

RETHINKING  
THE BOUNDARIES

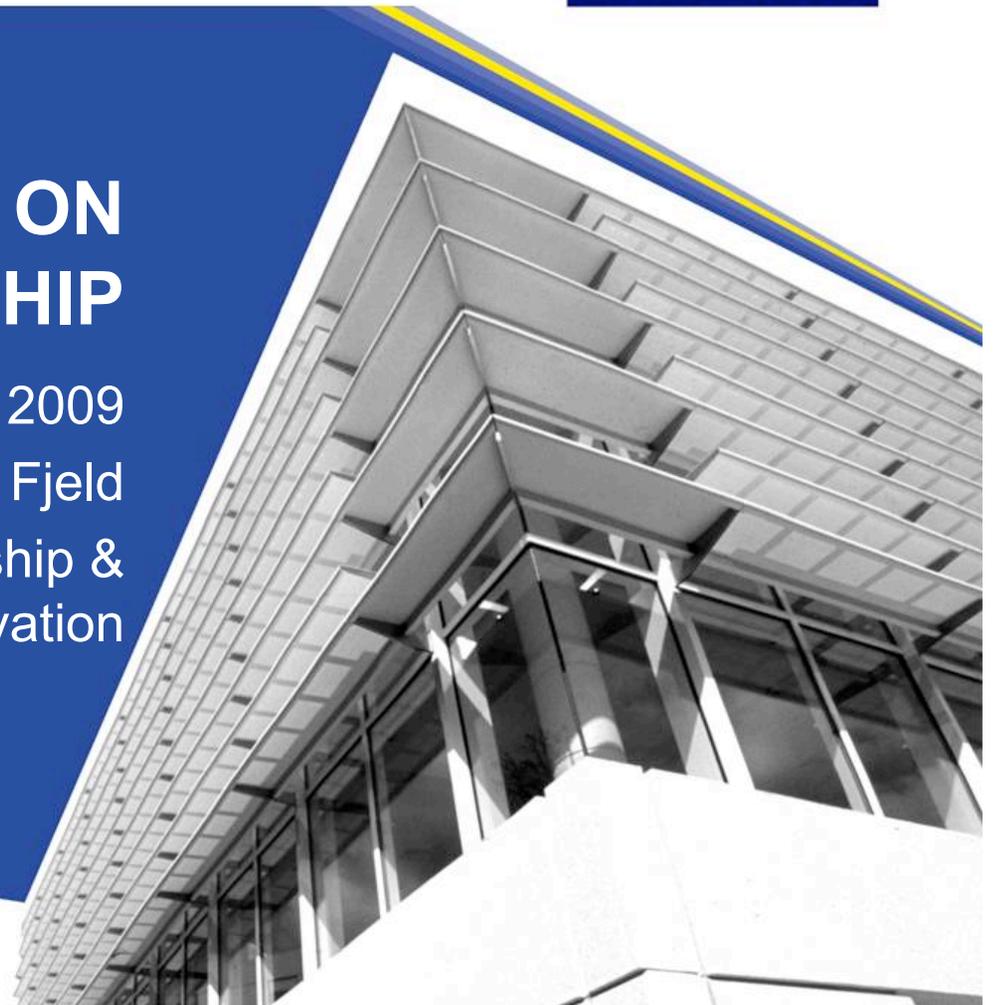


**WORKSHOP ON  
ENTREPRENEURSHIP**

August 25, 2009

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Center for Entrepreneurship &  
Innovation



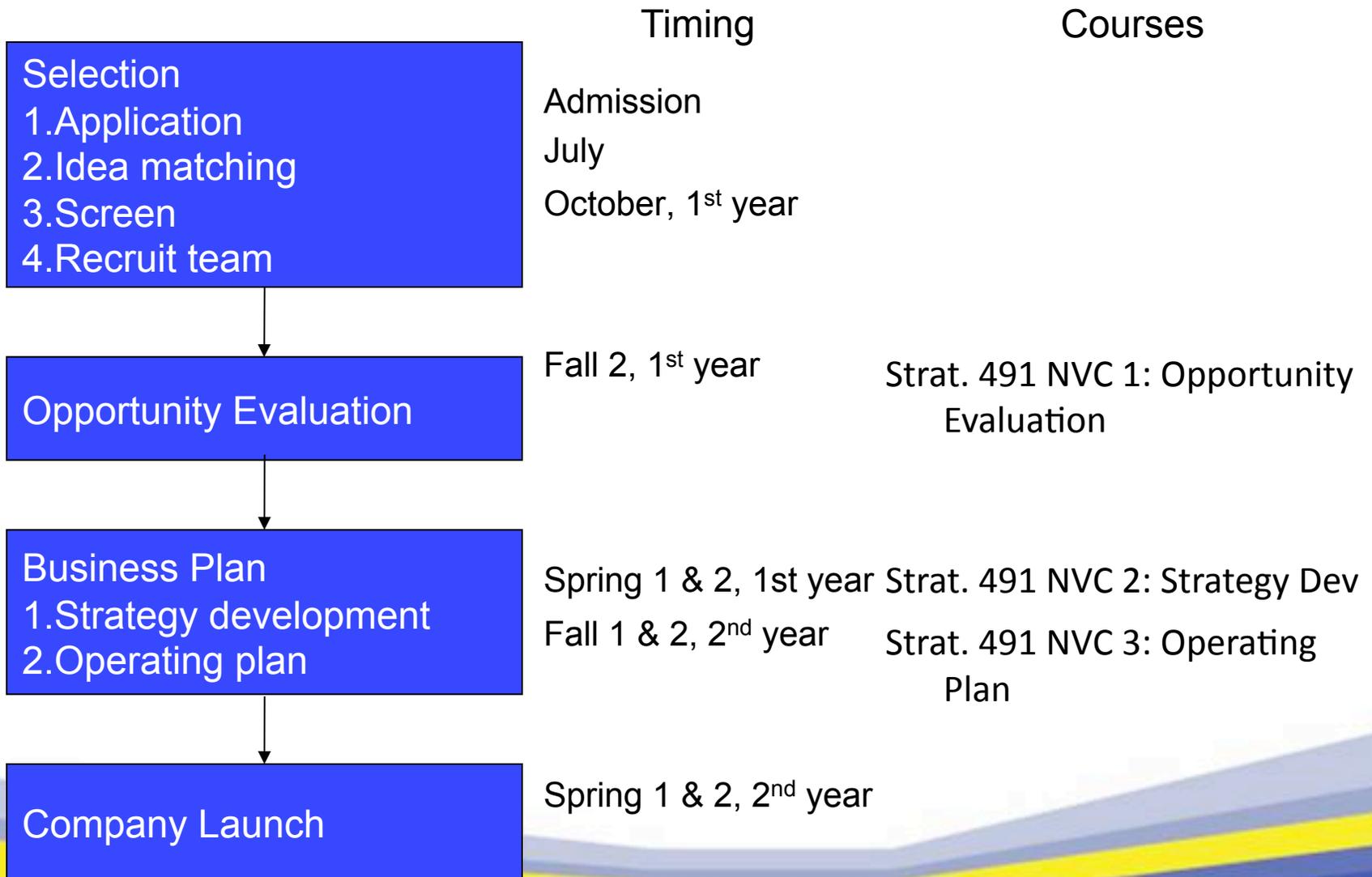
# Agenda

- Sample projects:
  - Entogenetics
  - Uro-innovation
- Program for Entrepreneurs – overview
- Entrepreneurial process & background
- More projects:
  - FitEd
  - PTP (wind energy)
  - Innovation Education International
  - Hog Waste / Carbon aggregation

# **PROGRAM FOR ENTREPRENEURS – OVERVIEW**



# P4E Process



# ENTREPRENEURSHIP OVERVIEW



## So you been introduced to an interesting idea – now what?

Is it worth pursuing (investing more time, energy & money)?

What do you do next?



# Framework

## Opportunity evaluation:

- Team
- Opportunity
- Solution
- Competitive advantage
- Risk / return

## Company's plan:

- Strategy:
  - Target customers
  - Business model
  - Position
  - Objectives
- Operating plan:
  - Competencies
  - Plan for each functional area
  - Budget
  - Financing

## Execution:

- Market Research
- Strategy development
- Marketing
- Business development
- Sales planning
- R&D Management
- Operations management
- Process and infrastructure management
- Budgeting
- Financing
- People management

# OPPORTUNITY EVALUATION



# Evaluation of an Opportunity

1. Is there a sufficiently attractive **market opportunity**?
2. Is the proposed **solution** feasible, both from a market perspective and a technology perspective?
3. Do we have an **team** that can effectively capitalize of this opportunity?
4. Can we **compete** (over a sufficiently interesting time horizon)?
5. What is the profile **risk and return** of this opportunity?

