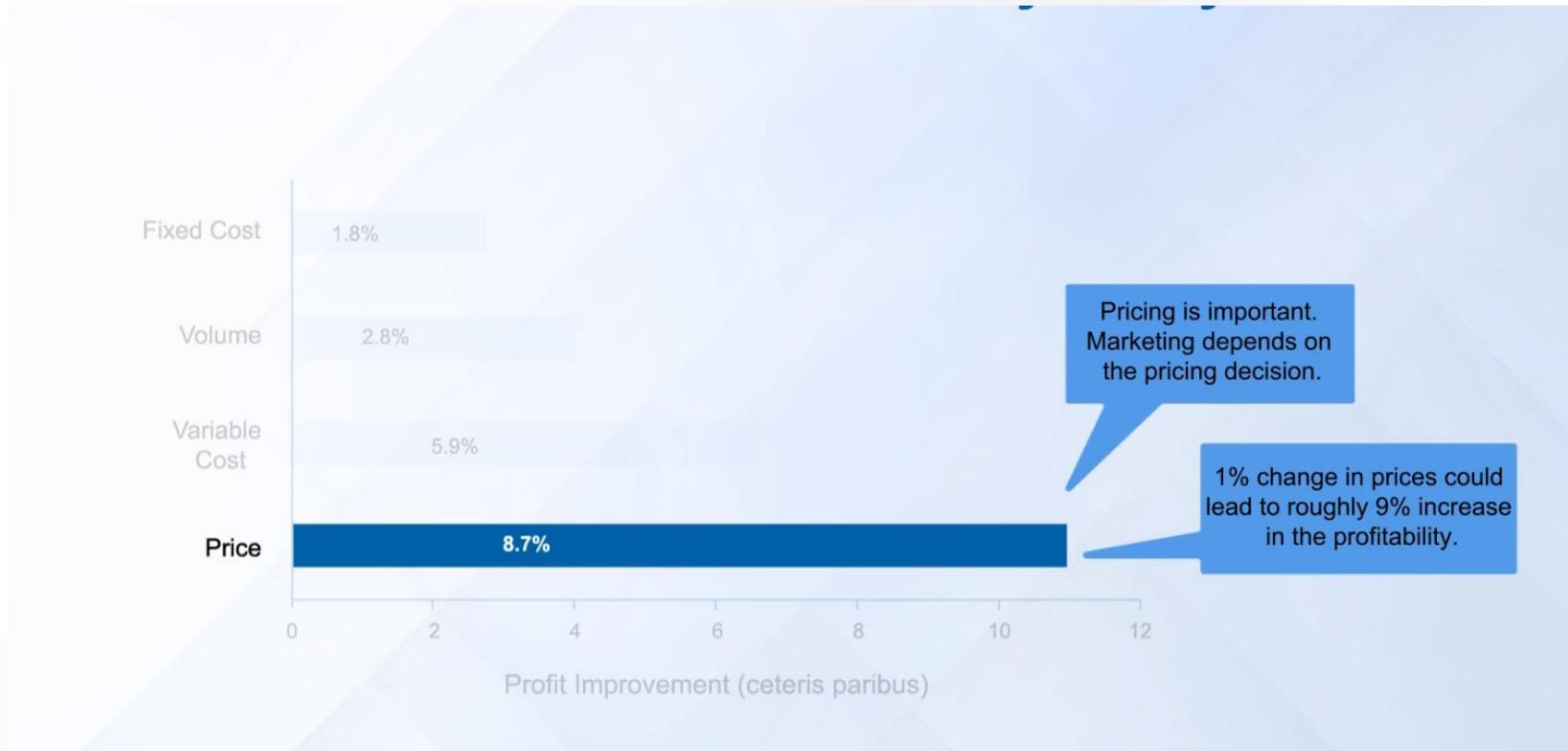
Global 1200 Profit Levers: McKinsey Study



Global 1200 Profit Levers: McKinsey Study



Global 1200 Profit Levers: McKinsey Study



Information Perspective

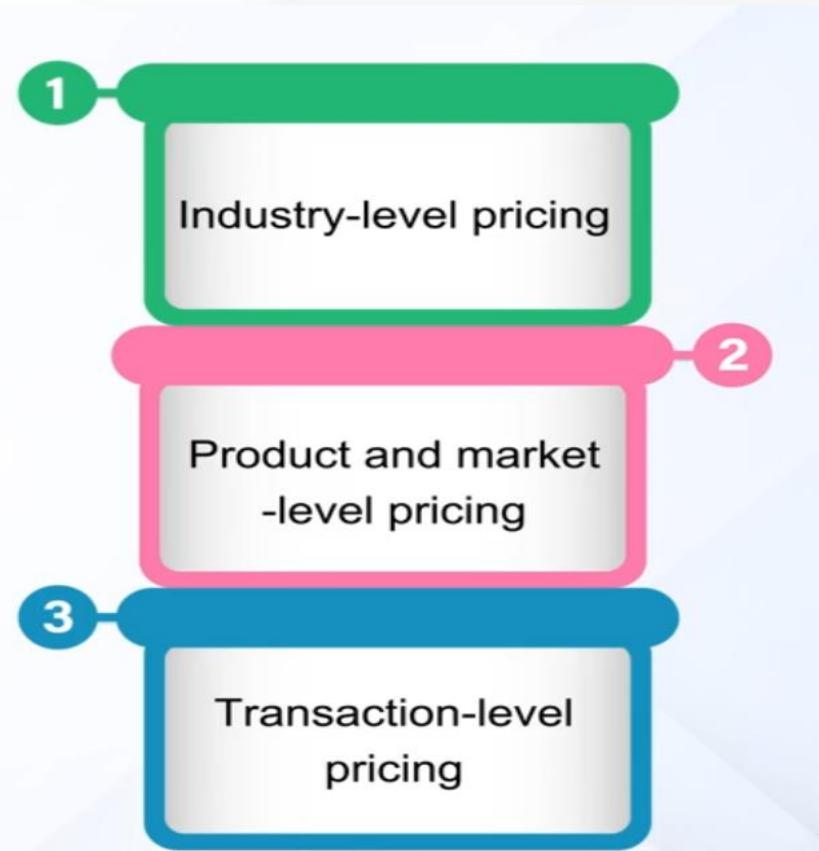
According to McKinsey & Company's pricing benchmark survey:

About **less than 15%** of North American companies do serious pricing research.

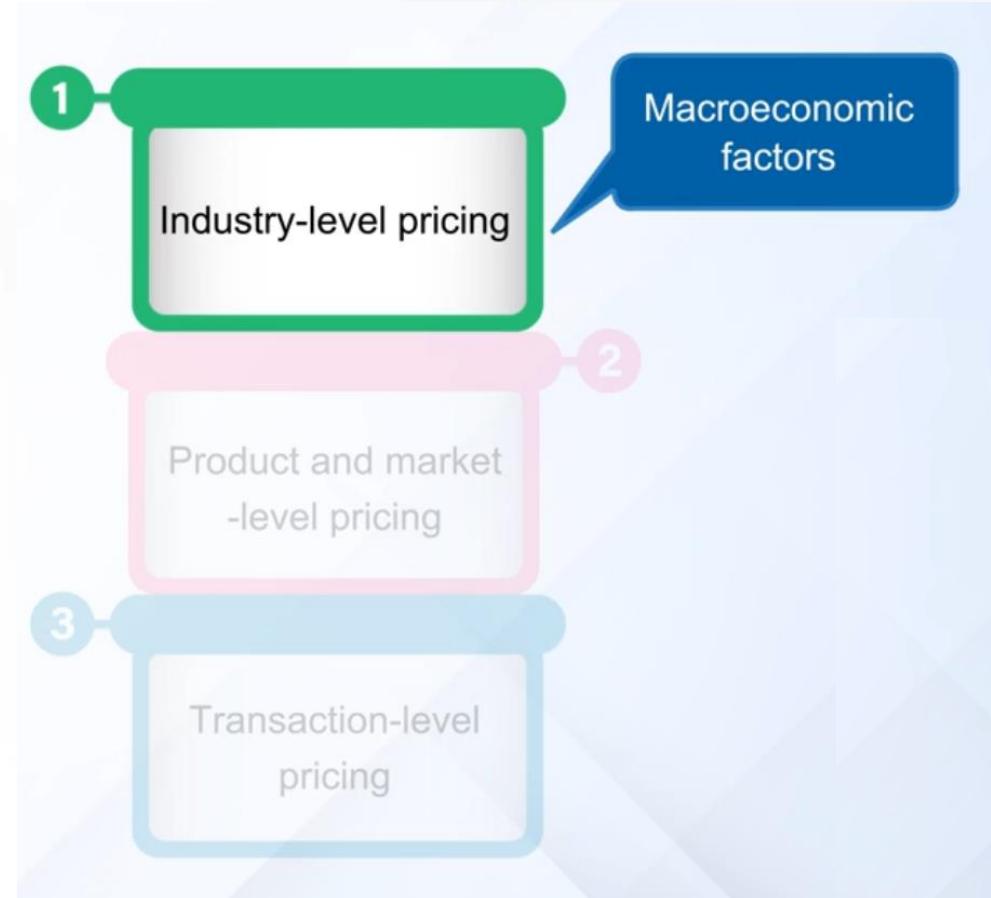
	Serious strategy (55%)	Little strategy (45%)
Serious research (12%)	Sophisticated players (8%)	Radical empiricists (4%)
Little research (88%)	(47%)	(41%)

Pricing in Practice

Pricing- Industry Level



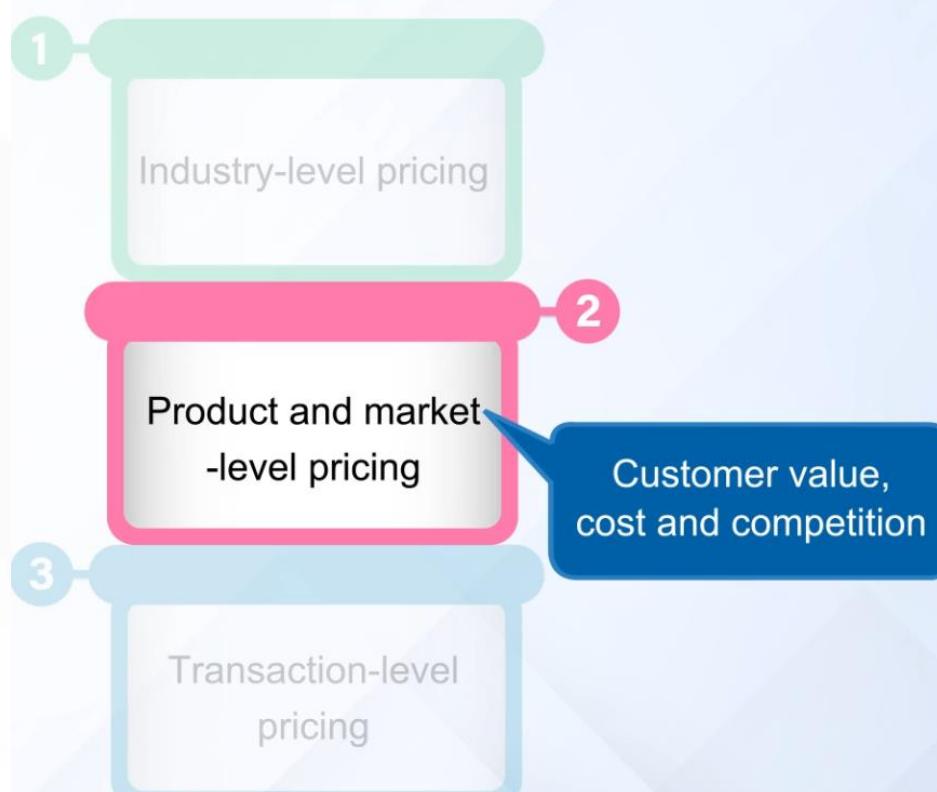
Pricing- Industry Level



Pricing-Transaction Level



Pricing- Product and Market Level



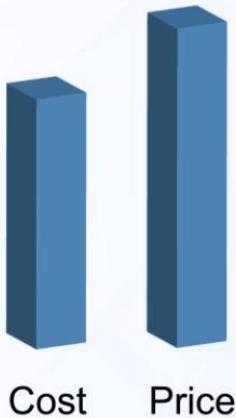
Common Pricing Strategies

Price skimming	Costless pricing
Leader pricing	Breakeven pricing
Parity pricing	Geographical pricing
Price bundling	Internet pricing

Price Anchors



Cost Plus Pricing



Commonly used approach for pricing
The cost of manufacturing or offering a product

