Product Management & Customer Profit

- We will discuss metrics used in product strategy and planning

- These metrics address the following questions:
  - What volumes can marketers expect from a new product?
  - How will sales of existing products can be affected by the launch of a new offering?
  - Is brand equity increasing or decreasing?
  - What do customers really want and what they are willing to sacrifice to obtain it?

- Test markets and volume projections enable marketers to forecast sales by sampling customer intentions through surveys and market studies.
- By estimating how many customers will try a new product and how often they will make repeat purchases marketers can establish basis for such projections
- Projections from customer surveys are useful in early stages of product development and in setting the timing for product launch.
- Customer response can be estimated without the expense of full product launch

Trial, Repeat, Penetration & Volume Projections

$$TrialRate(\%) = \frac{First-time\ \ Triers\ \ in\ \ Period\ t\ \ (\#)}{Total\ Population\ \ (\#)}$$

First-time Triers in period t (#) = Total Population (#) * Trial Rate (%)

Penetration t (#) = [Penetration in t – 1 (#) * Repeat Rate Period t (%)] + First-time Triers in Period t (#)

Projection of Sales t (#) = Penetration t (#) * Average Frequency of Purchase (#) * Average Units per Purchase (#)

Trial, Repeat, Penetration & Volume Projections

- **Trial Rate:** percentage of a defined population that purchases or uses a product for the first-time in a given period
- **First-time Triers in Period t (#):** number of customers who purchase or use a product or brand for the first time in a given period

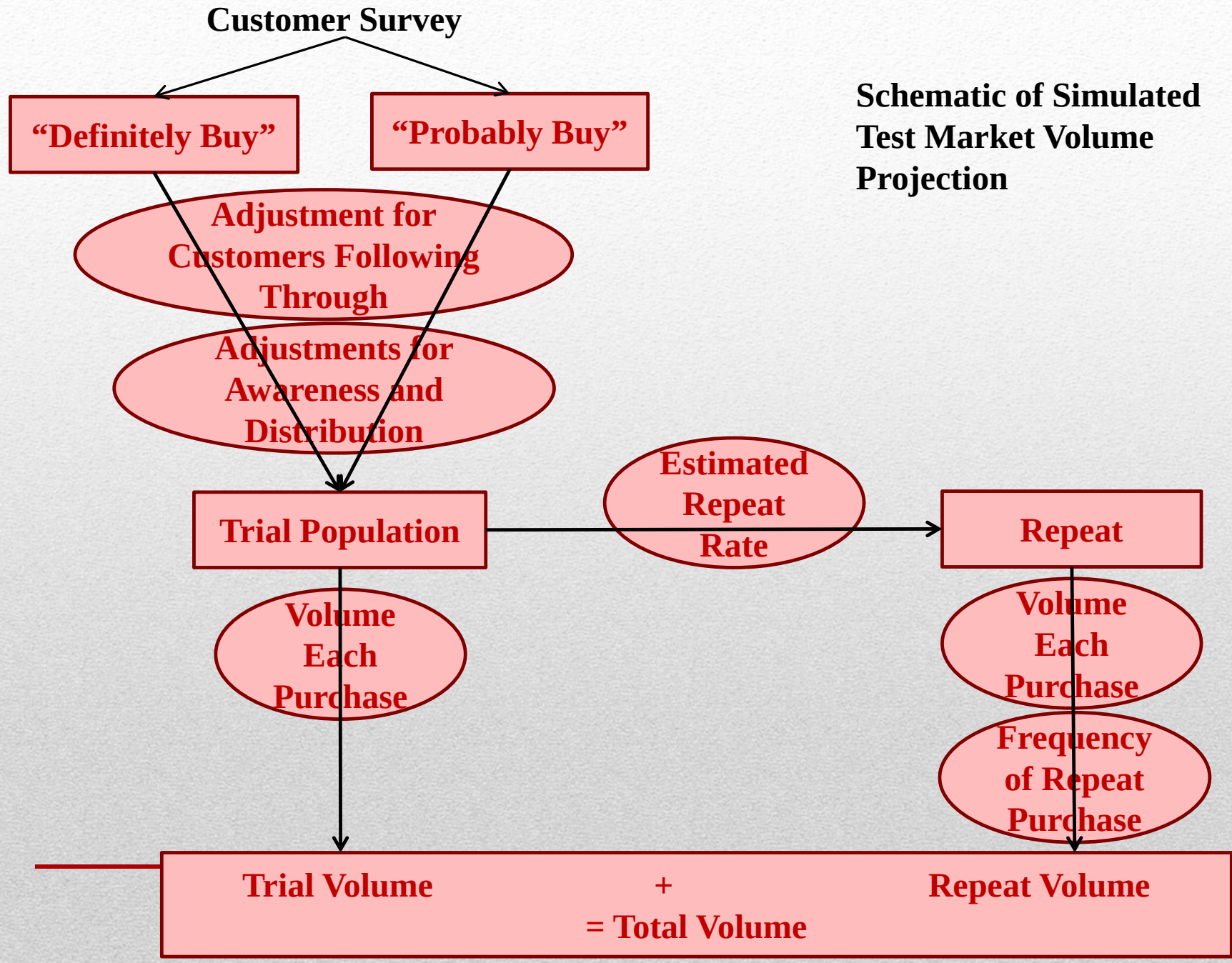
- **Ex:** A cable TV co. started selling a monthly sports package in January. It has 80% repeat rate and anticipates that this will continue for the new offering. The co. sold 10,000 sports packages in Jan. In Feb it expects to add 3000 customers for the package. Calculate expected penetration for the sports package in Feb. Later that year in Sept co. has 20,000 subscribers. Its repeat rate remains 80%. In August it had 18000 subscribers. Management wants to know how many new customers the firm added for its sports package in Sept.