# Entrepreneurial Opportunity

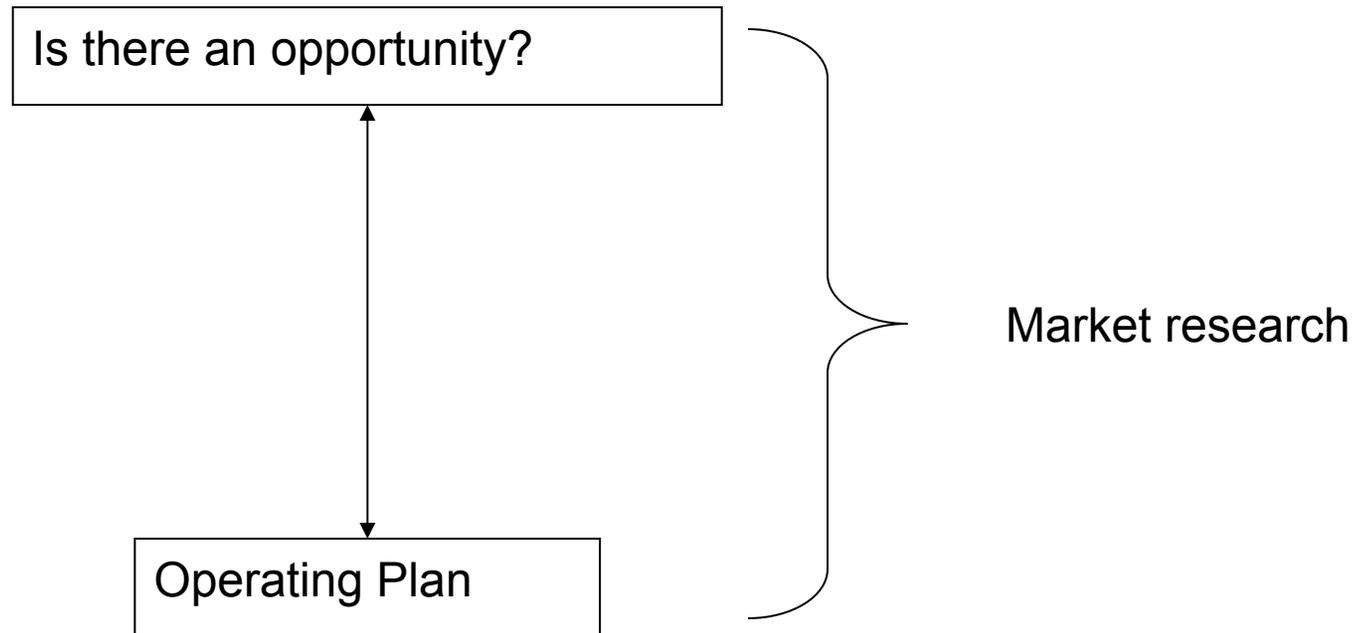
- Problem currently not solved
- Potential for change in consumption

Requires:

- Innovation
- Capability to exploit the innovation

Not every idea is an opportunity

# Market Research

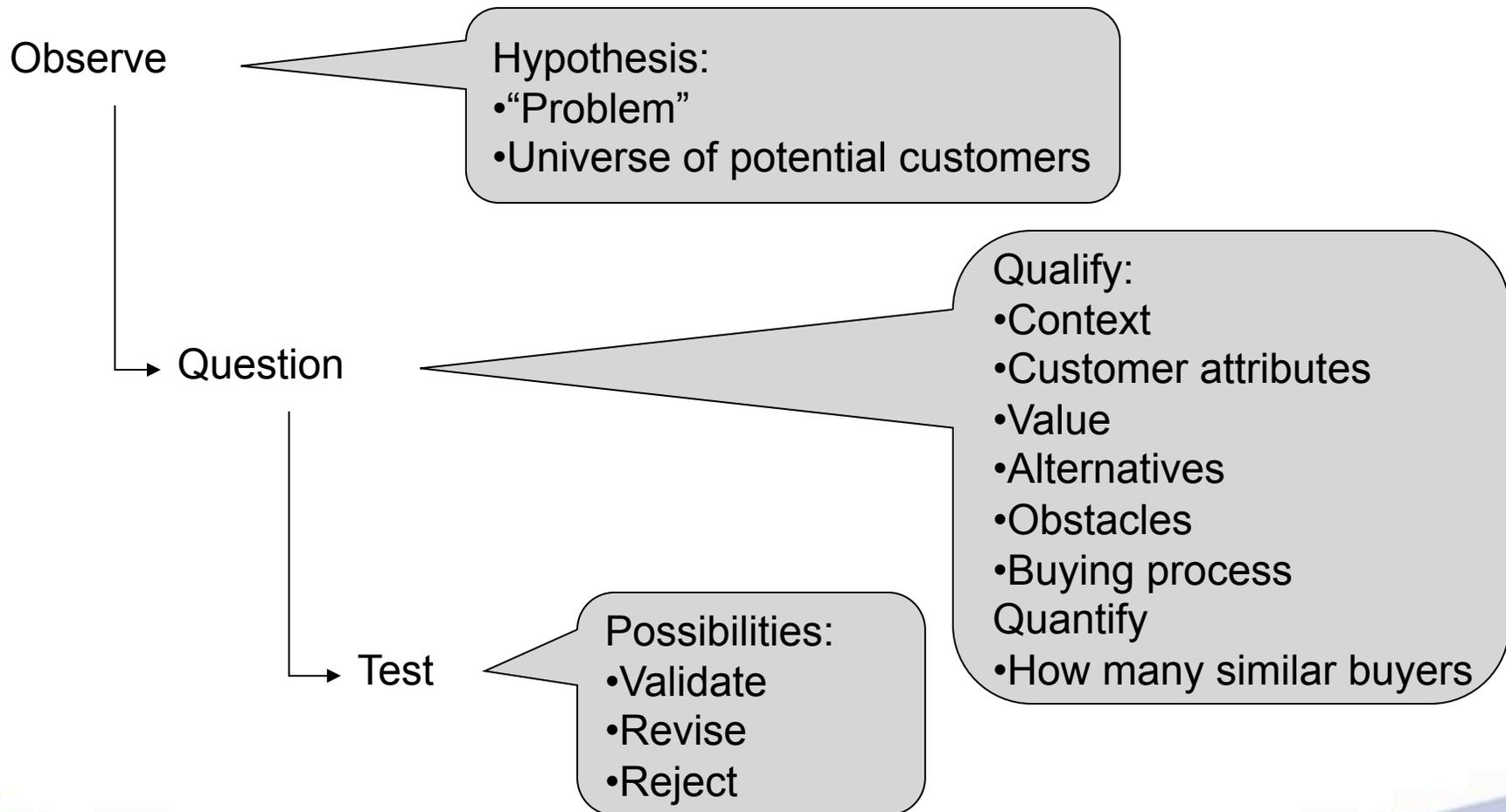


# How Do you Start?

“You can observe a lot by just watching.”

(Paraphrase of a famous philosopher)

# Method



# What Is a Need or Problem?

Pattern of behavior + Purpose

Some deficiency:

- Unsatisfactory result
- Too long / too hard
- Too expensive
- Unpleasant / not enjoyable
- Unwanted consequence

# Framework

## Opportunity evaluation:

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## Company's plan:

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- Financing
- People management

# PLANNING: STRATEGY



# Strategy

## 1. Target customers

- Who are the candidates?
- How do you choose?

## 2. Business model

- How will the venture make money? Product? Service?

## 3. Position

- How is the venture positioned?
- How can it compete over the long term?

## 4. Objectives

- Foundation for operating plan

These questions are all linked.

The process is iterative and piecemeal, not sequential

# Target Customers

Start with formulating a choice:

- Who are potential targets?
  - XYZ corp. & ABC corp.
- What do they represent?

Considerations:

- What is the required solution? Can we deliver? Does it strengthen us?
- Ease of implementation for the customer
- Decision process
- Size of opportunity represented

# Business Model

- How will you make money?
- What will the customer pay for?
- What is the “whole product”?
  - How will it get to the customer?
  - What will your role be?
- What is the perceived value?

# Competitive Position

Objective: Sustainable competitive advantage

What is competitive advantage?

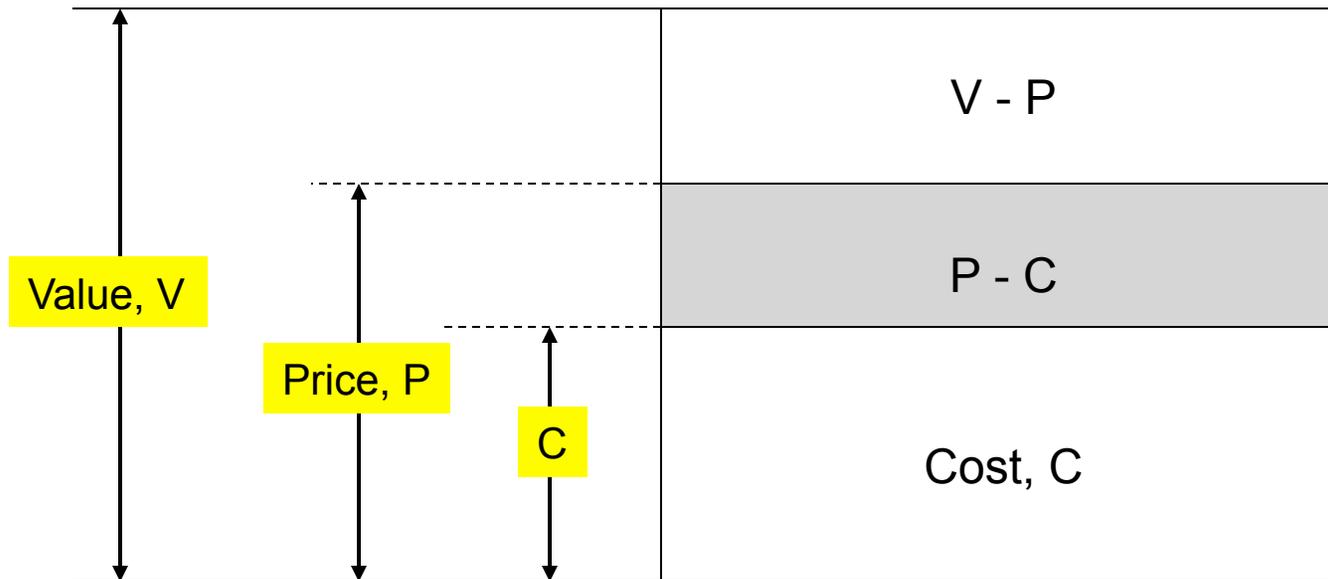
- Something that allows the firm to deliver value to the customer profitably
- (implies that the firm does it better than competitors)

What is *sustainable* competitive advantage?