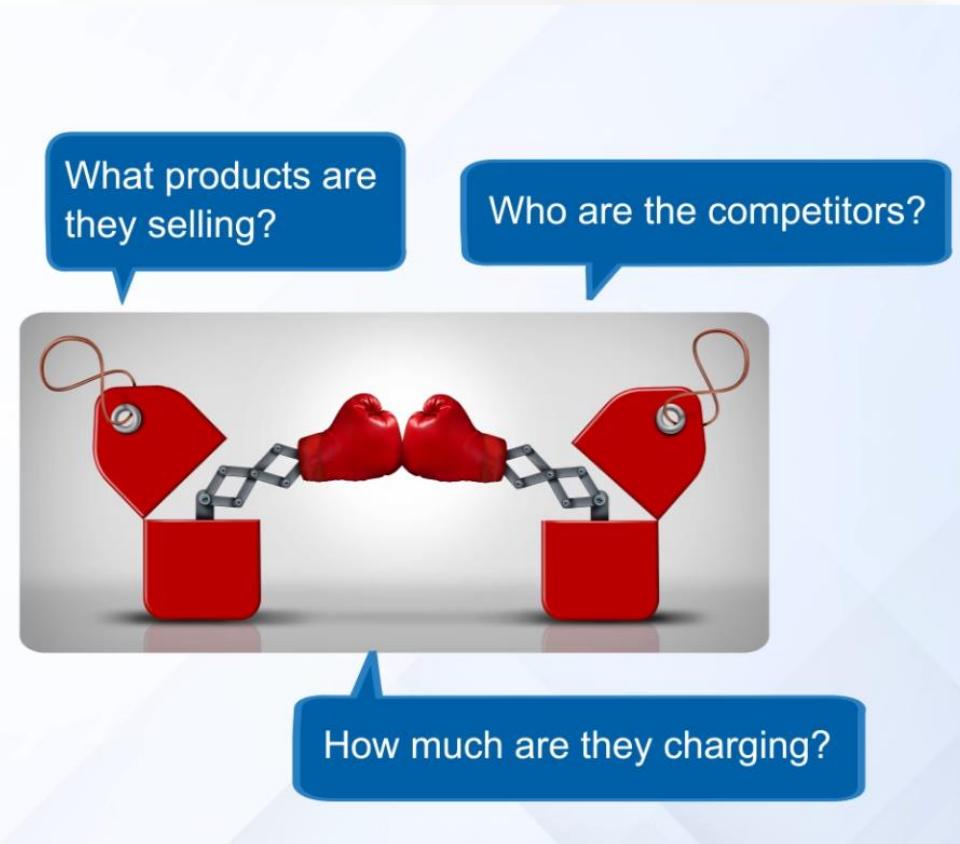
Cost Plus Pricing



Cost Plus Pricing-Challenge



Competitive Pricing



Competitive Pricing-Challenge



Customer Sales Orientation



- Products and services are customised
- Set prices based on customer willingness to pay

Price Setting Example

Company vs Competitor

Company - Previous Year	
Target Quantity	1 Million units
Achieved Quantity	750,000 units
Market Share	13%
Price	\$9.00
Target Profit	\$1.5 Million
Target Revenue	\$9 Million

Competitor - Previous Year	
Price	\$11.00 (\$6-\$13)
Market Share	17%

Actual Costs, Revenue and Profit

Price	\times	Sales	=	Revenue
\$9.00		750,000 units		\$6,750,000

Category	Per Unit	Total
Direct Variable Costs	\$3.00	\$2,250,000
Direct Fixed Costs	\$4.00	\$3,000,000
Marketing and other Overheads	\$2.00	\$1,500,000
Total Cost	\$9.00	\$6,750,000
Revenue	\$9.00	\$6,750,000
Net Profit	\$0.00	\$0.00

Improved Profitability: Possible Actions

-  Better pricing X
-  Improving sales X
-  Improving quality X
-  Reducing cost X

McKinsey Price Change Study

What price can be set to meet the goal?

“Price is the sharpest lever”

Change in price 1%

Change in profit 9%

- Findings given by McKinsey study

Law of Demand

Projected Costs and Revenues

	Current
Price	\$9.00
Unit sales	750,000
Variable costs	\$3.00
Fixed costs	\$4.00
Admin. overhead	\$2.00
Unit cost	\$9.00
Unit profit	\$0
Total profit	\$0

Increase Price By 10%: Case 1

	Current	5% decline in unit sales
Price	\$9.00	\$10.50
Unit sales	750,000	712,500
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$4.21
Admin. overhead	\$2.00	\$2.11
Unit cost	\$9.00	\$9.32
Unit profit	\$0	+\$1.18
Total profit	\$0	\$843,750

Increase Price By 10%: Case 1

	Current	5% decline in unit sales
Price	\$9.00	\$10.50
Unit sales	750,000	712,500
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$4.21
Admin. overhead	\$2.00	\$2.11
Unit cost	\$9.00	\$9.32
Unit profit	\$0	+\$1.18
Total profit	\$0	\$843,750

If you have a market demand for your product, then price increase will not lead to loss of customers.

Increase Price By 10%: Case 2

	Current	33% decline in unit sales
Price	\$9.00	\$10.50
Unit sales	750,000	500,000
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$6.00
Admin. overhead	\$2.00	\$3.00
Unit cost	\$9.00	\$12.00
Unit profit	\$0	-\$1.50
Total profit	\$0	-\$750,000

Increase Price By 10%: Case 2

	Current	33% decline in unit sales
Price	\$9.00	\$10.50
Unit sales	750,000	500,000
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$6.00
Admin. overhead	\$2.00	\$3.00
Unit cost	\$9.00	\$12.00
Unit profit	\$0	-\$1.50
Total profit	\$0	-\$750,000

If your product is not differentiated and your competition is too strong then demand, and therefore sales, falls drastically.

Factors Determining the Price Increase Strategy

Is increasing the price the right strategy?



Decrease Price By 10%: Case 1

	Current	33% increase in unit sales
Price	\$9.00	\$8.10
Unit sales	750,000	1,000,000
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$3.00
Admin. overhead	\$2.00	\$1.50
Unit cost	\$9.00	\$7.50
Unit profit	\$0	+\$0.60
Total profit	\$0	+\$600,000

If you steal demand from your competitors, you can make profit by decreasing your price.

Decrease Price By 10%: Case 1

	Current	33% increase in unit sales
Price	\$9.00	\$8.10
Unit sales	750,000	1,000,000
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$3.00
Admin. overhead	\$2.00	\$1.50
Unit cost	\$9.00	\$7.50
Unit profit	\$0	+\$0.60
Total profit	\$0	+\$600,000

If you steal demand from your competitors, you can make profit by decreasing your price.

Decrease Price By 10%: Case 2

	Current	5% increase in unit sales
Price	\$9.00	\$8.10
Unit sales	750,000	787,500
Variable costs	\$3.00	\$3.00
Fixed costs	\$4.00	\$3.81
Admin. overhead	\$2.00	\$1.90
Unit cost	\$9.00	\$8.71
Unit profit	\$0	+\$0.61
Total profit	\$0	-\$480,375

Decrease in price leads to negligible difference in sales.

Demand: The Big Picture

Demand depends on a variety of factors:



Profit/Revenue Maximisation Goal

$$\text{Profit} = \text{Revenue} - \text{Cost}$$

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graph TD; Profit[Profit] = Revenue[Revenue] - Cost[Cost]; Price[Price] --> Revenue; Demand[Demand] --> Revenue;
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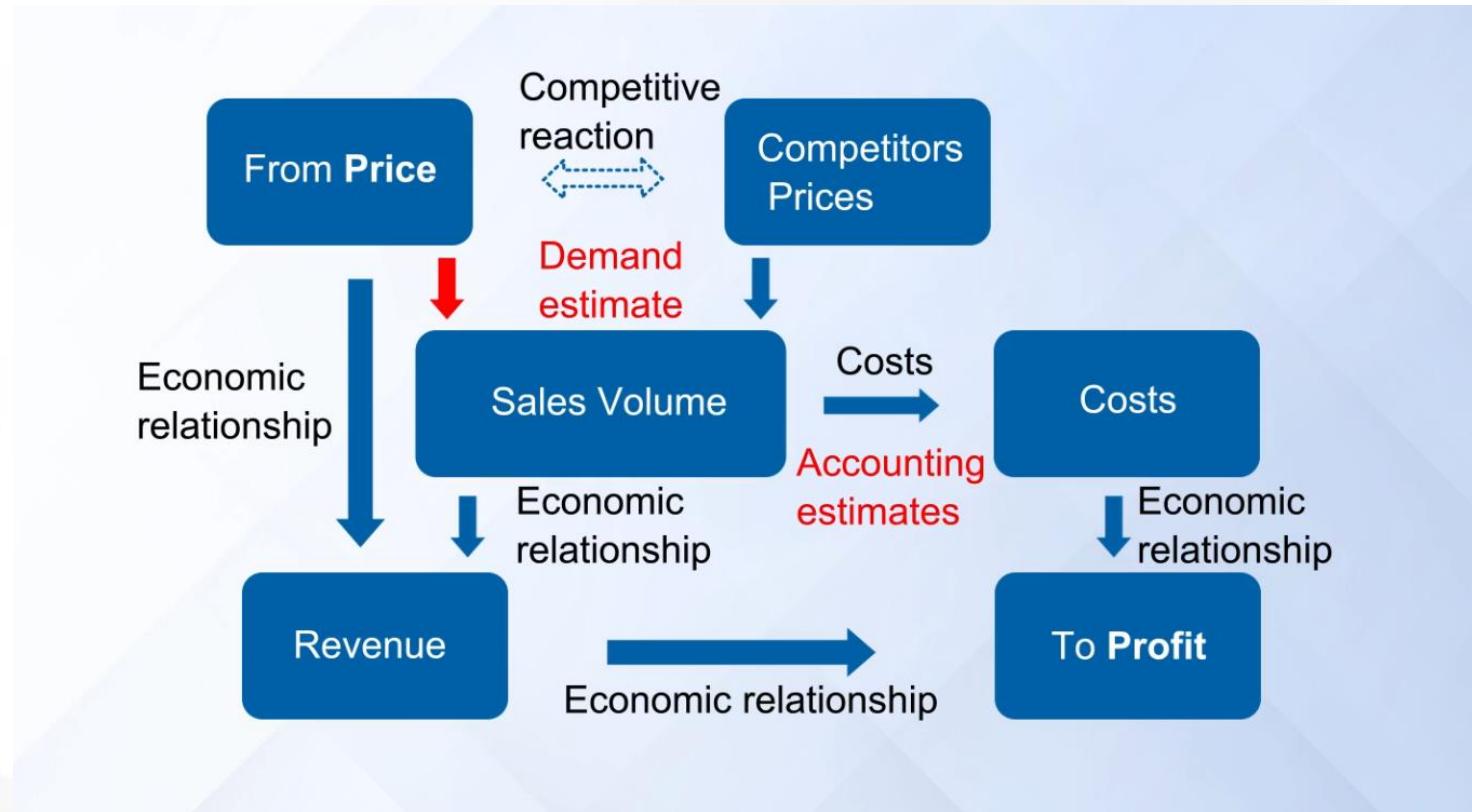
The fundamental aspect of demand is that when you change the prices, it changes the demand.

Fundamental Law of Demand

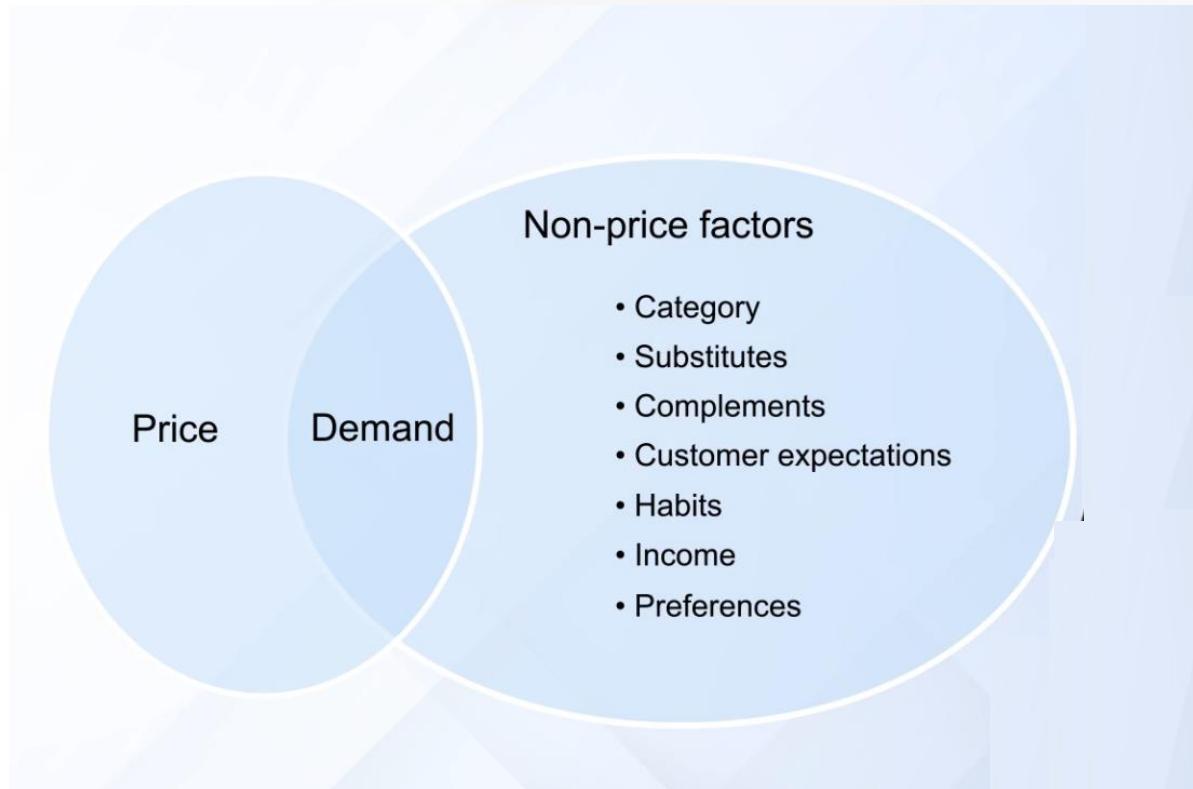


Prices of competitors, advertising, promotions, etc.