Simulated Test Market

- As all respondents do not follow their declared purchase intentions, firms often make adjustments to the percentages in developing sales projections. Even survey respondents with “definitely buy” are unlikely to do so. Firms typically use an estimated distribution, a percentage of total stores that will stock the new product, such as ACV%
- Models include an adjustment for lack of awareness of a product within the target market which reduces the trial rate as it excludes some potential customers

Adjusted Trial Rate (%) = Trial Rate (%) * Awareness (%) * ACV (%)

ACV is All Commodity Volume which is numeric distribution, weighted by penetrated outlets’ share of sales of all product categories



Schematic of Simulated Test Market Volume Projection

Trial Population (#) = Target Population (#) * Adjusted Trial Rate (%)

Trial Volume (#) = Trial Population (#) * Units per Purchase (#)

Repeat Buyers (#) = Trial Population (#) * Repeat Rate (%)

Repeat rate yield the number of customers who are expected to purchase again after their initial trial.

Repeat Volume (#) = Repeat Buyers (#) * Repeat Unit Volume per Customer (#) * Repeat Occasions (#)

This yields the total volume that a new product is expected to generate among repeat customers over a specified introductory period.

The full formula can be re-written as:

Repeat Volume (#) = [Repeat Rate (%) * Trial Population (#)] * Repeat Volume per Customer (#) * Repeat Occasions (#)

Total Volume (#) = Trial Volume + Repeat Volume

As all the volume must be sold to either new customers or returning customers

Repeating and Trying: Some models assume that customers, after they stop repeating purchases, are lost and do not return. However, customers may be acquired, lost, reacquired and lost again. In general, the trial-repeat model is best suited to projecting sales over the first few periods. Other means of predicting volume include share of requirements and penetration metrics. Those approaches may be preferable for products that lack reliable repeat rates

Related Metrics and Concepts

Ever-Tried: it measures the percentage of the target population that has "ever" purchased or consumed the product under study. Trial, by contrast, is an incremental measure. If a consumer stops buying a product but tries it again six months later, some marketers will categorize that individual as a returning purchaser, others as a new consumer.

Variations on Trial: Certain scenarios reduce the barriers to trial but entail a lower commitment by the than a standard purchase.

