TVM Difficult Formulas

- The future value of an annuity is given by: $FV = C \times \frac{(1+r)^t - 1}{r}$.
- Mortgage Payment is the monthly amount required to fully repay a loan with value PV over time. The formula is: $PV = \text{Mortgage Payment} \times \text{PVAF}_{\text{monthly}}$.
- Effective Annual Interest Rate (EAR) is more accurate: $EAR = (1 + MR)^{12} - 1$.
- Annual Percentage Rate (APR) is a simple approximation: $APR = MR \times 12$.

Introduction to Platforms

Traditional System vs. Platform

1. Traditional Linear Value Chain: Design $\rightarrow$ Manufacture $\rightarrow$ Sell $\rightarrow$ Deliver (Outbound)
2. Platform Model: Producers $\rightarrow$ Platform $\leftarrow$ Consumers (Inbound)

Advantages of Platforms

1. Market Signals Replace Gatekeepers: Kindle allows anyone to publish, unlike traditional publishing with editorial selection.
2. Sharing Economy & Idle Assets: Airbnb expands without owning properties, reducing risk compared to Marriott.
3. Feedback Loops: YouTube comments indicate content quality.

Network Effects

Power of Network Effects

In Uber, riders attract drivers, and drivers attract riders. More users = more value.

> **Note**
>
> Types of Network Effects
>
> | Side / Effects | Positive | Negative |
> |---|---|---|
> | Same-side | Users benefit when more users join their side. | More users increase competition. |
> | Cross-side | Users benefit when more users join the opposite side (e.g., Visa, Mastercard). | More users may cause matching problems (e.g., poor gender ratio on dating apps). |
>
> Remark: Virality attracts users, but network effects retain them.

Monetization Strategies

Since platforms don’t sell directly, common monetization models include:

1. Transaction Fees: Upwork charges fees but adds value (project monitoring, secure payments, dispute resolution).

2. Access Fees: LinkedIn charges recruiters for job listings and targeted hiring.
3. Enhanced Access/Lower Barriers: Dating sites allow profile viewing but hide identities unless paid.
4. Enhanced Curation: Premium models for better experiences.

> ✓ Success
>
> General Monetization Principles
>
> 1. Don't charge for something that was free.
> 2. Don't restrict access to accustomed value.
> 3. Provide additional value rather than removing it.

Success Metrics

- Platforms succeed through network effects.
- Measure successful interactions rather than traditional pipeline metrics.

> ⓘ Info
>
> Key Metrics by Phase
>
> Metrics should be actionable, accessible, and auditable.

Phase	Key Metrics
Startup	Growth of active producers & customers, liquidity, matching quality, trust (platform-specific).
Growth	Retention, producer-consumer ratio, conversion rate.
Maturity	Innovation, adaptability to competition.

Future of Platform Revolution

Industries Benefiting from Platforms

1. Information-Intensive: Knowledge-driven fields.
2. Non-scalable Gatekeepers: Retailing, publishing.
3. Highly Fragmented: Yelp, Uber, Airbnb.
4. Extreme Information Asymmetry: Carfax, health insurance, home mortgage.

Industries Resistant to Platforms

1. Highly Regulated: Banking, education, healthcare.
2. High Failure Costs: Healthcare (misdiagnoses, wrong treatments).
3. Resource-Intensive: Oil and gas industry.

Marketing Core Concepts

Needs, Wants, and Demands

- Needs are essential for survival or well-being (e.g., food, shelter, safety).

- Wants are shaped by culture, society, and individual preferences (e.g., craving sushi instead of just food).
- Demands are wants combined with purchasing power (e.g., wanting a luxury car and being able to afford it).

Marketing

Marketing is about creating and delivering value to customers while also capturing value in return for the business.

> **Note**
>
> Marketing Myopia
> Occurs when businesses focus too much on current products and customer wants instead of underlying needs, which can cause them to miss new opportunities (e.g., Kodak ignoring digital photography).

Evolution of Marketing

> **Info**

Period	Focus	Concept
Industrial Revolution	Production	Prioritized efficiency and mass production under the assumption that consumers prefer affordable and widely available products.
Early 20th Century	Product	Focused on innovation and quality, but often led to marketing myopia by ignoring actual customer needs.
1930s	Selling	Relied on aggressive sales tactics for unsought goods (e.g., life insurance, encyclopedias).
1960s	Marketing	Shifted towards understanding and satisfying customer needs using the 4Ps: Product, Price, Place, Promotion.
21st Century (Digital Era)	Platform	Emphasizes relationship-building and customer engagement to create long-term value.

Modern marketing revolves around Customer Relationship Management (CRM): attracting, retaining, and growing profitable customers.

STP Strategy

Segmentation (S)

Dividing a market into smaller, distinct groups based on shared characteristics (e.g., age, income, lifestyle, behavior).