Simplified System of Price Response



Price Sensitivity of Demand



Price Sensitivity of Demand: Data Sources

Variable Measured	Conditions of Measurement	
	Uncontrolled	Controlled
Actual purchase	Aggregate sales data individual purchase data (analytics)	In-store/ field experiments
Preferences/intentions	Direct questioning (buyer response surveys)	Trade-off analysis (conjoint studies)

Tradeoff: Precision vs.Cost
Challenge: Private Information

Price Sensitivity of Demand: Data Sources

Variable Measured	Conditions of Measurement		Price Sensitivity
	Uncontrolled	Controlled	
Actual purchase	Aggregate sales data individual purchase data (analytics)	In-store/ field experiments	<ul style="list-style-type: none">• Size of expenditure• Shared costs• Switching costs• Importance of end-benefits• Perceived risk• Price-quality perceptions• Perceived fairness• Price framing• Reference prices• Available Substitutes
Preferences/intentions	Direct questioning (buyer response surveys)	Trade-off analysis (conjoint studies)	Tradeoff: Precision vs.Cost Challenge: Private Information

Information about your transactions is collected to figure out price sensitivity of households and individuals.

Price Sensitivity of Demand: Data Sources

Conditions of Measurement		
Variable Measured	Uncontrolled	Controlled
Actual purchase	Aggregate sales data individual purchase data (analytics)	In-store/ field experiments
Preferences/intentions	Direct questioning (buyer response surveys)	Trade-off analysis (conjoint studies)
Tradeoff: Precision vs.Cost Challenge: Private Information		

Experimenting with prices will tell you:

- Which customers will leave?
- Which customers you might gain?
- What will happen to the demand at the aggregate level?

Price Sensitivity of Demand: Data Sources

Conditions of Measurement		
Variable Measured	Uncontrolled	Controlled
Actual purchase	Aggregate sales data individual purchase data (analytics)	In-store/ field experiments
Preferences/intentions	Direct questioning (buyer response surveys)	Trade-off analysis (conjoint studies)

Tradeoff: Precision vs.Cost
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Price Sensitivity of Demand: Data Sources

Conditions of Measurement		
Variable Measured	Uncontrolled	Controlled
Actual purchase	Aggregate sales data individual purchase data (analytics)	In-store/ field experiments
Preferences/intentions	Direct questioning (buyer response surveys)	Trade-off analysis (conjoint studies)

Conjoint analysis helps you understand what products will be more profitable and estimate price sensitivity

Tradeoff: Precision vs.Cost
Challenge: Private Information

Price Sensitivity of Demand: Real-Time



Critically evaluate whether differentially changing the prices in the real time is a viable strategy.