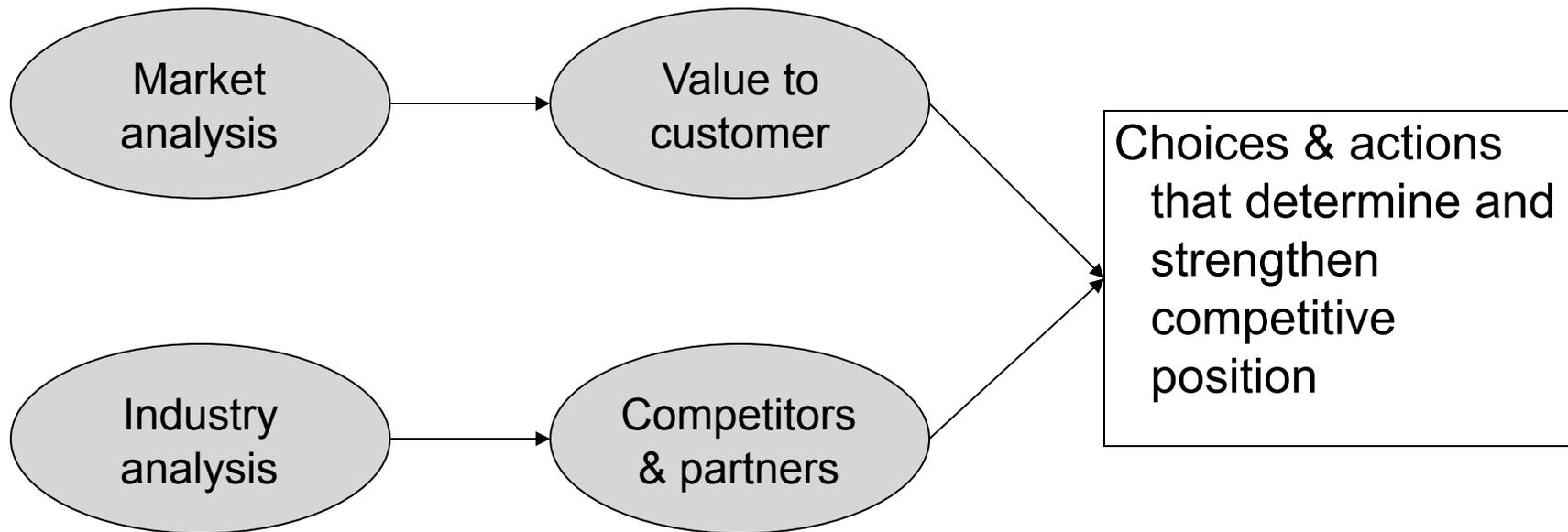
- A competitive advantage that is hard to imitate or innovate around

# Value & Return

Competitive advantage is ability to deliver value profitably



# Competitive Strategy



# PLANNING: OPERATING PLAN



# What is an Operating Plan?

- Set of activities
- In a schedule or timeline
- That achieve the objectives of the strategy
  - Contemplated product or service
  - For the target customers
  - Creating sustainable competitive advantage
- With associated revenue and costs
- With a way to pay for the costs



# Operating Plan Elements

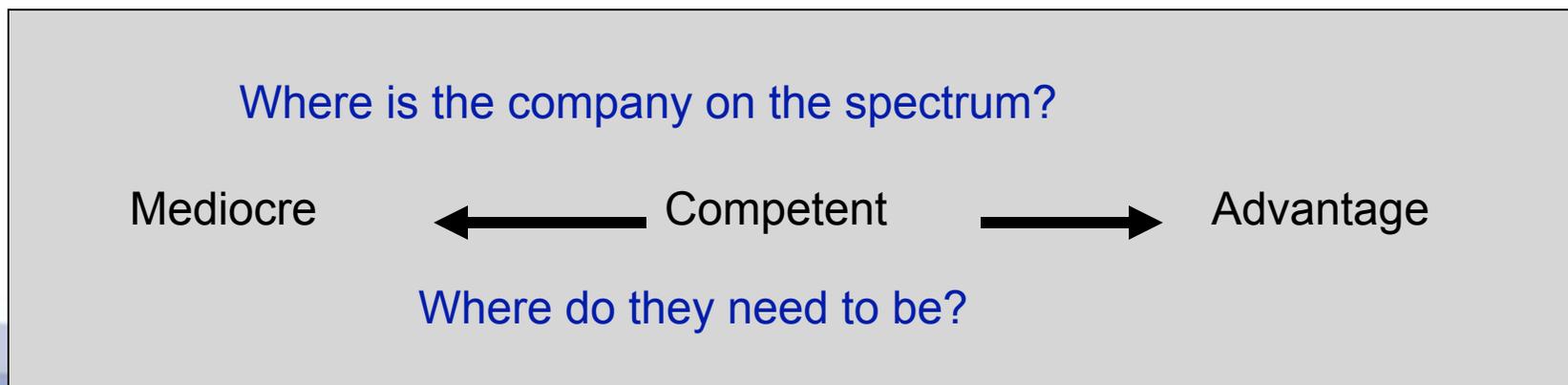
- Core competencies
- Operating plan detail:
  - Sales forecast
  - Gross margin analysis
  - Sales and marketing plan
  - Research and development
  - Operations and manufacturing
  - General and administrative
- Budget
- Financing plan



# Competencies

Firms do many things

- Design / develop
- Manufacture
- Market
- Sell
- Service
- Hire
- Innovate
- Strategize
- Plan
- Respond to changes



# Financial Analysis for a Start-up

## Income Statement

Revenue  
- COGS  

---

Gross profit

Sales & marketing  
Research & development  
General & administrative  

---

- Expenses  
Net profit

# What is a Forecast?

Projection of future revenue

Revenue = # of customers X ave. revenue/customer

Revenue = # of prospects X probability of success  
X ave. revenue/customer

Revenue = # of prospects at time t (months before rev.)  
X probability of success  
X ave. revenue/customer



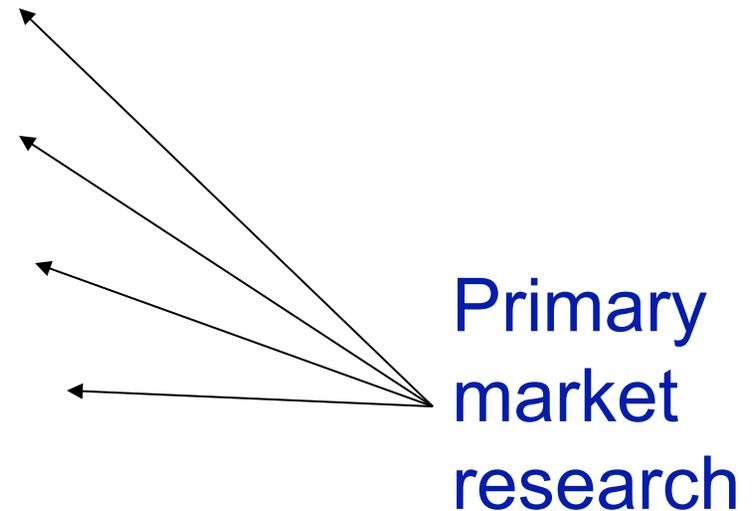
# Role of Market Research

**Revenue =**

**# of prospects at time t  
(months before rev.)**

**X probability of success**

**X ave. revenue/customer**



# A Model

Products & Marketing

“Possible” customers

Decision points

A

B

C

Deal

Probability & Duration

Selling effort



# Building a Budget

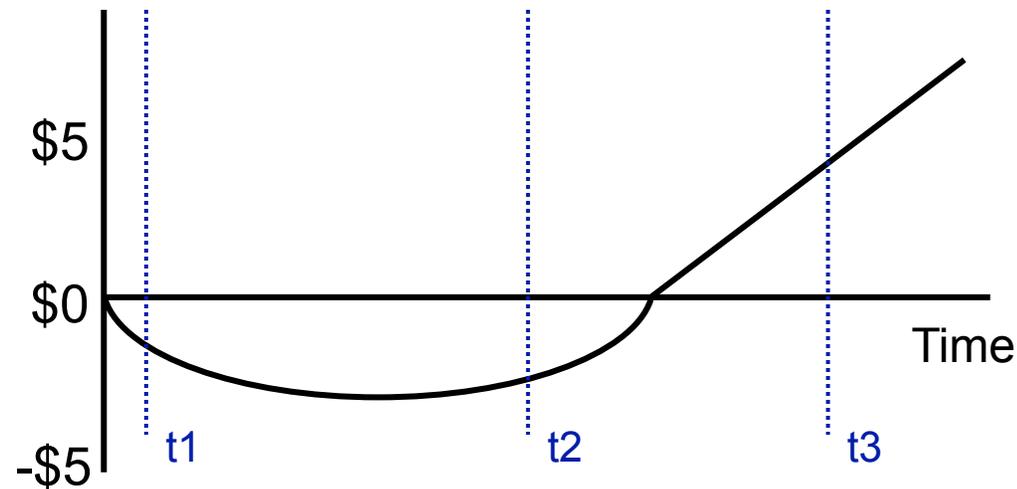


Sales & marketing  
Research & development  
General & administrative

$$\begin{array}{r} \text{Revenue} \\ - \text{Cost of goods sold} \\ \hline \text{Gross margin} \\ \\ - \text{Operating expense} \\ \hline \text{Net profit} \end{array}$$

- Build a model that captures everything
- The plan must close

# How much Money Do You Need?



- Should you raise the total amount of cash needed (according to projections) in a single investment?

Usually not

- How much is the business worth?
- What increases the value of the company?