- **Forced Trial:** No other similar product is available.
- **Discounted Trial:** Consumers buy a new product but at a substantially reduced price.
- **Evokes set:** The set of brands that consumers name in response to questions about which brands they consider (or might consider) when making a purchase in a specific category.
- **Number of New Products:** The number of products introduced for the first time in a specific time period.
- **Revenue from New Products:** percentage of sales generated by products introduced in the current period or at times 3-5 periods.
- **Margin on New Products:** percentage profit margin on new products
- **Company Profit from New Products:** percentage of company profits that is derived from new products.
- **Target Market Fit:** represents the percentage who belong in the demographic, psycographic, or other descriptor set for that item.

Cannibalization Rates and Fair Share Draw

- Cannibalization is the reduction in sales of a firm's existing products due to the introduction of a new product.
- It represent an important factor in the assessment of a new product strategy

$$Cannibalization\ \ Rate(\%) = \frac{Sales\ \ Lost\ \ from\ \ Existing\ \Pr oducts\ \ (\#,\$)}{Sales\ \ of\ \ New\ \ \Pr oduct\ (\#,\$)}$$

- Fair share draw constitutes an assumption or expectation that a new product will capture sales from existing products in proportion to the market shares of those existing products.

Cannibalization is a familiar business dynamic

A company with successful product that has strong market share is faced by two conflicting ideas.

- First, it wants to maximize profit on its existing product line, concentrating on the current strengths that promise success in short term
- Second, this company or its competitors may identify opportunities for new products that better fit the needs of certain segments.
  - If the company introduces new product it may **"cannibalize"** the sales of its existing products. It may weaken the sales of its proven, successful product line.
  - If the company declines to introduce the new product it will leave itself vulnerable to competitors who ***will*** launch such a product and may thereby capture sales and market share from the company.

  Often when new segments are emerging and there are advantages to being early to market, the key factor becomes **timing of the new product launch**.

- An alternative way to account for cannibalization is to use weighted contribution margin.

- If a new product has a margin lower than that of the existing product that it cannibalizes and if its cannibalization rate is high enough, then its weighted contribution margin might be negative. In that case company earnings will decrease with each unit of the new product sold.

Brand Equity

- **Y&R Brand Asset Valuator:** It maintains that four major dimensions dominate consumers' beliefs about brands:
  - Perceived **differentiation** in the market;
  - **Relevance** to customer lifestyles;
  - **Esteem** the consumers hold the brand and
  - Perceived degree of **knowledge** of the brand that consumers possess
- Can help to assess the strength and trends of brands.
- Stronger brands attain high value across all four measures.
- **Growing brands** show higher values for **differentiation and relevance**.
- **Declining brands** show relatively higher values for **esteem** and **knowledge**

- Leon Ramsellar of Philips Consumer Electronics reported using four key measures in evaluating brand equity:
  - **Uniqueness:** does this product offer something new to me?
  - **Relevance:** is this product relevant for me?
  - **Attractiveness:** do I want this product?
  - **Credibility:** do I believe in the product?

- **David Aaker's Brand Equity Ten:** This brand evaluation technique uses 11 un-weighted tracking measures to diagnose brand strength:
  - Differentiation,
  - Satisfaction/ Loyalty,
  - Perceived Quality,
  - Leadership/ Popularity,
  - Perceived Value,
  - Brand Personality,
  - Organisational associations,
  - Brand Awareness,
  - Market Share,
  - Market Price,
  - Distribution Coverage

- **Brand Equity Methodology (Moran):** this tool looks at year-on-year change and relies on the combination of effective market share, relative price, and durability (loyalty index)

Brand Equity Methodology (Moran I) = Effective Market Share (%) * Relative Price (I) * Durability (Loyalty Index) (I)

Customer Profitability

- *Customer Counts:* no. of customers of the firm for a specified time period

- *Recency:* length of time since a customer's last purchase

- *Retention Rate:* ratio of the number of retained customers to the number at risk

A Customer is a person or business that buys from the firm…

Customer Profit

- ***Customer profit*** is the profit the firm makes from serving a customer or customer group over a specified period of time
- It is important, which customer relationships are better off and which are unprofitable

- ***Customer profitability*** is the difference between the revenues earned from and the costs associated with the customer relationship during a specified period

Overall profitability can be improved by treating dissimilar customers differently

Tiers of Customers

REWARD

Top Tier Customers

Most valuable customers and want to retain most. Look to reward them in ways other than simply lowering price. These customers probably value what you do the most and may not be price sensitive.