Role of Variable and Fixed Costs

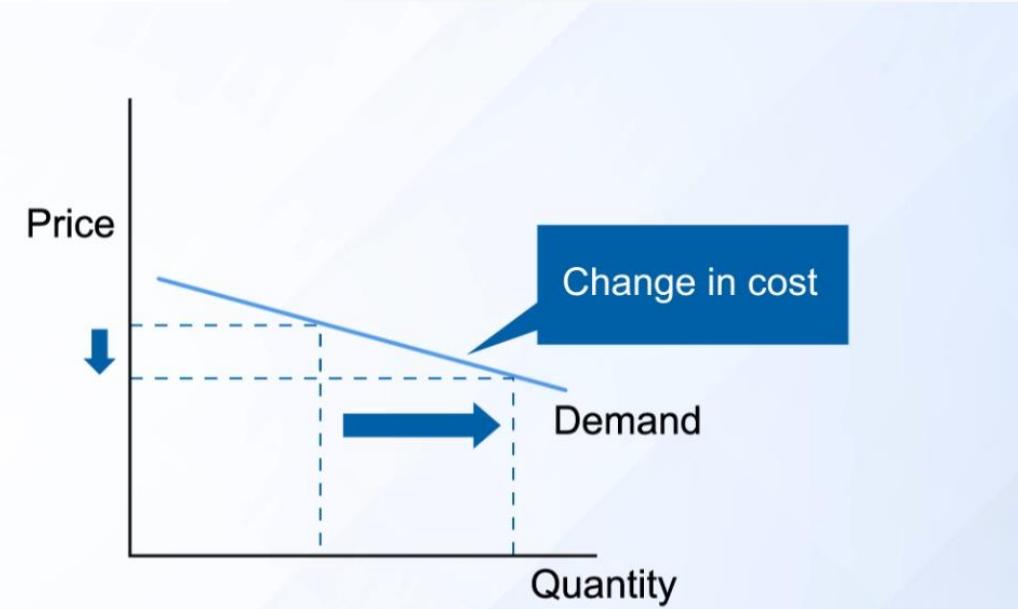
Profit



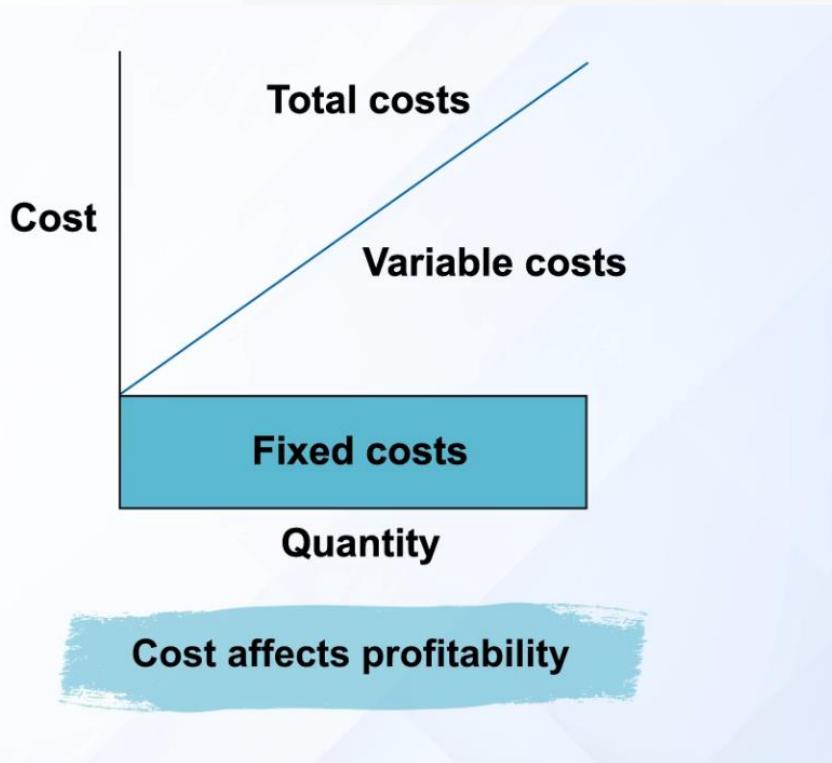
Calculating Profit

Profit = (Price × Sales) – (Variable Cost × Sales) – Fixed Cost

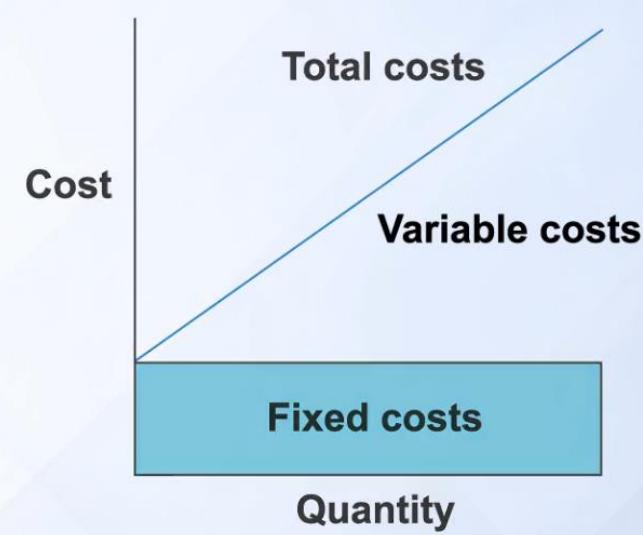
Relationship Between Price and Demand



Types of Costs



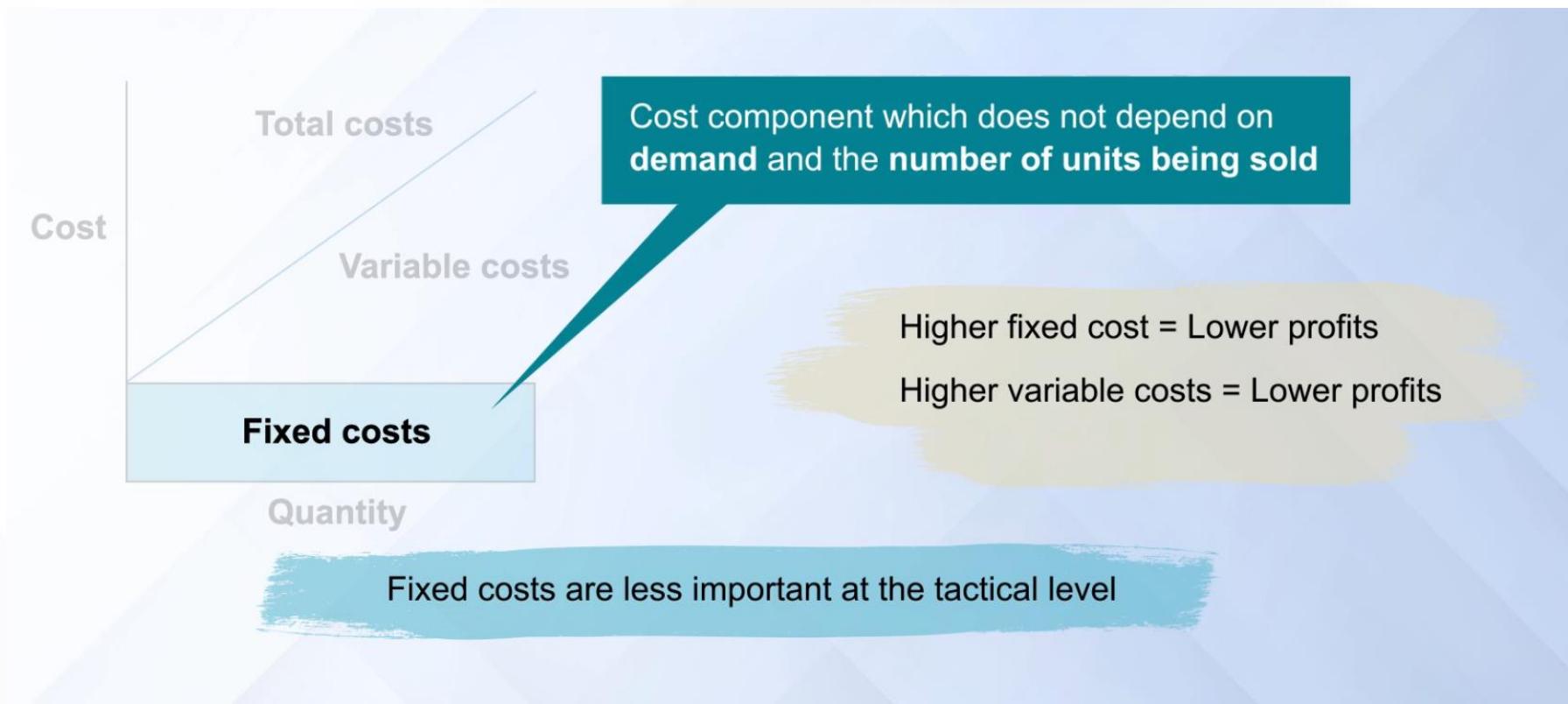
Variable Costs



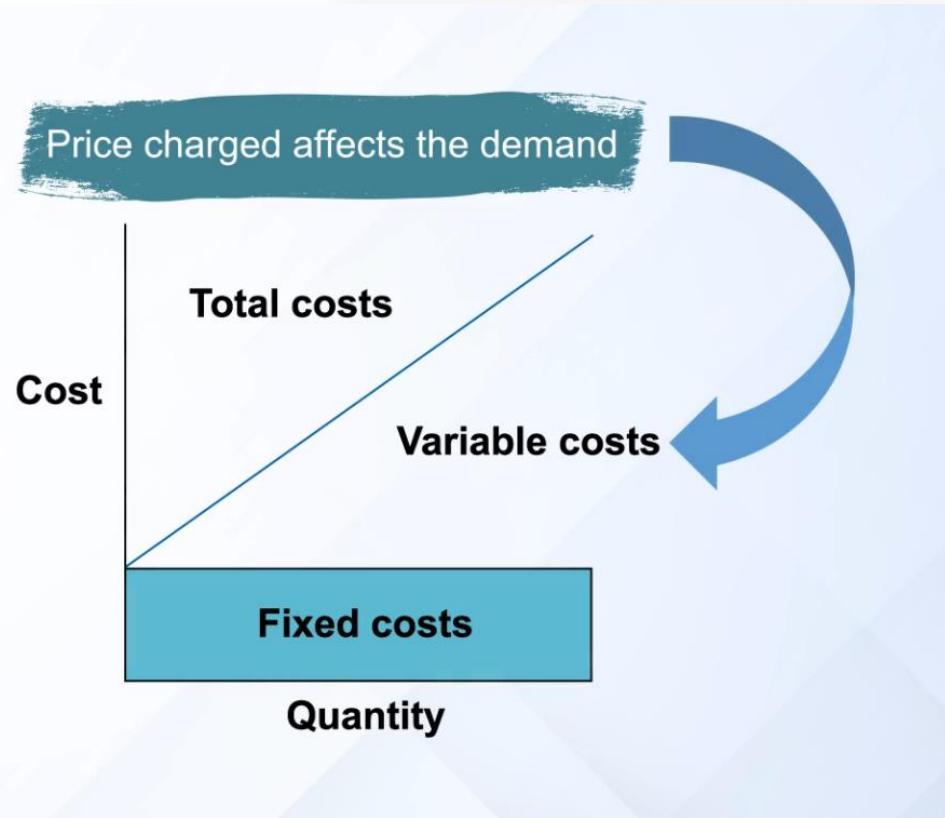
Variable Costs



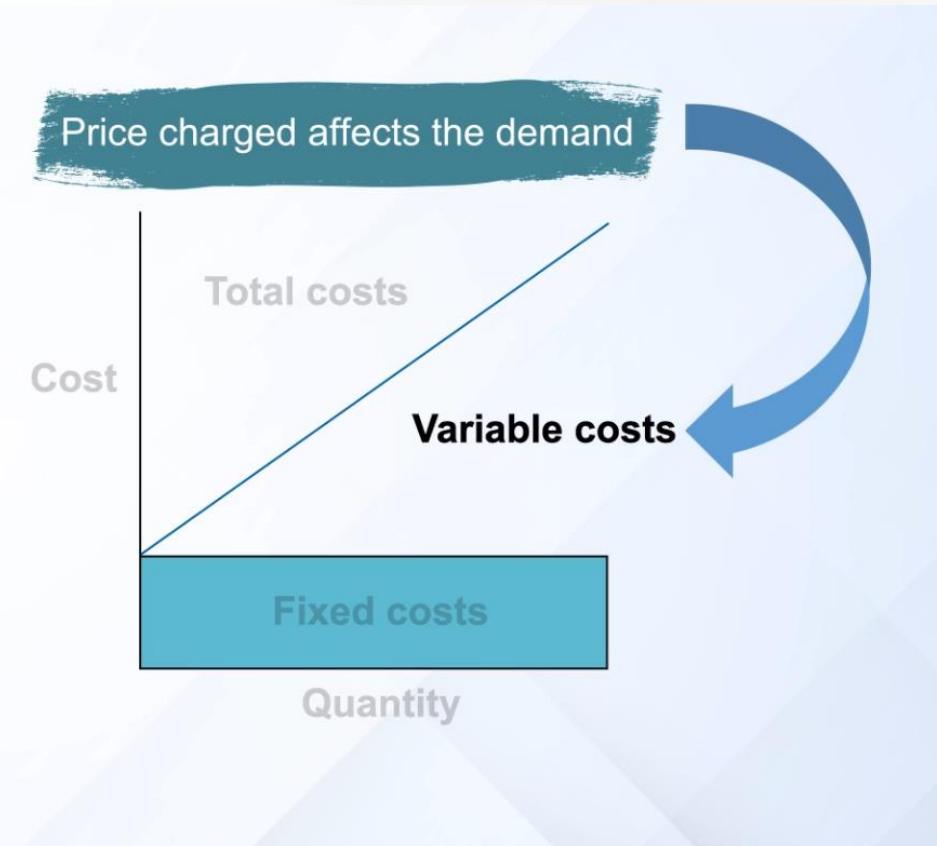
Fixed Costs



Effect of Price on Fixed and Variable Costs



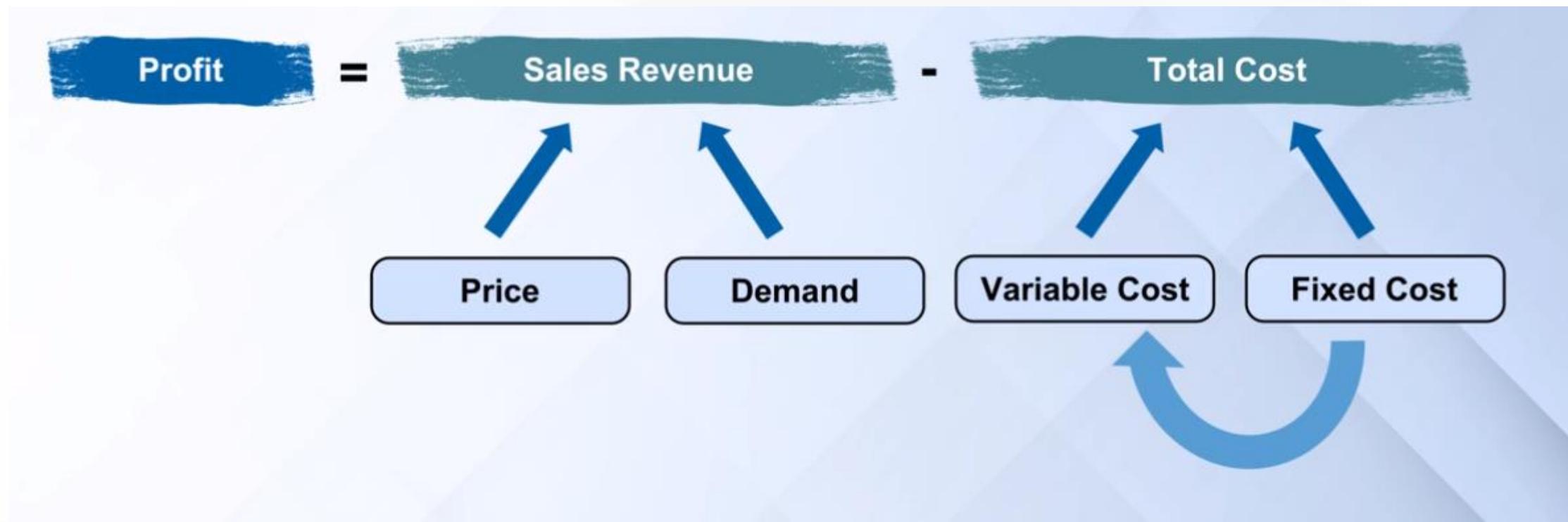
Effect of Price on Fixed and Variable Costs



Converting Fixed Costs to Variable Costs

$$\frac{\text{Fixed costs}}{\text{Number of units sold}}$$

Profit/Revenue Maximization Goal



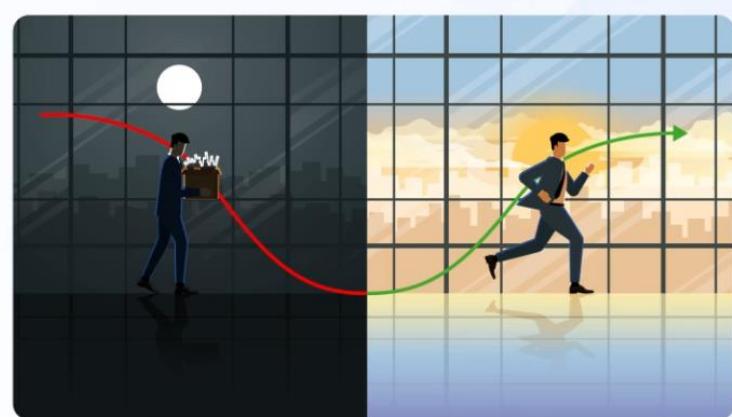
Profit/Revenue Maximization Goal



Profit/Revenue Maximization Goal



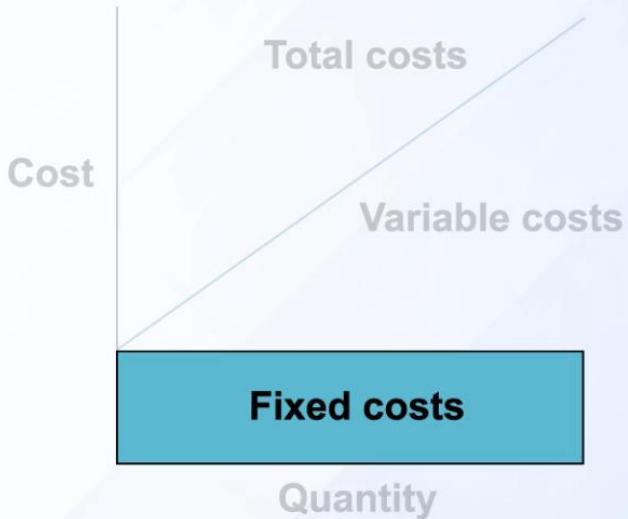
Recover Sunk Costs



- R&D expenditure
- Product development cost

Use analytics/strategies to have higher contribution margin and recover the fixed costs

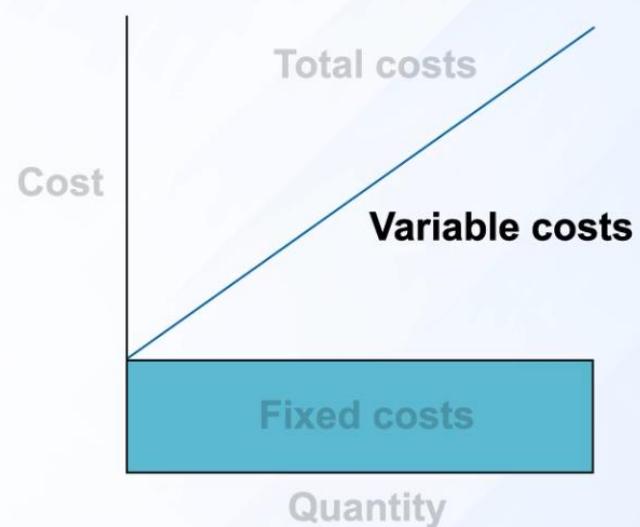
Accounting for Fixed Costs



Decision to continue with manufacturing plant will result in fixed costs:

- Operational costs
- Advertising costs
- Training costs
- Administrative costs

Incremental and Avoidable Costs



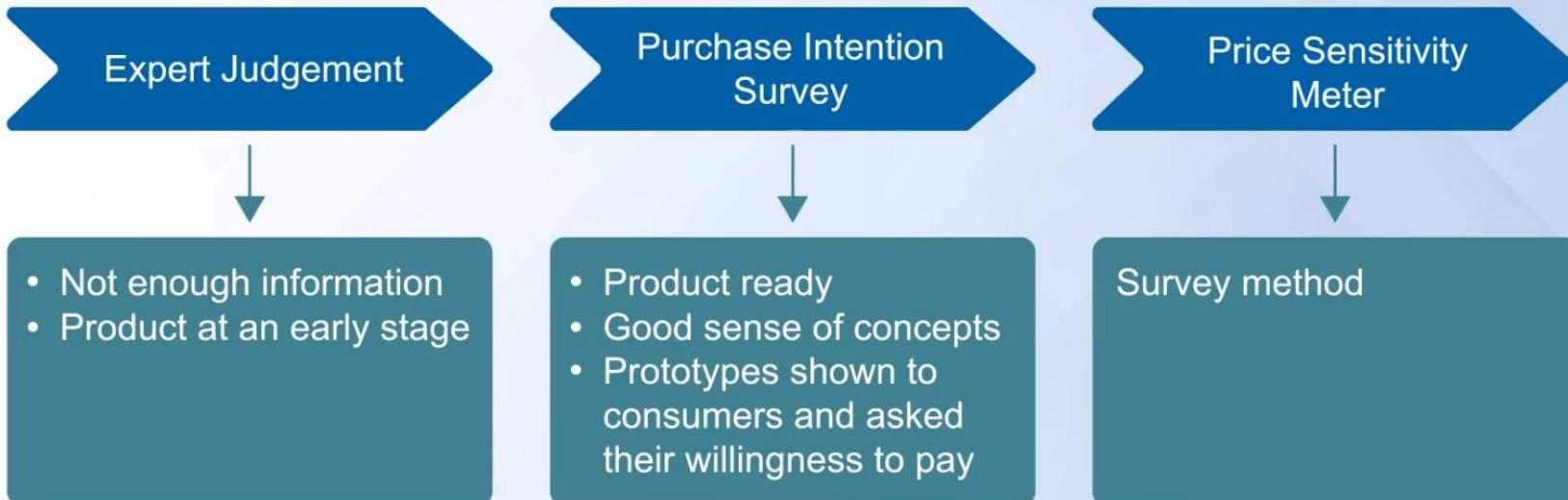
Relevant cost for tactical pricing decisions
should be Incremental and Avoidable