Reduction of uncertainty

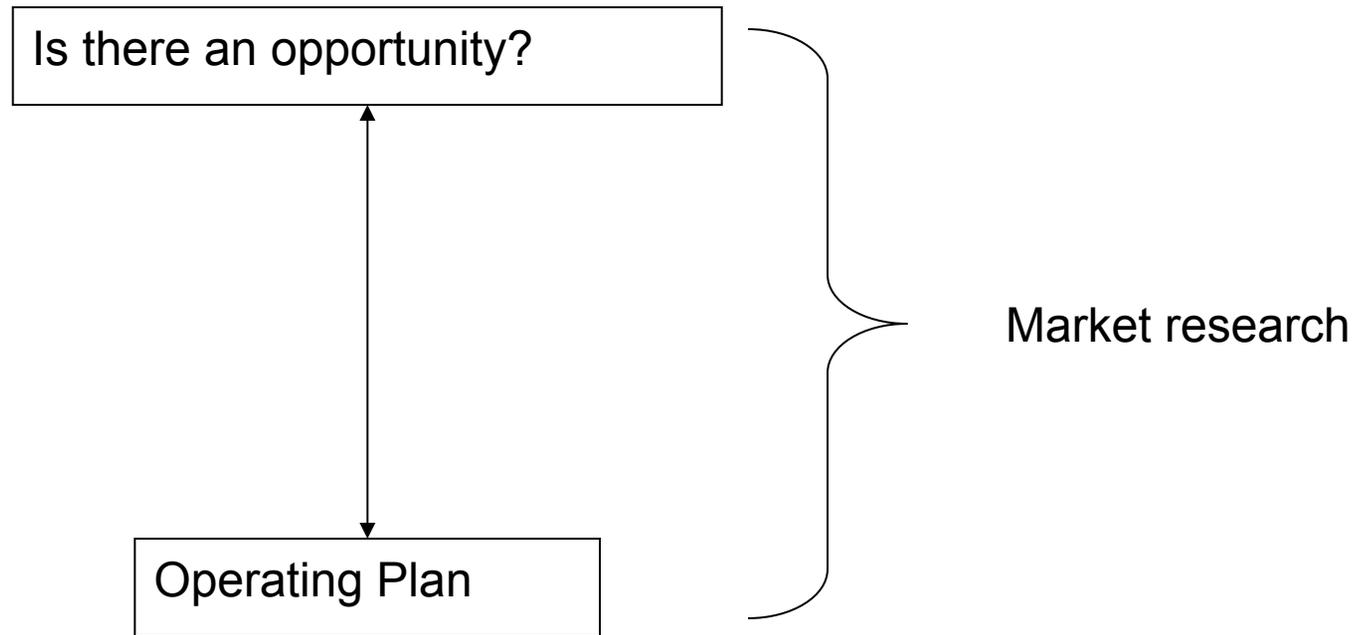
# BACKGROUND



# MARKET RESEARCH



# Market Research

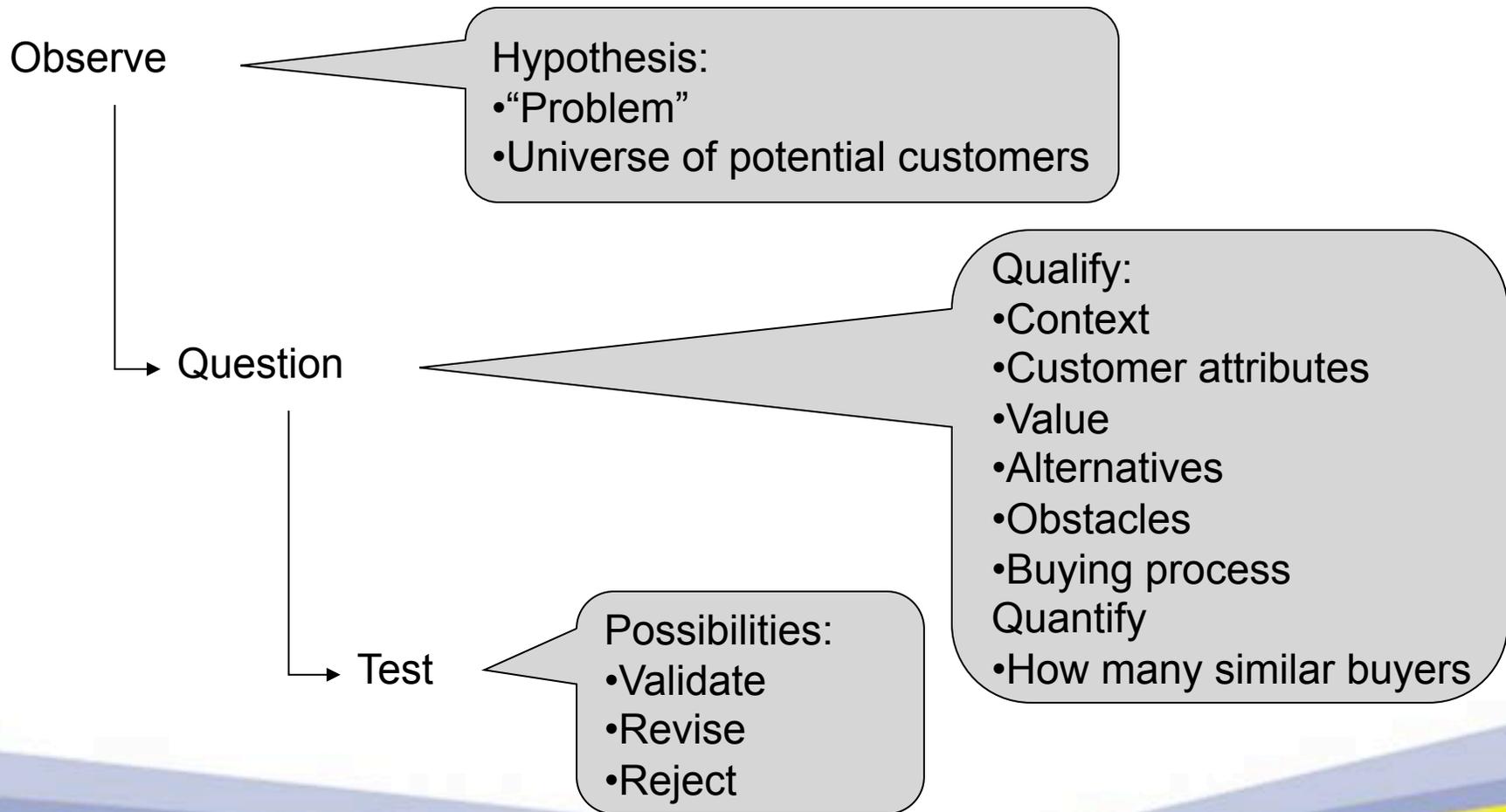


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# Two Perspectives

## Demand side:

- Some needs are obvious but not satisfied, e.g., diseases, need for fuel efficiency
- Technology does not exist

## Supply side:

- Some needs are satisfiable but not recognized, e.g., social networking?
- Technology exists but is not applied

## Hybrid:

- Sometimes the need/solution insight requires a “leap of integration,” e.g., iPod / iTunes?

# Qualitative Understanding

## Context:

- What is the business process?
- What processes does this relate to and how does it relate to the organization's goals?

## People:

- Buyer / user / influencer
- What are their interests & aspirations? How do they affect decisions

## Environment:

- "Value chain" - network of suppliers of products & services into which your solution must fit
- Other?

## Organization:

- Competitive position
- Strategy
- Culture / values
- Financials

# Qualitative Analysis

Suppose you have found an opportunity

Solution

Drives:

- Marketing
- R&D
- Business development

Customer attributes

Drives:

- Marcom & sales approach
- Addressable opportunity

Buying process

Drives:

- Sales plan & forecast

# Solution

- Definition:
  - Product characteristics
  - Must have / nice to have
- Value:
  - Quantification
  - Why? E.g. cost reduction, revenue enhancement, other?
- Obstacles:
  - Unwanted consequences
  - Impact on processes
  - Impact on people
  - Implementation problems



Design around or  
sell around

# Customer Attributes

If you find someone who will buy your solution to the problem at hand,

What is it about them that makes them a willing buyer?

An answer to this question is a hypothesis about a target customer.

This hypothesis can be tested through further research.

# Customer Attributes

A good hypothesis

- (Can be captured via the methodology of personas)
- Is the basis for marketing activities
- Is the basis for quantifying an addressable market
  - Find how many others share the relevant characteristics
  - This is done through “secondary market research,” web, reports, consultants, ...

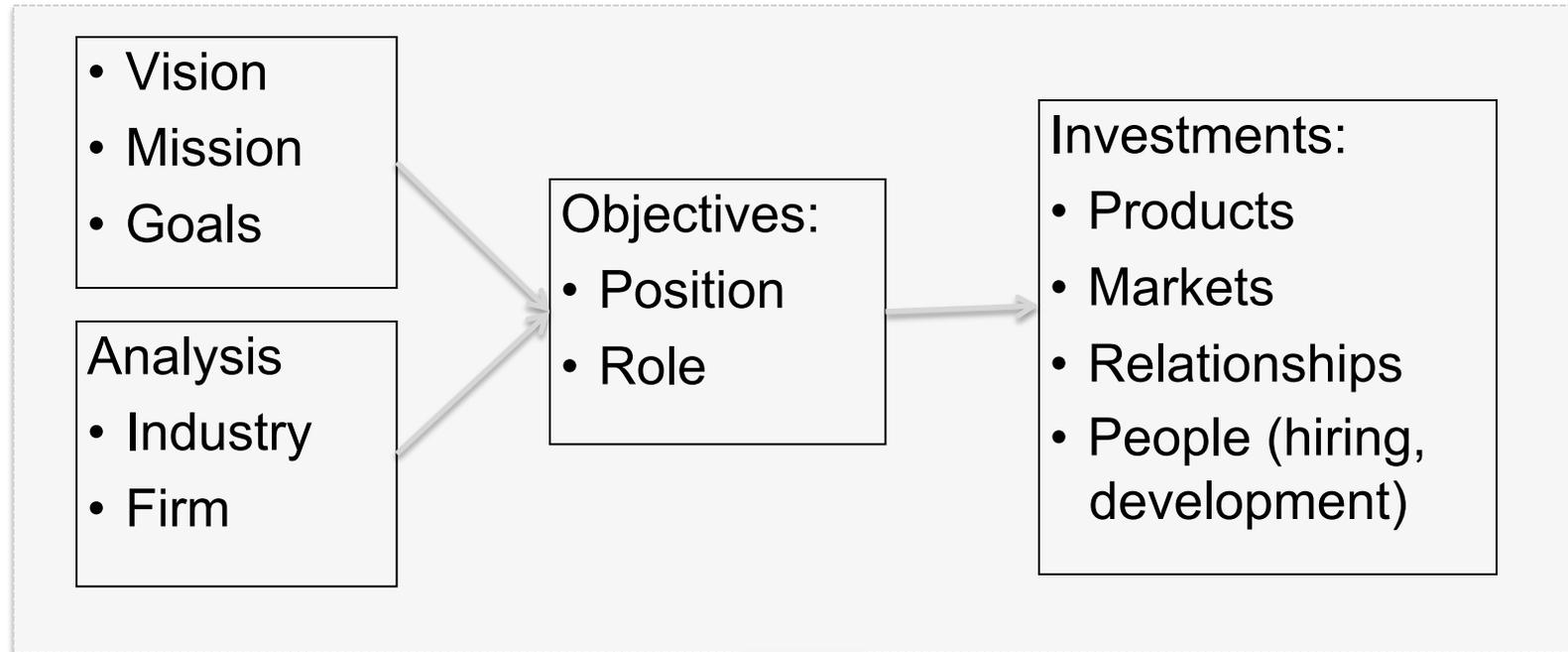
# Buying Process

- Allocation of resources
  - Budgeting cycle
  - Approval process
- Decision makers
  - Objectives / measurements
- Influencers

