How Big Should Sample Size be?

- Example
  We have data $y=(y_1,\ldots,y_N)$, where $y \sim N(\mu,\sigma^2)$

  We want to test
  H_0: $\mu=\theta$ vs H_1: $\mu \neq \theta$

  - Chosen significance level=α=0.01
    - Fixed critical cut-off value = c^*= 1.64,
  - Test statistics

$$z\ \text{value} = \frac{\text{Mean(Y)} - \theta}{\text{Std. Dev. (Y)}/\sqrt{\text{Sample Size}}} = \sqrt{\text{Sample Size}}\,\frac{\text{Mean(Y)} - \theta}{\text{Std. Dev. (Y)}}$$

  - If |z|>1,64, reject H_0

How Big Should Sample Size be? (cont'd)

- An experiment collected N=100 observations, $y_{N=100}$, assumed to be independently from N(μ ,1)
- He wants to test
  H_0: μ=0 vs H_1: $\mu \neq 0$
- Current sample mean $\bar{y}_{N=100}$=0.2.
  So, $z_{N=100}$=(0.2-0)*10=2
- Pocock (1977) showed cut-off value under α=.05, c_*=2.18
- Since $z_{100}<c^*$, H_0 is not rejected.

- So, he decided to collect another 100 observations. Then, he computed $z_{N=200}$.....

  Could he reject H_0 eventually?

Business Concept Testing

- To evaluate feasibility of a business idea

- Two key decisions
  1. How to communicate the concept
  2. The data to collect from respondents

- Respondents
  - Potential target customers
  - Other important players (e.g., possible channel members)

Measures

- Primary
  - Intended purchase measures
  - Overall product diagnostics
  - Special attribute diagnostics
  - Respondents profiling variables
- Secondary
  - Open-ended “reason why”

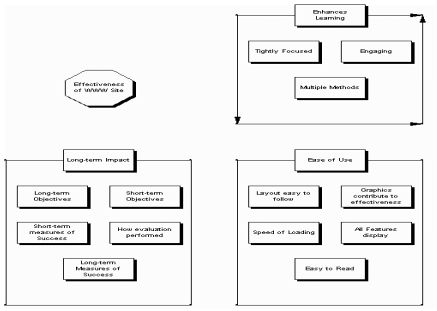
How to Present A Business Concept?

- Use simple written statement on the business concept (possibly with visual stimuli)
  - A short statement of the core product concept
  - Alternatively, a vivid story board

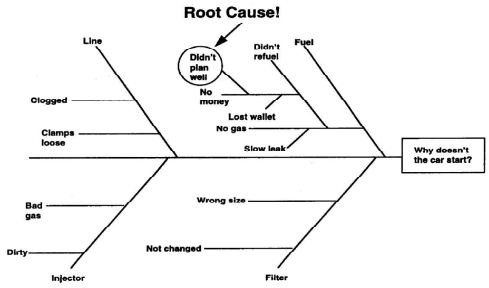
Your Task

- Develop a research plan for concept testing of LINEPASS.
  - Objective
  - Respondents
  - Sample size
  - Method
  - Stimuli
  - Data
  - Measurement
  - Analysis

Affinity Diagram (Kawkita Jiro Method)



Fishbone Diagram



Market Entry Strategies

These firms…	are characterized by these elements:
Successful pioneers [Netscape]	-Large entry scale -Broad product line -High product quality
Successful fast followers [Microsoft]	-Larger entry scale than the pioneer -Leapfrogging the pioneer with superior technology, quality and customer service.
Successful late entrant	- Focus on peripheral target markets or niches

Mass-Market Penetration

Niche Penetration

Market Entry Strategy for Pioneer

1. Mass Penetration
   Netscape
2. Niche Penetration
3. Focused Sequential Penetration
   Trakus

Situations Favoring Alternative Marketing Strategies for Pioneers

	Mass-Market Penetration	Focused Sequential Penetration
Market Characteristics	-large potential demand -homogeneous customer needs -short diffusion process	-large potential demand -fragmented market -relatively longer diffusion process
Product Characteristics	-difficult to copy -limited sources of supply -complex production process	-easily copied or adopted -many sources of supply -relatively simple production process
Competitor Characteristics	-few potential competitors -Few sources of differential advantage	-many potential competitors -many possible sources of differential advantage
Firm Characteristics	-strong product engineering skills -strong marketing skills and resources -sufficient financial and organizational resources	-limited product engineering skills and resources -limited marketing skills and resources -insufficient financial and organizational resources

Strategic Objectives

WildFire

	Mass-Market Penetration	Focused Penetration
Short-term	-Maximize number of adopters in total market -Invest heavily to build future volume and share	-Maximize number of adopters in initial target segment -Limited investment to build volume and share in chosen initial niche
Intermediate-term	-Attempt to preempt competition -Maintain leading market position even if some sacrifice of margins is necessary in short terms as new competitors enter	-Maintain leading share position in target segment even if some sacrifice of margins is necessary in short terms as new competitors enter -Accumulate resources and experience from initial niche and utilize them to penetrate other segments.
Long-term	-Maximize ROI	- Maximize ROI

EPILOGUE

- In January 1995, McCaw invested $5 million in Wildfire and obtained 12.5% of the company's shares
  - Mutually non-exclusive collaboration for Network Wildfire
  - McCaw placed an order for a 500-user prototype
  - Planned to scale up a 500-user prototype Network Wildfire to a 1,500 user system by the end of 1996.
- In July 2000, Wildfire was acquired for about $142 million by Orange Telecommunications, a subsidiary of France Telecom.
- Currently, Wildfire is focusing on **Network** and Corporate systems.

- Entrepreneurs do not have sufficient information
  - Lots of missing information
  - many hypothesis
- However, it is crucial to make on-line correction of initial plan over time.
- Entrepreneurs need to gather critical information in order to make correct on-line correction of plan.
  - Fill missing information
  - Test hypothesis
- Wildfire's decision on line-of-business highlights the need of obtaining critical information for its on-line correction of plan.
- Wildfire case also highlights the importance of partnership in order to overcome the problem of limited resources.