Few Surveys based Estimation Techniques(Expert Judgement)

Estimation of the Relationship Between Price and Demand

-  Look at past data and using analytics
-  Ask consumers about their willingness to pay
-  Use a conjoint study

Methods to Determine Willingness to Pay



Expert Judgement



- Not enough **information**
- Product at an **early stage**
- A rough sense of consumer's **willingness** to pay wanted



- Rely on **experts**
 - Ask the expert about the product
 - Hire a consultant
 - Ask the salespeople and marquee customers about the right price

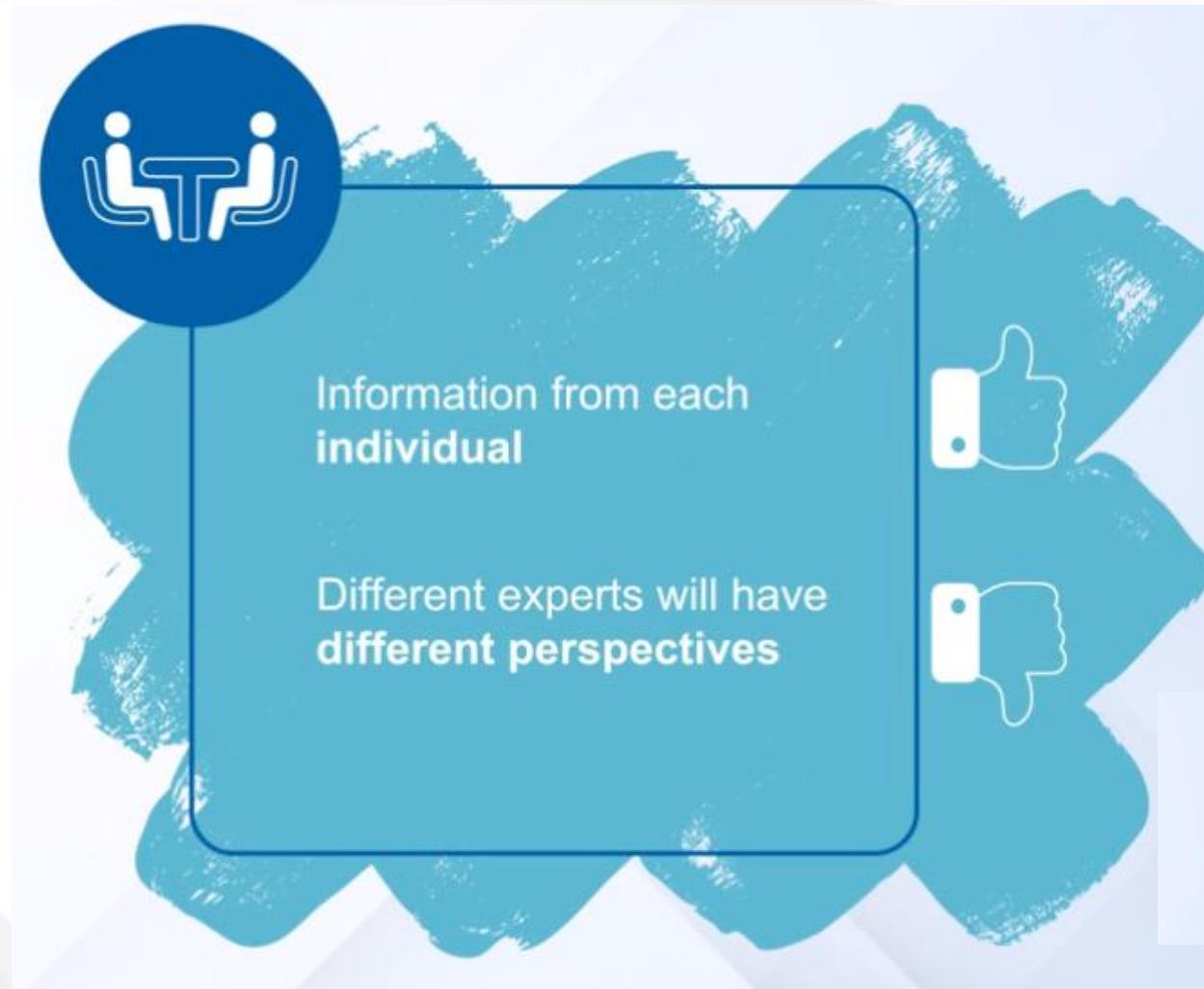
Need for Estimation



Collecting Information from Experts



Personal Interview



Focus Groups



Delphi Method

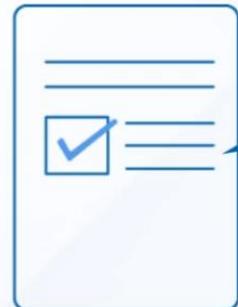


Delphi Method



Send surveys

- Product description is provided with the survey



1. What kind of price
should we think about?

Delphi Method



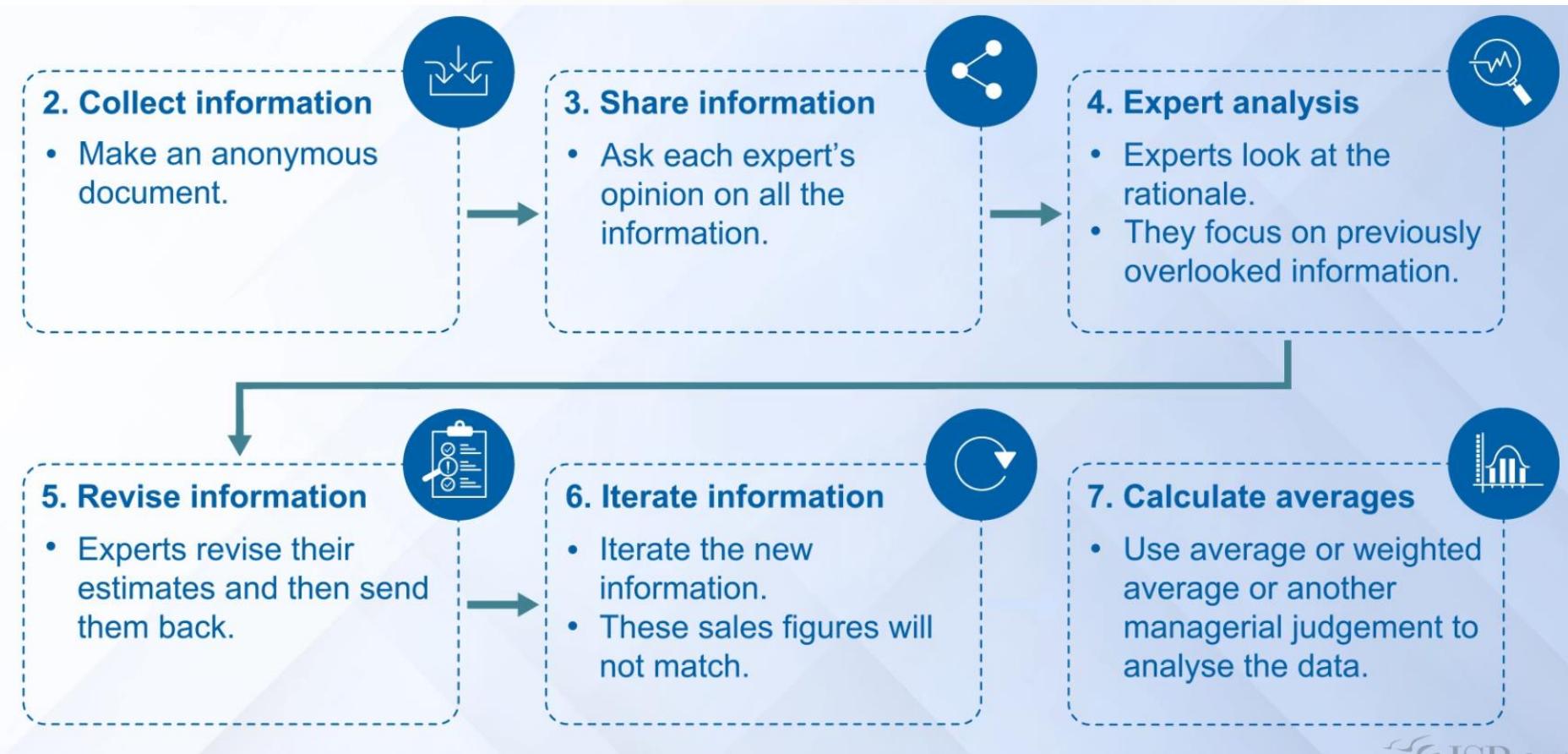
Send surveys

- Product description is provided with the survey



2. What kind of sales can we expect in a particular region?

Delphi Method



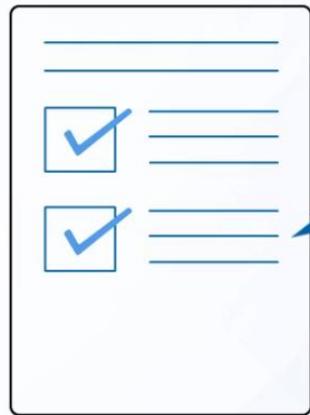
Delphi Method: An Example



Delphi Method: An Example

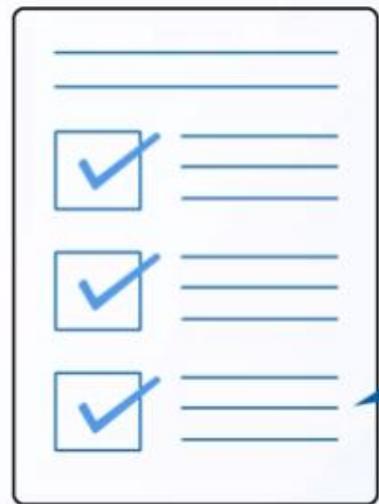


Delphi Method: An Example



What is the highest
realistic price and the
associated sales
volume?

Delphi Method: An Example



What is the expected
sales volume at the
“medium” price?

Expert Judgement: Product Development Stage

Survey
results

Survey
results

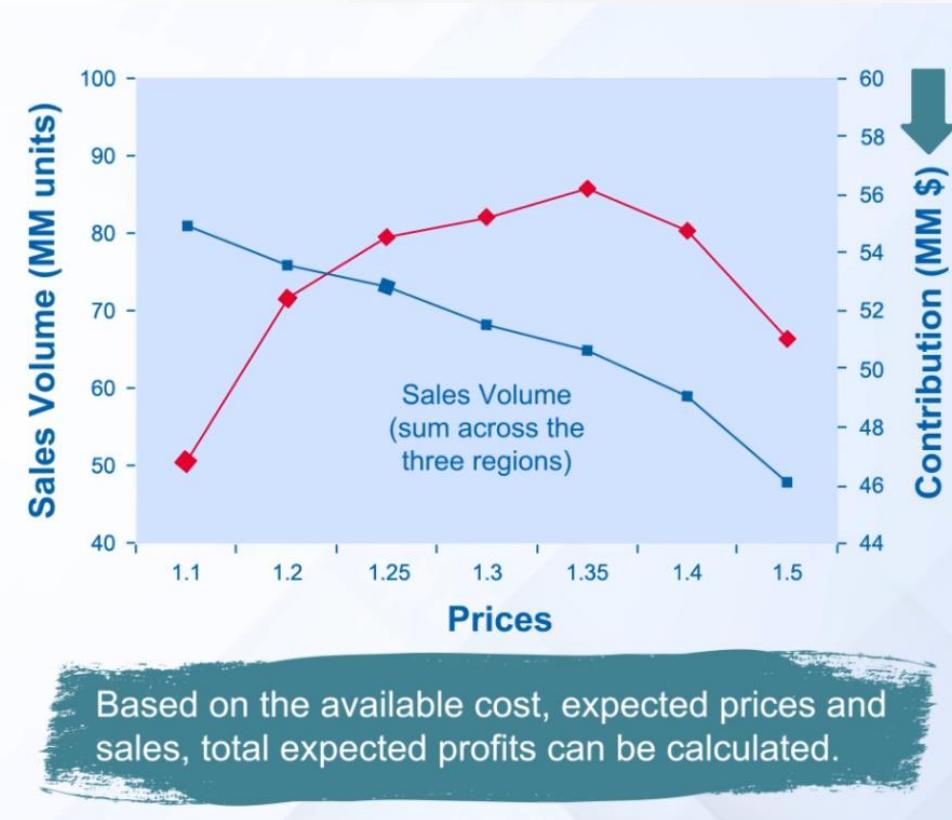
Survey
results

A lot of discrepancies found in
the estimates



Collate information, and send it
back to the experts for revision

Aggregate Price Response(Based on Expert Judgements)



Few Survey Based Estimation Techniques (Purchase Intention Survey)

Price Estimation



Consumers are presented the product concept and surveyed on their willingness to buy.