# STRATEGY



# What is Strategy?



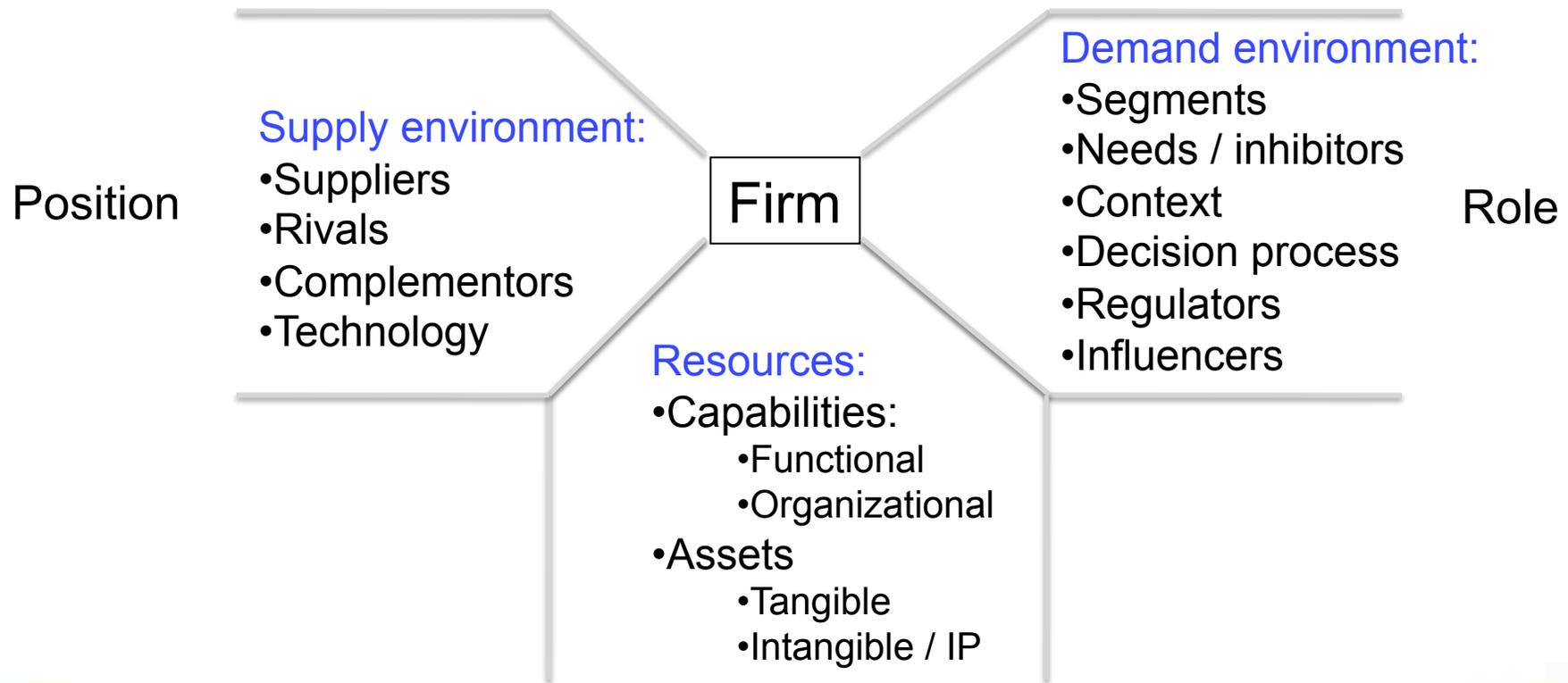
## Creating value

- Industry / market attractiveness
- Sustainable competitive advantage: differentiation / cost leadership

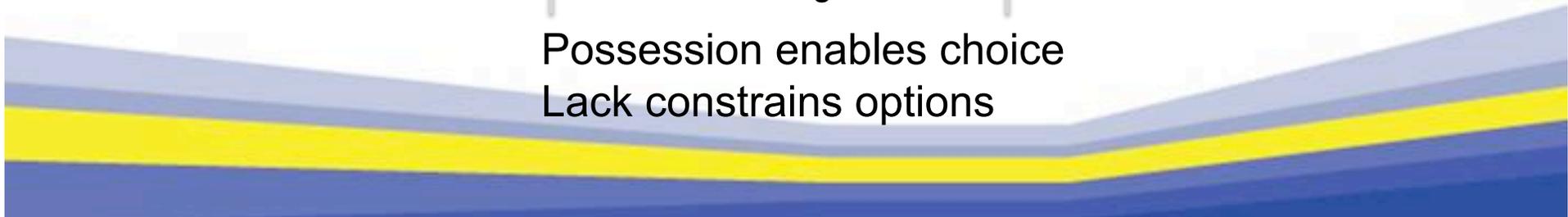
# Strategy Framework

Static:  
•How is it?

Dynamic:  
•How is it changing?



Possession enables choice  
Lack constrains options



# Strategy in a New Venture

- Similar but different
- More and less freedom

Compared to corporate strategy



# Strategy

## 1. Target customers

- Who are the candidates?
- How do you choose?