GROW

Second Tier Customers

The customers in the middle – with middle to low profits associated with them – might be targeted for growth. You have customers whom you may be able to develop into Top Tier customers with most growth potential.

FIRE

Third Tier Customers

Firm looses money on servicing these people. If you cannot easily promote them to the higher tiers of profitability, you should consider charging them more for the services they currently consume. If you recognize them, it is better not to acquire them.

Acquisition versus Retention Cost

- ***Average Acquisition Cost*:** represents the average cost to acquire a customer and is the total acquisition spending divided by the number of new customers

- ***Average Retention Cost:*** represents the average "cost" to retain an existing customer and is the total retention spending divided by the number of customers retained.

Customer Lifetime Value (CLV)

- Customer lifetime value is the dollar value of a customer relationship based on the present value of the projected future cash flows from the customer relationship.
- When margins and retention rates are constant, following formula can be used:

$$CLV(\$) = Margin(\$) \times \frac{Retention\ Rate(\%)}{1 + Discount\ Rate(\%) - Retention\ Rate(\%)}$$

The CLV model has three parameters:

1. Constant margin (contribution after deducting variable costs including retention spending) per period basically profit
2. Constant retention probability per period and,
3. Discount rate

The model assumes that in the event that the customer is not retained, they are lost for good. The first margin will be received at the end of the first period. Firm uses infinite horizon when it calculates the present value of future cash flows.

Example:

An Internet Service Provider (ISP) charges $19.95 per month. Variable costs are about $1.50 per account per month. With marketing spending of $6 per year, their attrition is only 0.5% per month. At a monthly discount rate of 1%, what is the CLV of a customer?

attrition is opp of retention

Cohort and Incubate

- One can calculate the present value of the *total* cash flows from the cohort of customers and divide by the number of customers to get the average CLV for the cohort.

total cash flows from cohort/ # of customers

- If the value of customer relationships is stable across time, the average CLV of the cohort sample is an appropriate estimator of the CLV of newly acquired customers.
- The cohort and incubate approach works well when customer relationships are stationary – changing slowly over time
- We can use the value of incubated past relationships as predictive of the value of new relationships.

- ‘Cohort’ is a group of individuals with a common statistical trait or characteristic, usually within a demographic. These can be similar level of education, age, political views, etc.
- When we perform a Cohort Analysis, we don’t look at individual users or the user base as a whole but instead split those into groups (cohorts). This is done based on similarity in properties. One of the most common properties to differentiate on is the **user acquisition period**. We can split our customer base into those on boarded in Q1, those on boarded in Q2, Q3, and Q4

Types of Cohort Analysis

- **Time-based cohorts:** separate customers into groups based on a particular time frame
- **Segment based cohorts:** group customers by various other characteristics, e.g. subscription plan
- **Size-based cohorts:** assign customer base to cohorts as per their size – small, medium, large, enterprise. Comparing how much clients in different groups spend helps to identify where business generates cash

Prospect Lifetime Value (PLV)

- PLV is the value expected from each prospect minus the cost of prospecting.
- The value expected from each prospect is the acquisition rate (the expected fraction of prospects who will make a purchase and become customers) times the sum of the initial margin the firm makes on the initial purchases and the CLV.
- The cost is the amount of acquisition spending per prospect.

$$PLV(\$) = Acquisition\quad Rate(\%) \times \left[Initial\quad M\arg in(\$) + CLV(\$)\right] - Acquisition\quad Spending(\$)$$

- If PLV is positive the acquisition spending is a wise decision and if negative then spending should not be made
- PLV applies to prospects not customers
- A large number of small but positive value prospects can add to a considerable amount of value for a firm

$$Break-even\quad Acquisition\quad Rate = \frac{Acquisition\quad Spending(\$)}{Initial\quad M\arg in(\$) + CLV(\$)}$$

PLV is 0