Purchase Intention Survey



**Underplay the price and focus
on quality in purchase
intention survey**

Purchase Intention Survey

How likely are you to buy this product/service at 30\$?

- 
- I would **definitely** buy
 - I would **probably** buy
 - I might, or **might not** buy
 - I would **probably not** buy
 - I would **definitely not** buy

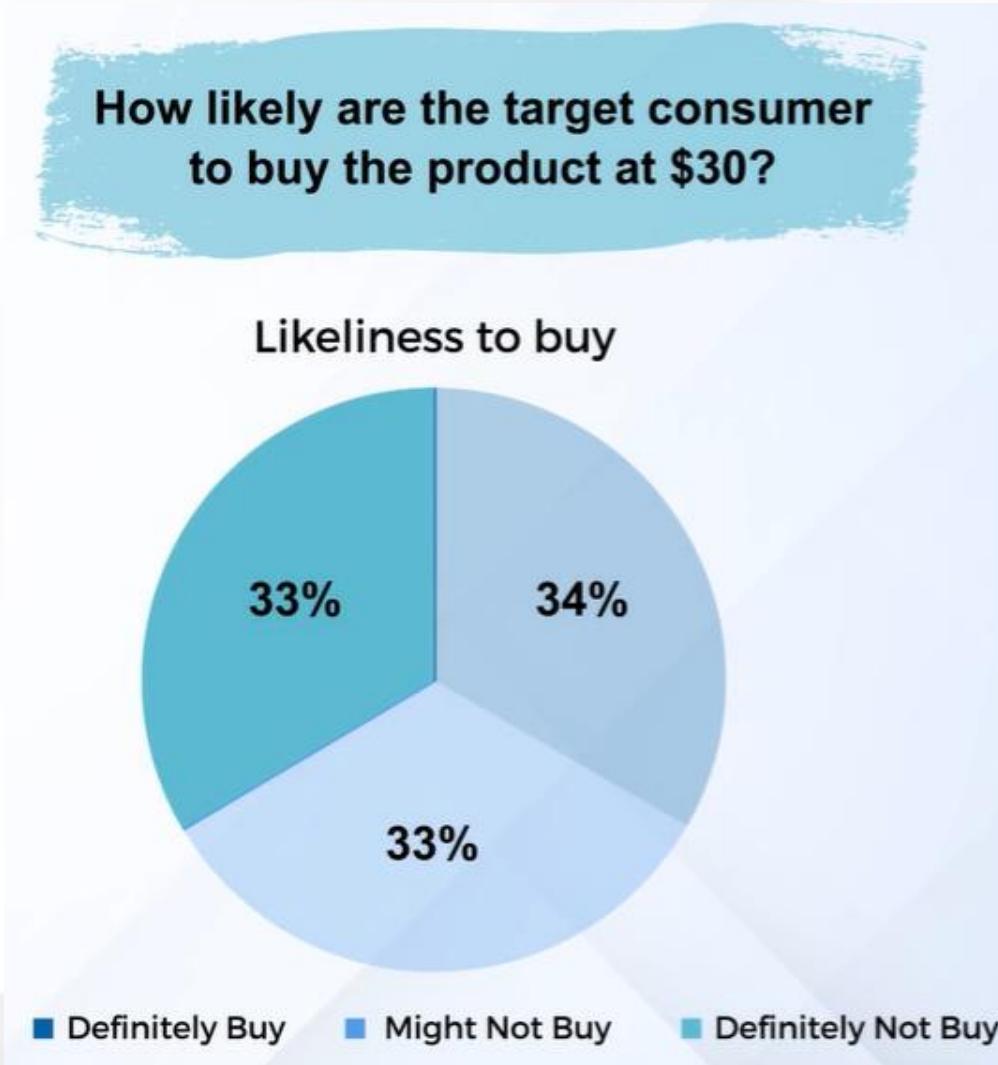
Purchase Intention Survey (Kodak Instant Camera)



How much would consumers be willing
to pay for Kodak's Polaroid camera?

All brand, product and company names are trademarks™ or registered® trademarks of their respective holders.
Use of them does not imply any affiliation with, endorsement by, or association of any kind between them and program owners.

Purchase Intention Survey (Kodak Instant Camera)



Pricing Survey Concerns



Pricing Survey Concerns

Managers make the mistake of asking the same question again and again to the respondent by changing the price.

How likely you're to buy this product at \$30?

How likely you're to buy this product at \$100?

How likely you're to buy this product at \$10?

What is your willingness to pay?



By repeatedly asking the same question and changing the price, one has essentially brought price to the forefront, instead of the product.

Pricing Survey Concerns



What should be the optimal price point?

Pricing Survey

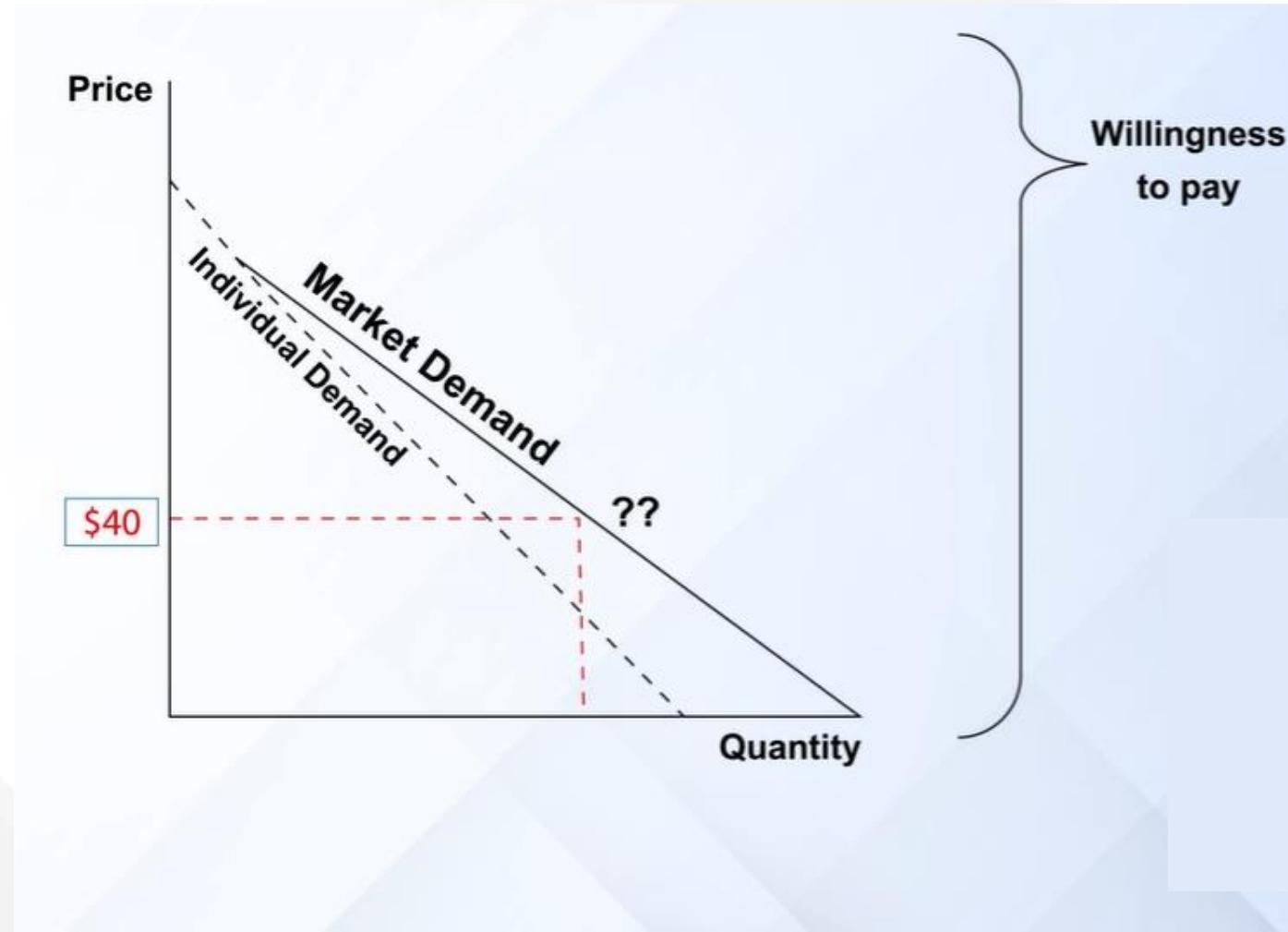


Purchase Intention Survey (Kodak Instant Camera)

	Stated Price		
	\$150	\$80	\$40
1. Definitely would buy	4%	5%	15%
2. -----	-	-	2%
3. Probably would buy	7%	14%	30%
4. -----	1%	2%	4%
5. Probably not buy	22%	24%	18%
6. -----	2%	2%	1%
7. Definitely not buy	65%	54%	30%

Purchase Intentions and Purchase Behavior by Donald G. Morrison, Journal of Marketing 1997

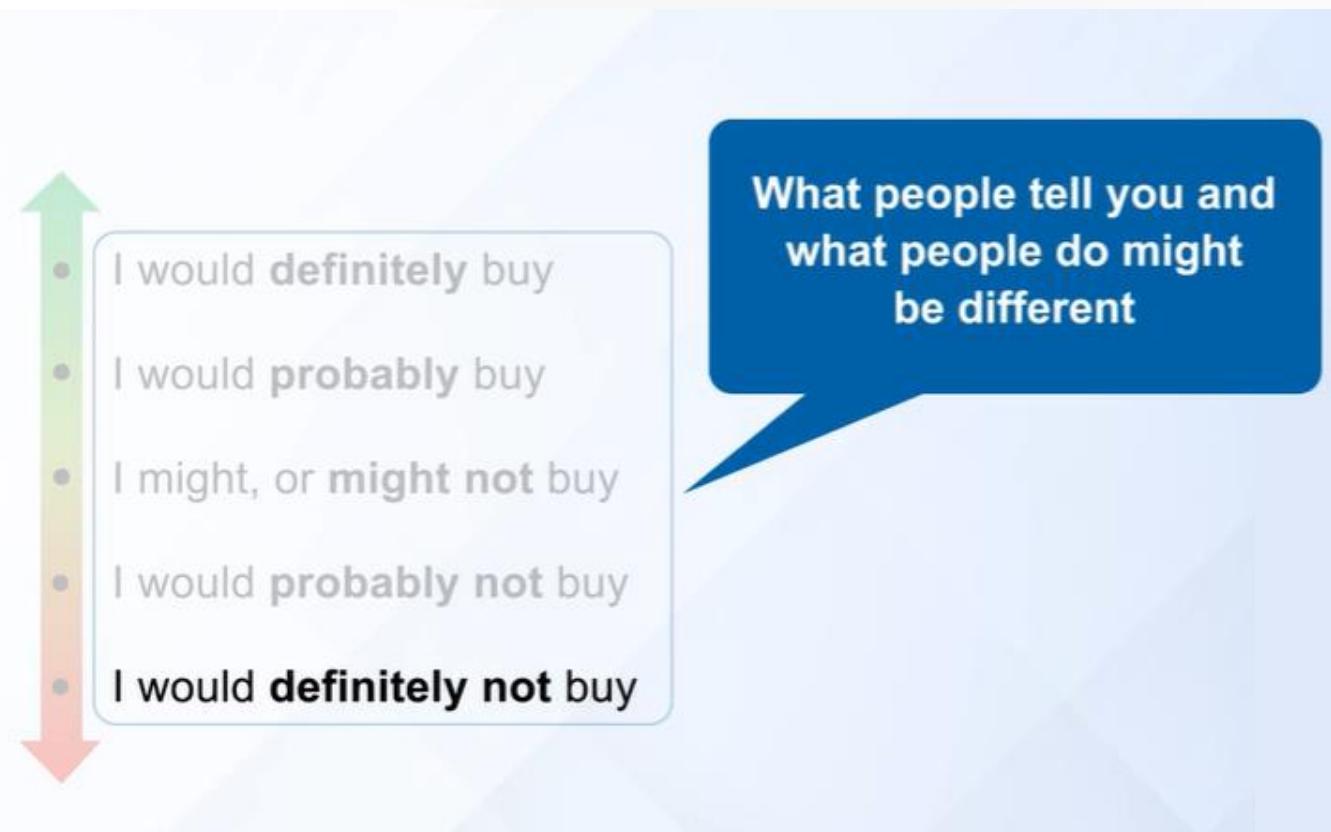
Purchase Intention Survey (Kodak Instant Camera)