## 2. Business model

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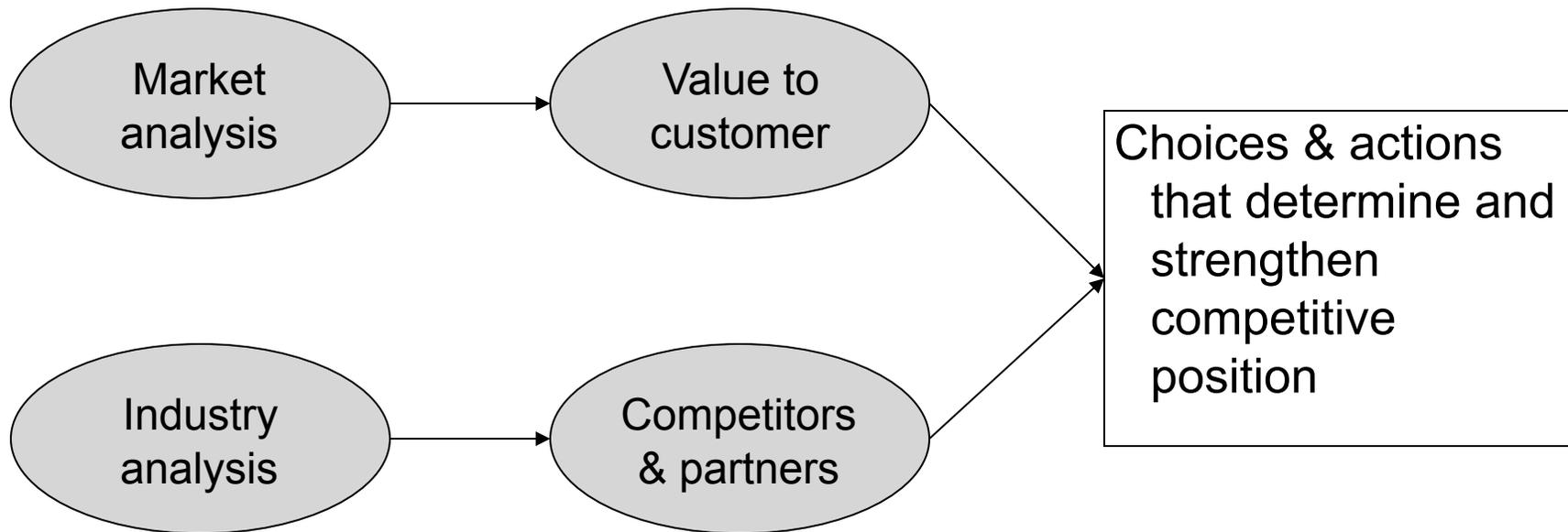
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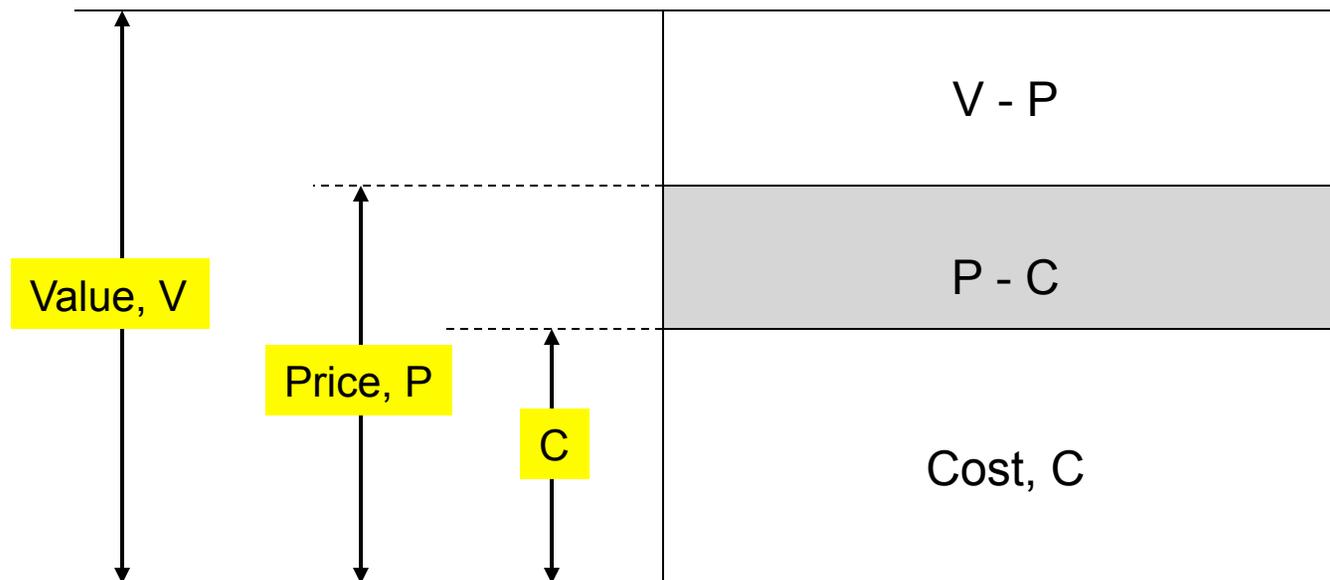
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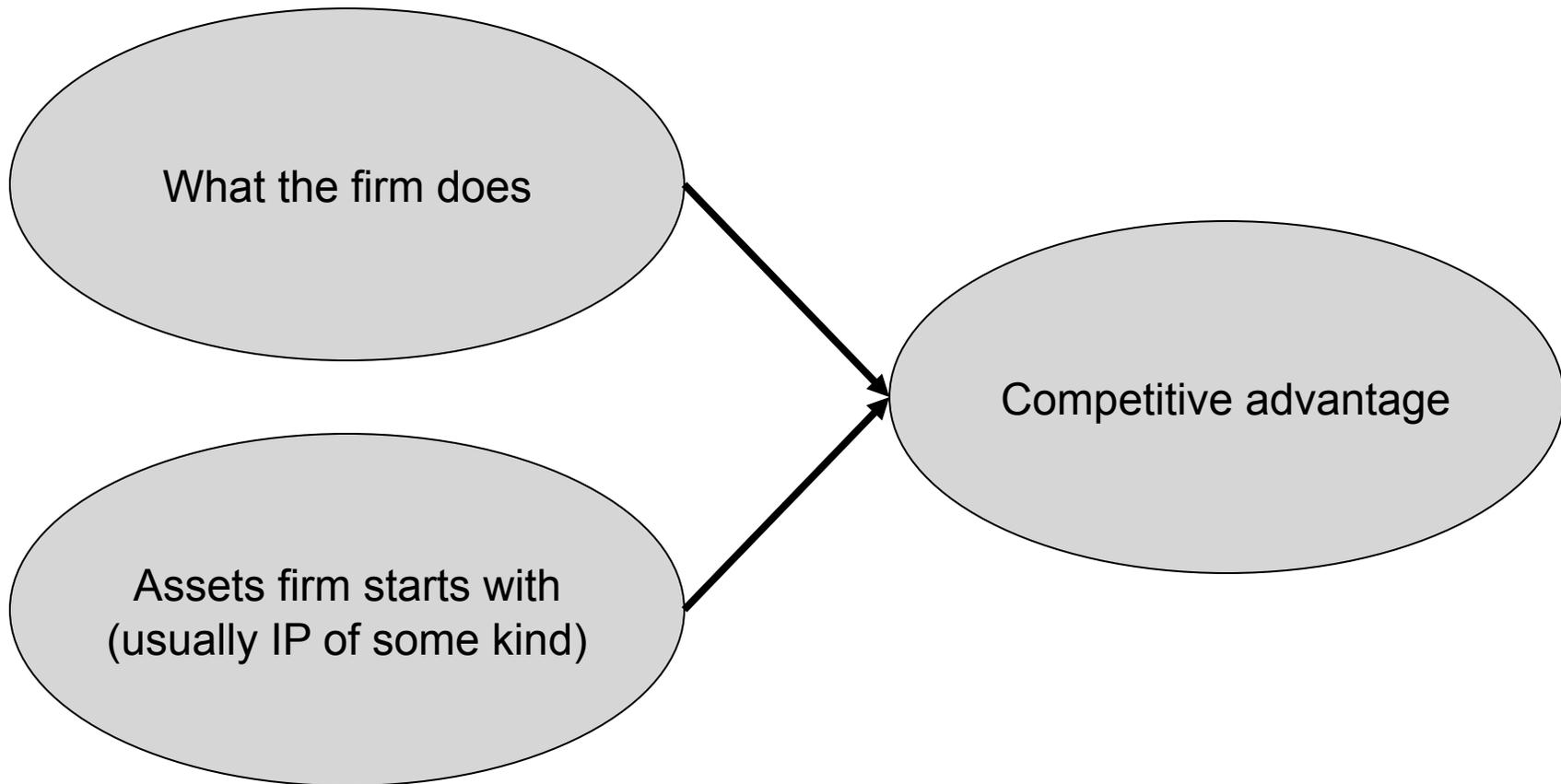
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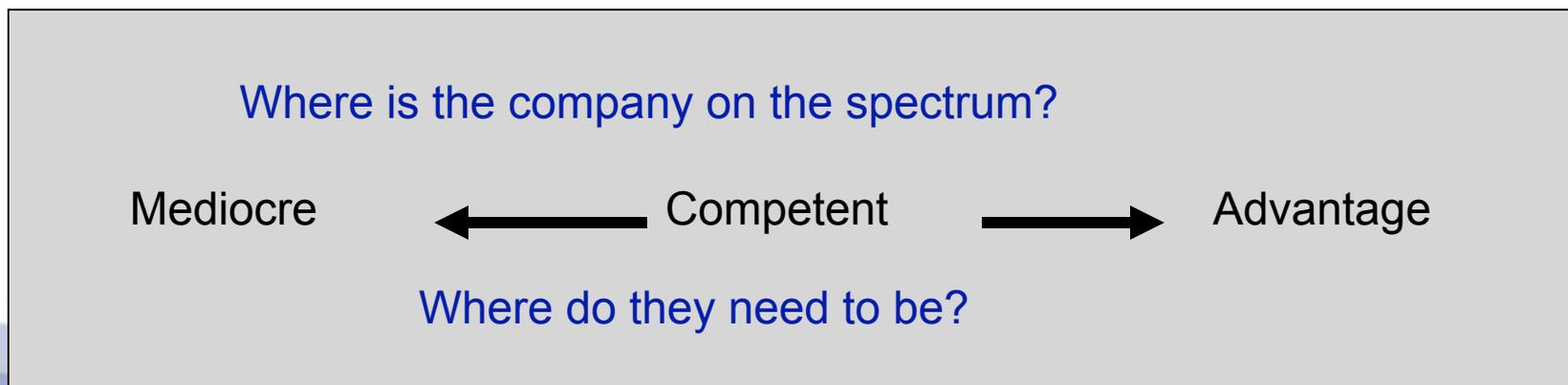
# Sources of Competitive Advantage



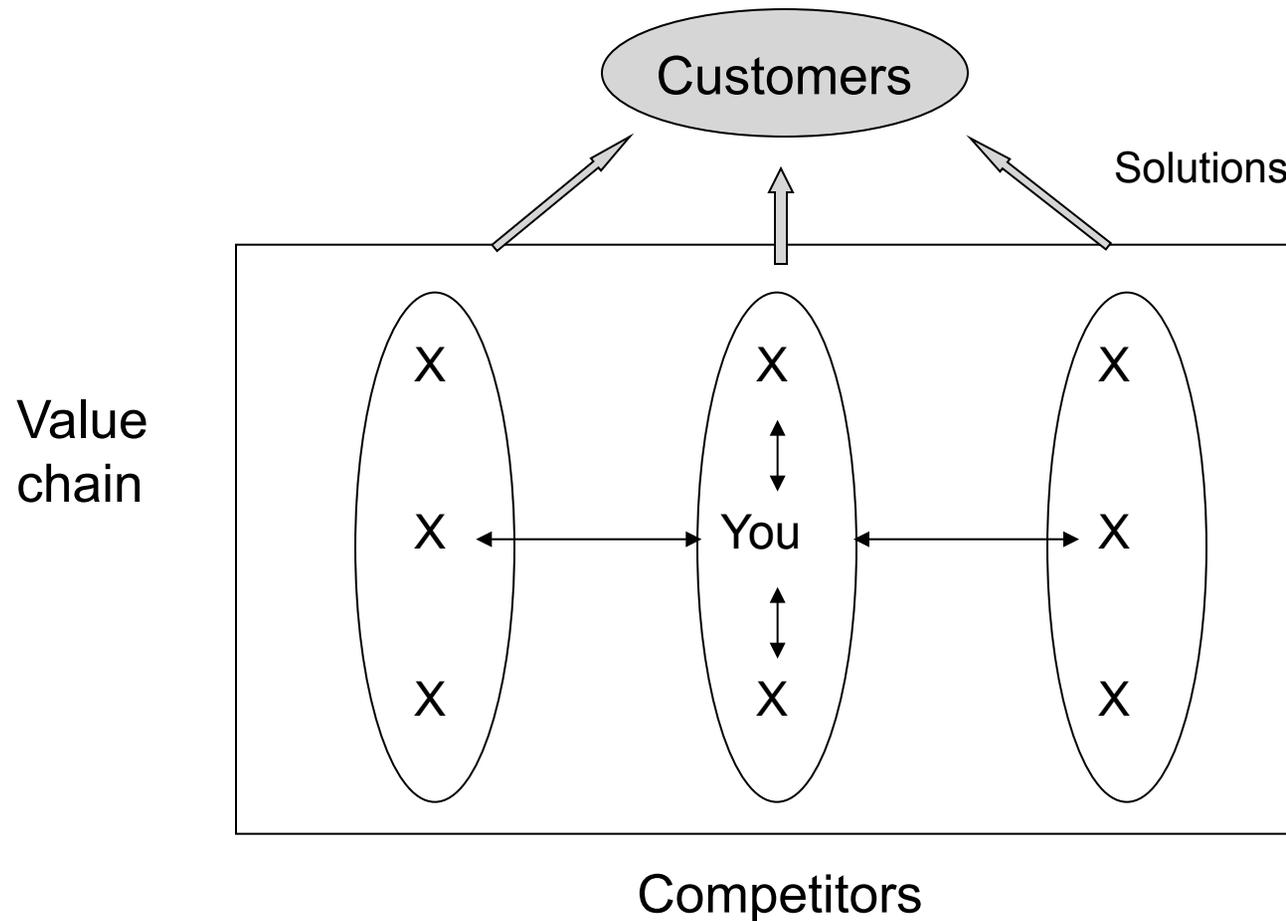
# Competencies

Firms do many things

- Design / develop
- Manufacture
- Market
- Sell
- Service
- Hire
- Innovate
- Strategize
- Plan
- Respond to changes



# Position & Role



# Position

## Role in the value chain:

- How much and what part of the solution will you provide?
  - Core competencies
  - Business relationships