Targeting (T)

Selecting the most valuable market segments to focus on (e.g., high-income consumers for luxury brands).

Positioning (P)

- Creating a unique and valuable perception in customers' minds.

- Differentiating the product to stand out from competitors (e.g., Tesla as an innovative, eco-friendly brand).

> ✓ Success
>
> Delivering Customer Value
>
> Companies should excel in one of the following while keeping the rest at industry standards:
>
> 1. Operational Excellence – Focus on efficiency, low costs, and streamlined operations (e.g., Walmart, McDonald's).
> 2. Customer Intimacy – Build strong relationships and tailor products/services to customer needs (e.g., Ritz-Carlton, Amazon Prime).
> 3. Product Leadership – Drive innovation and cutting-edge products (e.g., Apple, Tesla).

Types of Business Models

Product-Centric Model

1. Focus on developing high-quality products at scale.
2. Challenges include shorter product lifecycles and intense competition.

Customer-Centric Model

1. Prioritize long-term customer value over short-term profits.
2. Emphasizes customer acquisition, retention, and development to maximize loyalty and lifetime value.

Customer Lifetime Value Core Concepts

- Customer Lifetime Value (CLV) is the net present value of all future profits from a customer relationship.
- CLV helps set spending limits for acquiring and retaining customers.

CLV Model

Implications

> Example
>
> Margin: $\$10$, Retention cost: $\$5$, Retention rate: 0.995, Discount rate: 1%.
>
> Solution:
>
> $$CLV = (M - R)\left(\frac{1+d}{1+d-r}\right) = (10-5)\left(\frac{1+0.01}{1+0.01-0.995}\right) = \$336.7.$$
>
> Remark: The margin M is the revenue minus variable costs per customer.

Tip

Survival Rate: The probability a customer remains after t periods is r^{t-1}.

Warning

CLV should be calculated within the same period since retention rates improve over time.

Some Extensions

- Low retention + high discount rate → Most CLV comes from early periods.
- High retention + low discount rate → CLV spreads over many periods.
- If revenue is earned after service delivery:

$$CLV = (M - R)\left(\frac{r}{1 + d - r}\right).$$

Customer Acquisition

Example

An airline wants to acquire customers. Retention rate: 70%. Each customer spends $\$450$ twice a year. Variable cost: $\$220$. Find the max acquisition cost. Assume a 5% discount rate.

Solution:

1. Margin per purchase = $\$450 - \$220 = \$230$.
2. Yearly margin = $2 \times \$230 = \$460$.
3. CLV = $\dfrac{460(1 + 0.05)}{1 + 0.05 - 0.7} = \$1380$.

Managerial Decisions

- Target segments with high CLV.
- Allocate marketing budget based on CLV.
- Avoid spending on customers with negative CLV.

Definition and Importance of Pricing

- Pricing: Sum of values exchanged for product benefits; amount charged.
- Crucial as the only revenue-generating P.
- Tactical and dynamic, influenced by economy.

Factors Influencing Price

Internal Factors

- Marketing Objectives: Survival, profit maximization, market share leadership, product quality leadership, competitive entry barriers, reseller support, cost recovery.
- Marketing-Mix Strategy: Alignment with product, distribution, promotion; consider price vs. non-price competition.
- Costs: Determine the floor price; types: fixed, variable, total, average, marginal.
- Organization: Decisions on who sets prices.

External Factors

- Market & Demand: Competition (pure, monopolistic, oligopolistic, monopoly), Price Elasticity (elastic vs. inelastic, cross-elasticity).
- Competition: Acts as a reference; consider responsiveness and product homogeneity.
- Consumer Perceptions: Price-quality relationship, price as a cue.
- Other: Economic conditions, distributor reactions, government regulations.

Major Considerations

- Costs: Floor price / Demand: Ceiling price.
- Competition & External Factors: Influence pricing within these limits.

Pricing Strategy

New-Product Pricing

- Price Skimming: High initial price for profit from less price-sensitive segments. Use when: segmented elasticity, image support, safety/hedge, manageable low volume costs, no immediate competition.
- Price Penetration: Low initial price for rapid market share. Use when: price-sensitive consumers, experience curve effects, potential competition.

Cost-Oriented Pricing

- Markup Pricing: Add a percentage to cost (based on cost or sales price). Simple but neglects demand.
- Target Return Pricing: Set price for a predetermined ROI at a standard volume.

Demand-Oriented Pricing

- Perceived-Value Pricing: Based on buyer's perception of value; soundest approach.

Other Pricing Strategies

- Odd/Psychological Pricing: Prices below even amounts (e.g., $9.99).
- Loss-Leader Pricing: Low prices on some items to boost other sales/traffic.
- Optional-Product Pricing: Pricing accessories with the main product.
- Captive-Product Pricing: Cheap main product, expensive required accessories.
- Bundled Pricing: Reduced price for combined products.
- Price Discrimination: Different prices based on time, place, customer segment.