Purchase Intention: Biases



Purchase Intention: Biases



Purchase Intention Survey

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Purchase Intention Survey

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7. Definitely not buy	65%	54%	30%

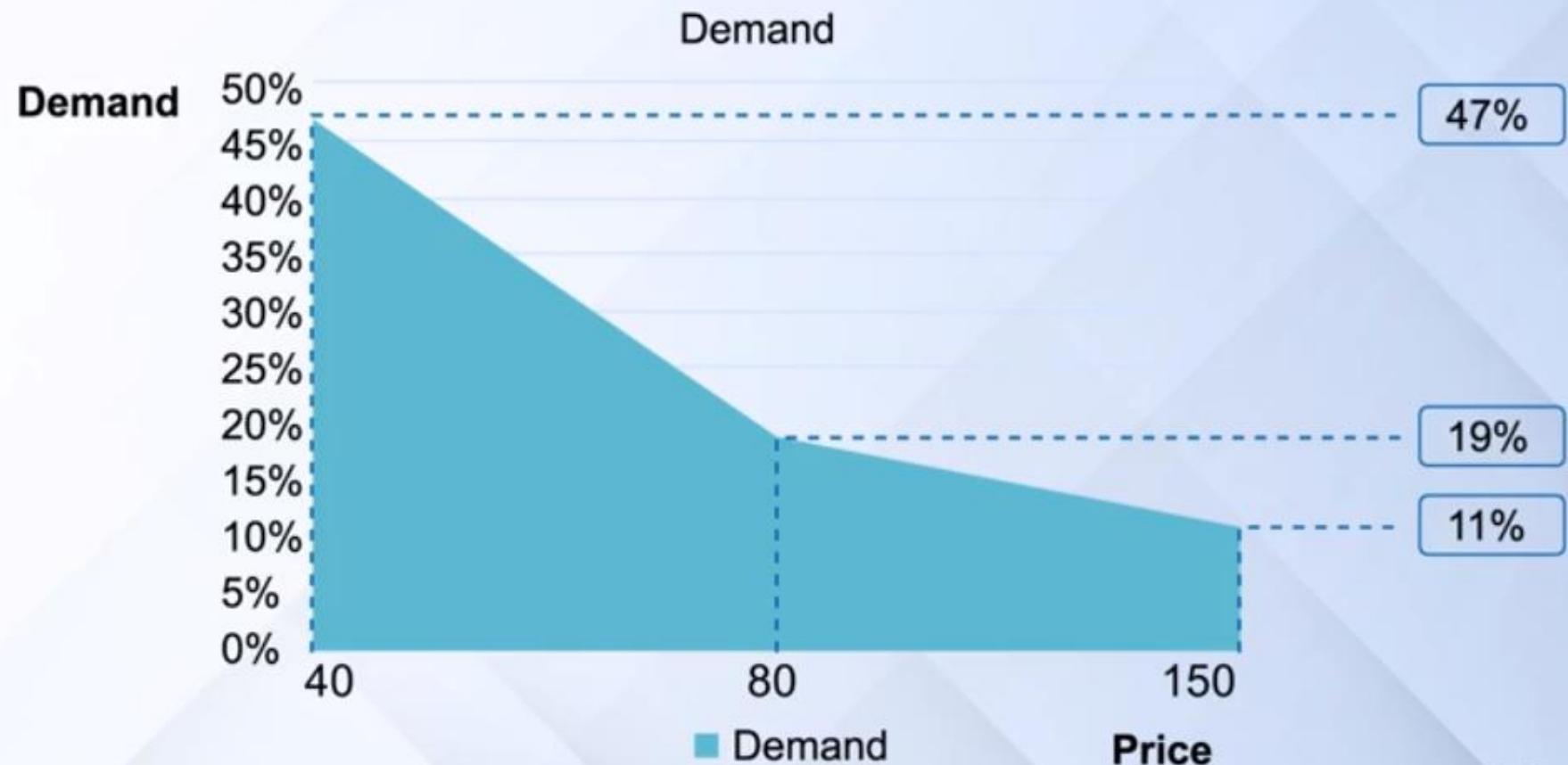
47%

19%

11%

Purchase Intentions and Purchase Behavior by Donald G. Morrison. Journal of Marketing 1997

Demand Curve



Activate
Workplace
Skills

Deciding Optimal Price



Calculating Optimal Prices

Profit = (Price - Variable cost) x Expected demand



$(\$40 - \text{Variable Cost}) \times 47\%$

$(\$80 - \text{Variable Cost}) \times 19\%$

$(\$150 - \text{Variable Cost}) \times 11\%$

Any price can be tested to know the optimal price
for maximum profit.



Few Survey Based Estimation Techniques (Van Westendorp Price Sensitivity Meter)

Price Sensitivity



Minimizing the Risk While Buying



Minimizing the Risk While Buying



Price Perceptions



Price Expectations and Tolerances

Four questions to ask:



At what price do consumers start doubting the quality of the product?



At what price is the product a good bargain?

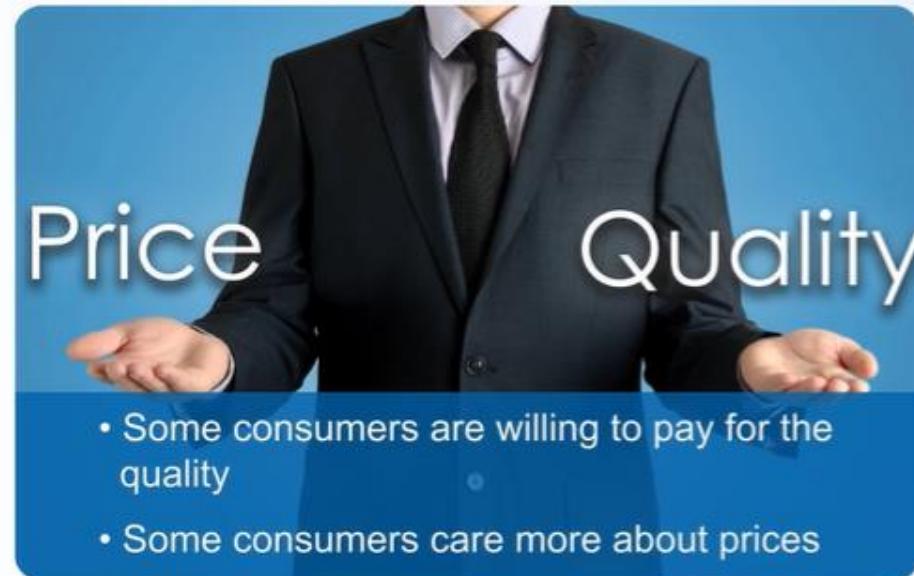


At what price consumers will still buy the product for its quality?



At what price do consumers feel that the product is unaffordable?

Price Expectations and Tolerances



The image shows a man in a dark suit and tie standing behind a balance scale. The word "Price" is written in large white letters on the left pan of the scale, and the word "Quality" is written in large white letters on the right pan. The man's hands are positioned at the bottom of the scale, holding it steady. The background is a solid blue color.

- Some consumers are willing to pay for the quality
- Some consumers care more about prices

Price Range Estimate

Four questions to ask:

1. At what price do consumers start doubting the quality of the product?
2. At what price is the product a good bargain?
3. At what price consumers will still buy the product for its quality?
4. At what price do consumers feel that the product is unaffordable?

Price Range Estimate

Four questions to ask:



1. At what price do consumers start doubting the quality of the product?

Customer is
price sensitive

2. At what price is the product a good bargain?



3. At what price consumers will still buy the product for its quality?

Customer is
price sensitive

4. At what price do consumers feel that the product is unaffordable?

Demand Estimate

Four questions to ask:

1. At what price do consumers start doubting the quality of the product?



2. At what price is the product a good bargain?

Customer is quality sensitive

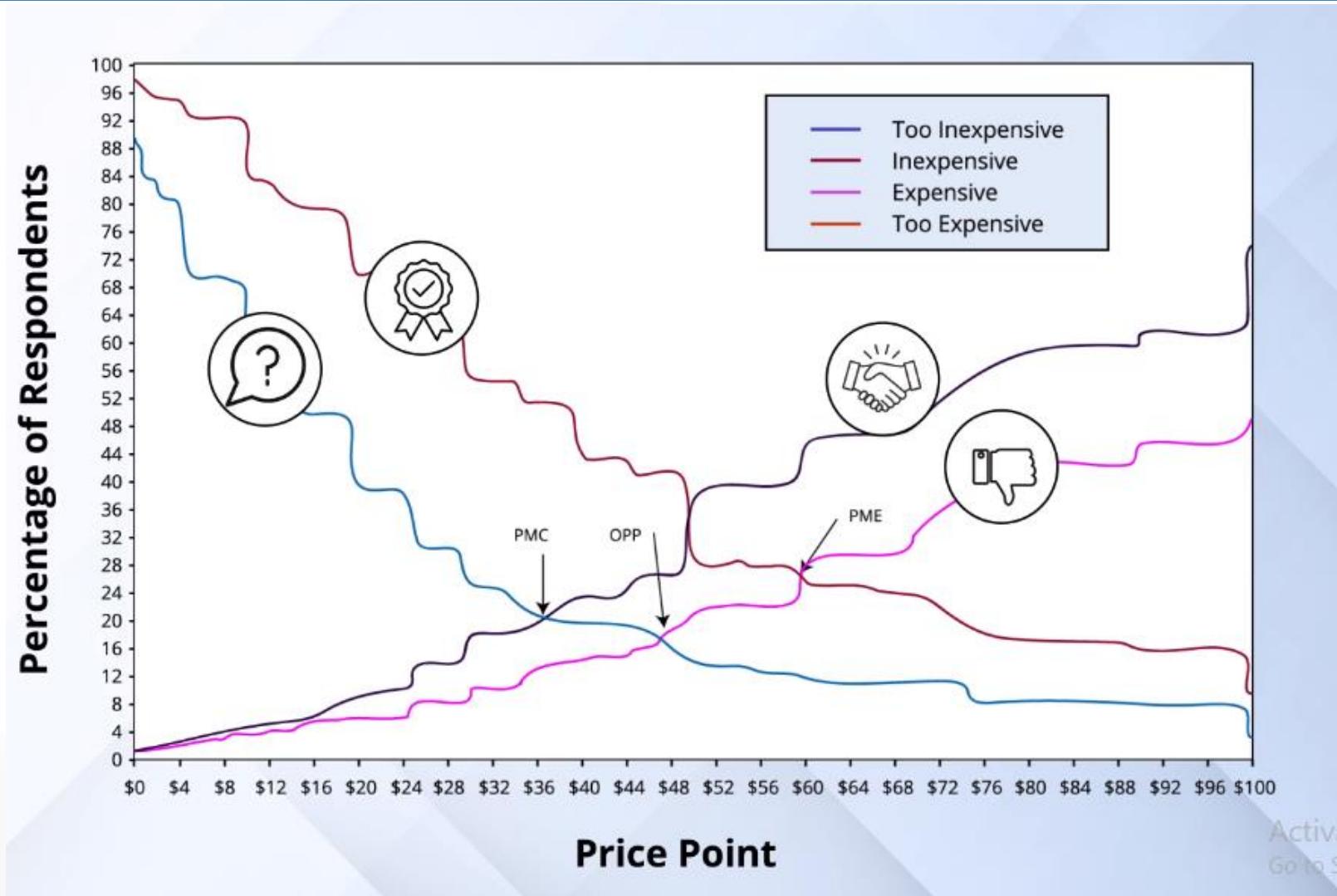
3. At what price consumers will still buy the product for its quality?