## Position versus competitors:

- How are you uniquely identified?
- What is defensible?
  - Core competencies
  - Messaging
  - Plans

# How to Analyze Industry Players

## RPV Analysis

### Resources:

- People
- Equipment
- Technologies
- Cash
- Product designs
- Information
- Relationships

### Processes:

- Patterns of
  - Interaction
  - Coordination
  - Decision making

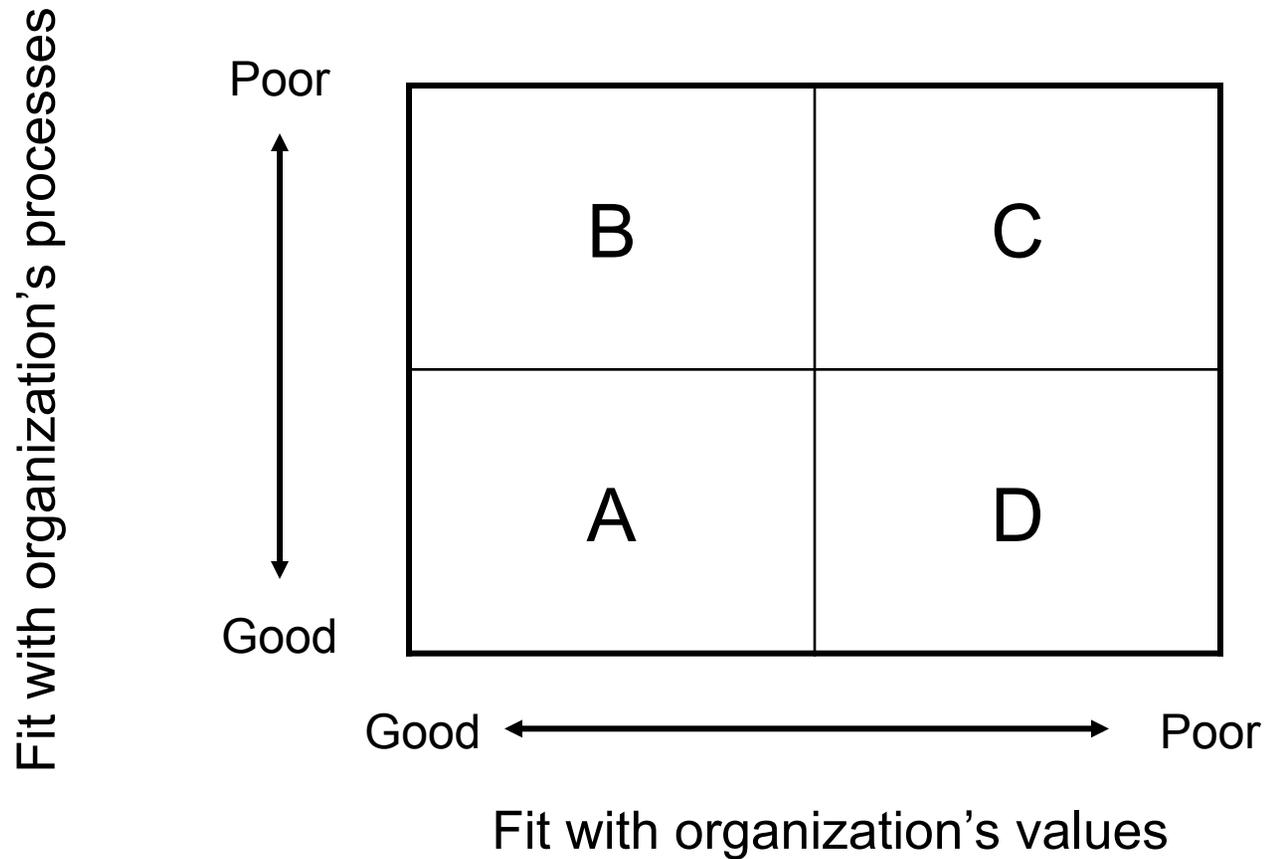
### Values:

- Standards by which employees set priorities

# Key Values

1. Acceptable gross margin
  - E.g., Toyota, Digital
2. Size of opportunity that warrants investment
  - E.g., Pharma
3. Core customers
  - E.g., Cisco
4. Position and strategy

# Coping with Change



# Market Structure

## Customer

- attributes
- processes

## Industry

- players
- products & services

- Customer segmentation
  - Target customers
- Position:
  - Uniqueness in industry
- Product segmentation
  - Solution definition

# Ideally

- You can define
  - A unique product category and
  - A specific customer segment
- Which constitute a high growth market and
- For which your particular assets and competencies are uniquely suited.
  
- Your strategy becomes to dominate this market.
- Your plans aim to strengthen your position.



# FINANCIAL ANALYSIS



# Financial Analysis for a Start-up

## Income Statement

Revenue  
- COGS  

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Gross profit

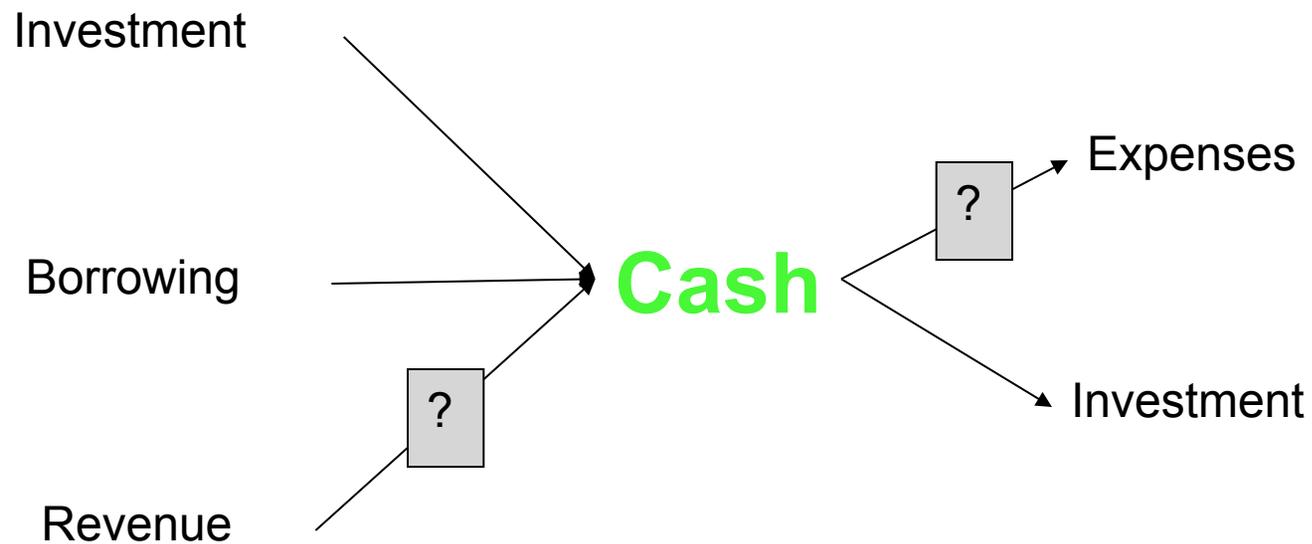
Sales & marketing  
Research & development  
General & administrative  