4. At what price do consumers feel that the product is unaffordable?

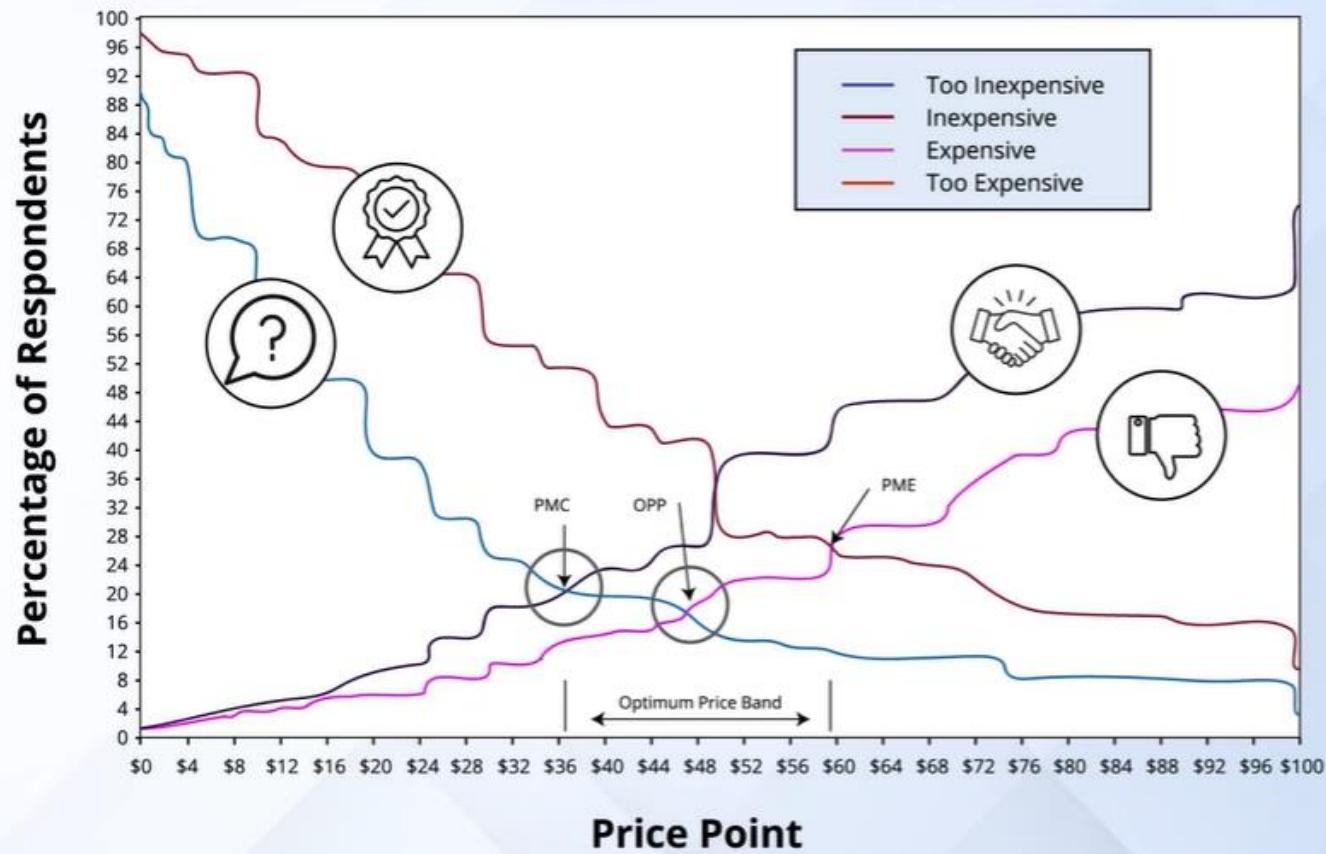
Customer is quality sensitive

Price Range Estimate- Maximize Buying Probability



Activate
Go to S...

Price Sensitivity Meter



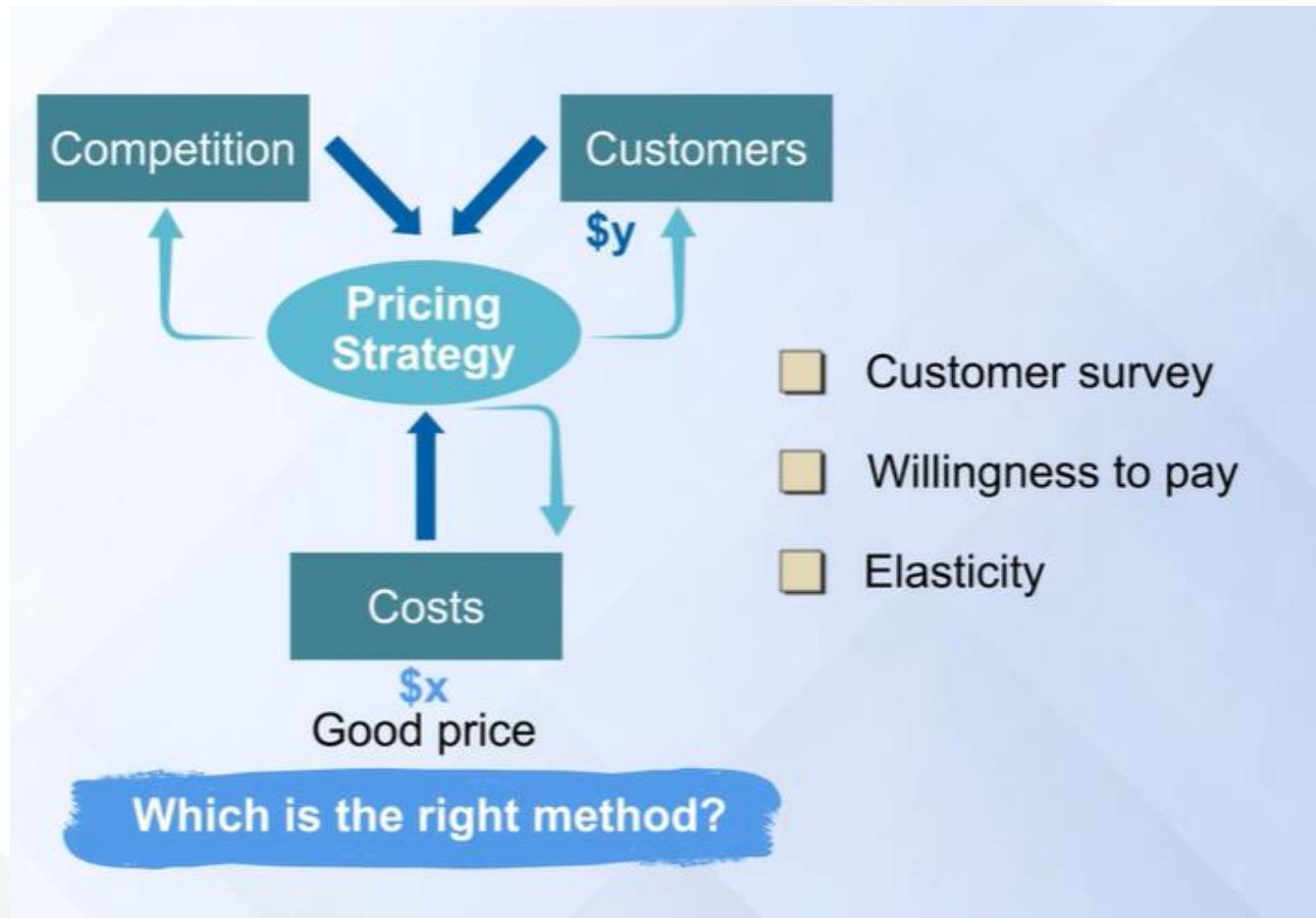
- **PMC** – Point of Marginal Cheapness
- **PME** – Point of Marginal Expensiveness
- **OPP** – Optimal Price Point

Strategic Pricing

Methods of Pricing Strategy



Right Pricing Method



Marketing Mix: 4Ps



Investment by Firms



Pricing

Firms must focus on pricing since it flows through all other things.

Demand is very tightly related to the prices and profitability.

Cost Plus Pricing

Price should cover the costs and help achieve profit objectives.



Price = Unit cost + Expected rate of return (Markup)

Cost Plus Pricing: Right Approach

Short Run: How much sales gain (loss) would be required (tolerable) to profit from a price cut (increase)?



Long Run: What costs can we afford to incur and still earn a profit?

Competition-Based Pricing



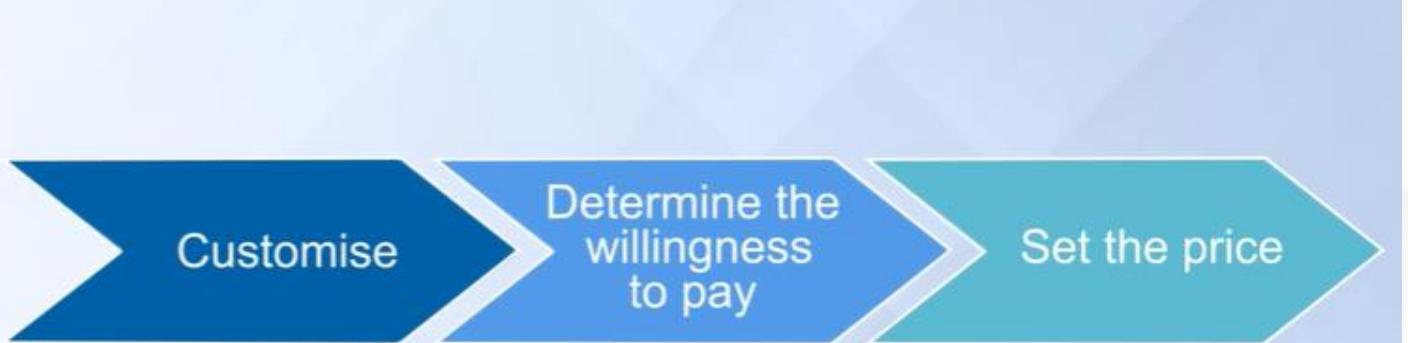
Unidimensional approach : The price is determined based on the prices offered by competitors.

Right approach: What shares of market can be served profitably?

Market Scenario



Sales-Based Pricing



Wrong approach: Because the cost is not considered

Wholesome Pricing Strategy



Customer Evaluation



While collecting the information from the customers, their perceptions and needs are considered.

The conjoint analysis helps convert customer needs and benefits into the monetary value.

Pricing: Key Considerations



Pricing: Key Considerations



$$\text{Unit cost} = \text{Variable cost} + \frac{\text{Fixed cost}}{\text{Expected unit sales}}$$

Account for variable cost during price setting

Fixed Cost



Important for product launch decision



Not important at the price setting level

Summary

Common pricing Approaches

**Common pricing
approaches**

**Why and how is
pricing so
important?**

McKinsey Study

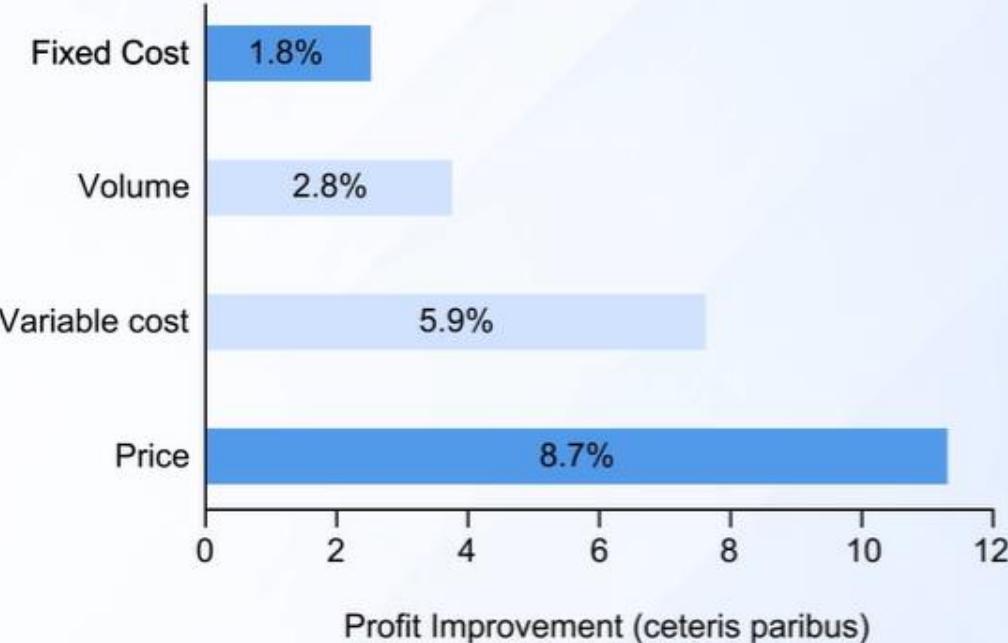


Exhibit 1-2 from "The Price Advantage" by Baker, Marn, and Zawada

Price Anchors

Common pricing approaches

Why and how is pricing so important?

Primary anchors when firms think about pricing

- Cost
- Competition
- Customers

Role of Cost

Common pricing approaches

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Role of cost in pricing decisions

- How to think about variable and fixed cost?
- How to take cost into account in pricing decisions?

Relationship Between Price and Sales

Common pricing approaches
Why and how is pricing so important?

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Relationship between price and sales

- It is critical
- It is important to understand the relationship

Measure Willingness to Pay

Common pricing approaches

Why and how is pricing so important?

Primary anchors when firms think about pricing

- Cost
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Willingness to pay

What impact will change of price have on demand?



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