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- Expenses  
Net profit



# Cash is King



# Balance Sheet

## Assets:

### Current

Cash

Receivables

Inventory

Property & equipment

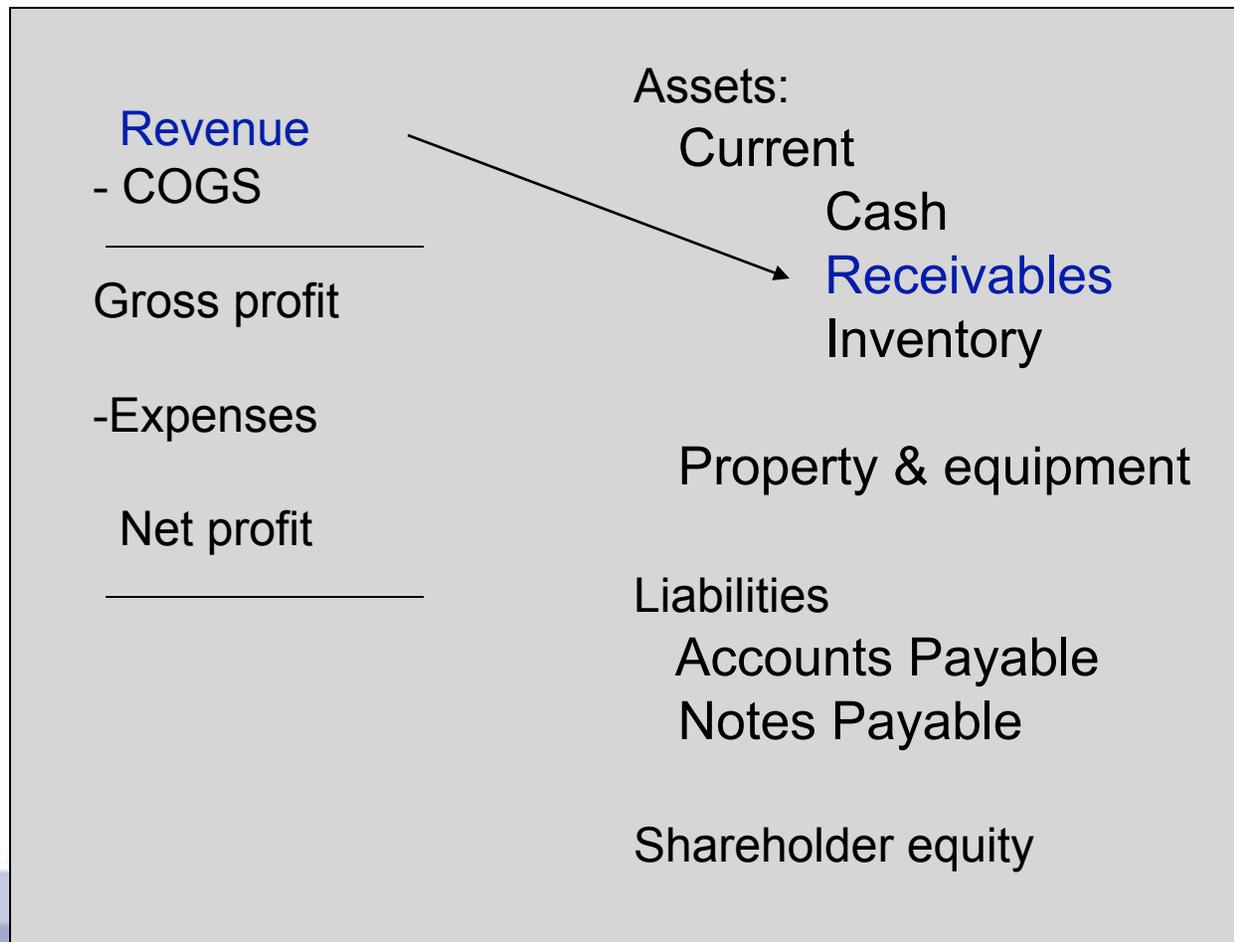
## Liabilities

Accounts Payable

Notes Payable

Shareholder equity

# Revenue Considerations



## Issues:

1. Value to the customer
2. First stop: receivables, then cash
3. Timing of recognition

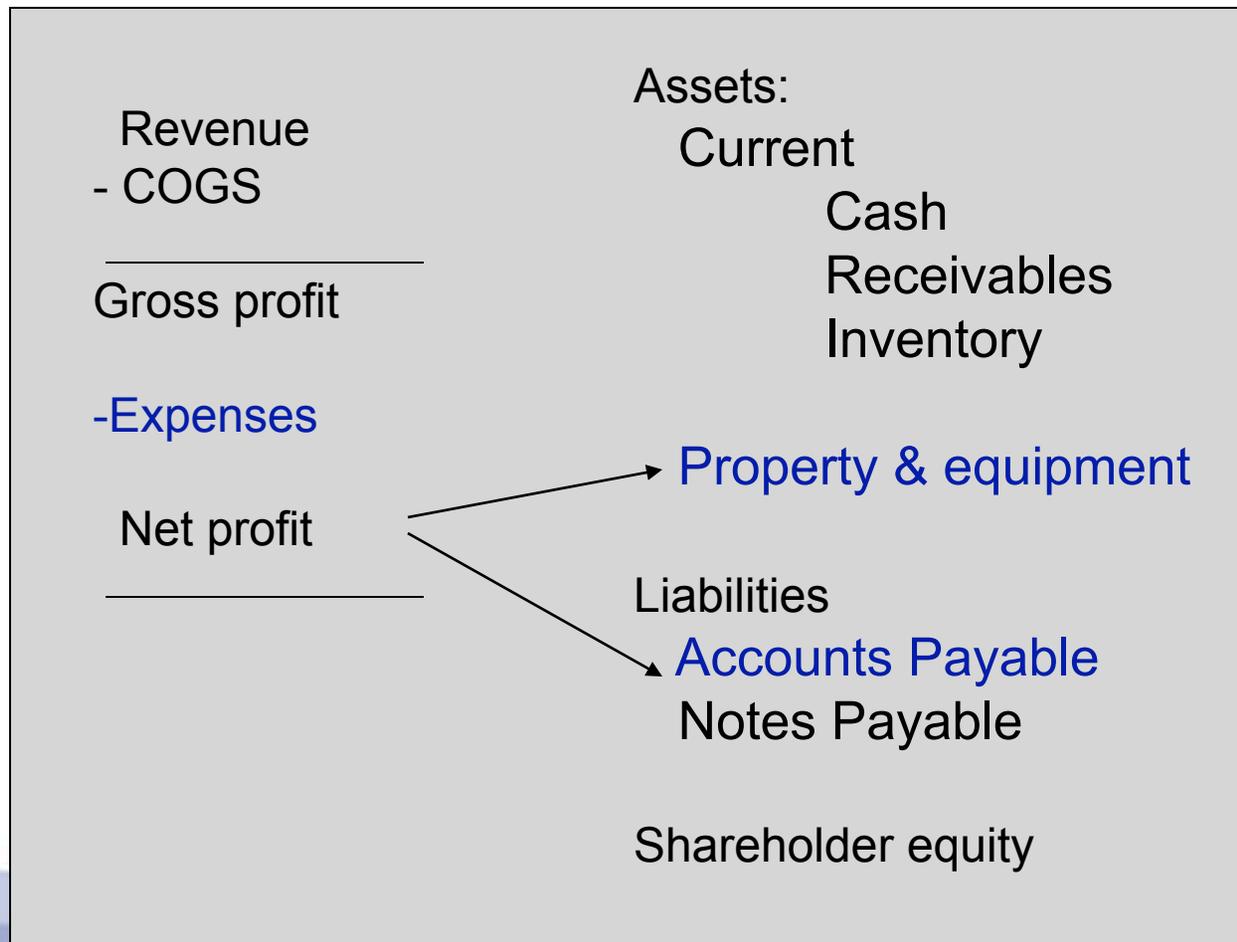
# Cost of Goods

Revenue	Assets:
- COGS	Current
<hr/>	Cash
Gross profit	Receivables
	Inventory
-Expenses	Property & equipment
Net profit	Liabilities
<hr/>	Accounts Payable
	Notes Payable
	Shareholder equity

## Issues:

1. Fixed & variable
2. Outsource?
3. Build to plan?
4. Financing of assets

# Expenses



## Issues:

1. Internal staffing vs. outsourcing
2. Make / buy
3. Cash vs. equity compensation

# SALES FORECAST



# What is a Forecast?

Projection of future revenue

Revenue = # of customers X ave. revenue/customer

Revenue = # of prospects X probability of success  
X ave. revenue/customer

Revenue = # of prospects at time t (months before rev.)  
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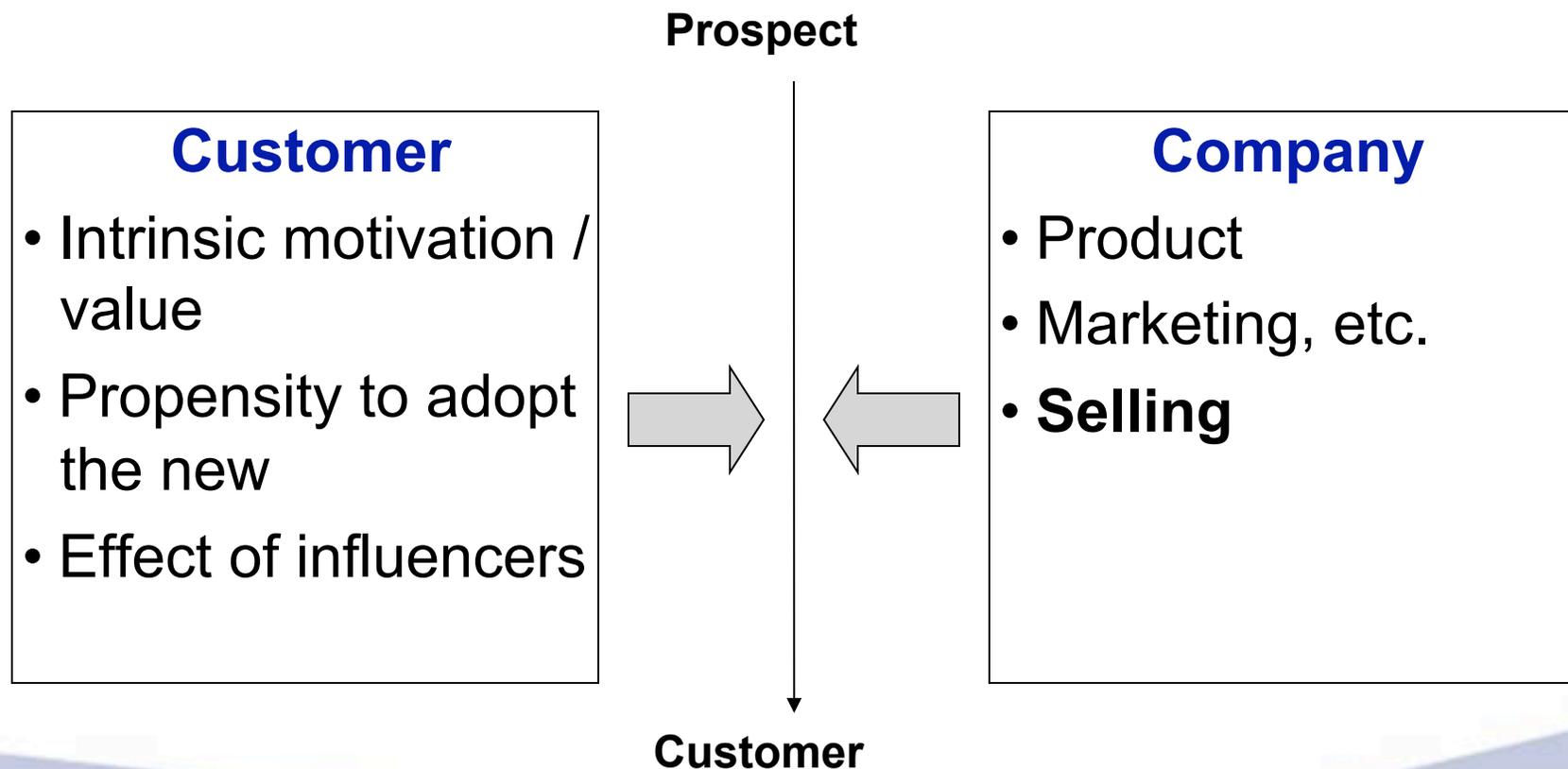
# The Basic Questions

1. How many prospects?
  - Changes over time
2. What is the probability of conversion?
3. How long does the conversion take?
4. What is the average revenue per customer?

# What Is a Prospect?

- A prospect (or 'lead') is a customer who fits a profile that you have created.
- Your business may have different profiles, so different classes of prospects.

# What Determines Probability?



# Length of Time

- This is primarily determined by the customer's
  - Buying process / cycle
  - Degree of urgency / strategic alignment
- (The length of time will be influenced by your selling effort.)
- In the case of a corporate customer, the decision process involves a set of discrete steps.

# Average Revenue

- Easiest of many hard things to estimate, but still not easy
- If not a single discrete decision,
  - Value
  - Pace of adoption
  - Organizational issues

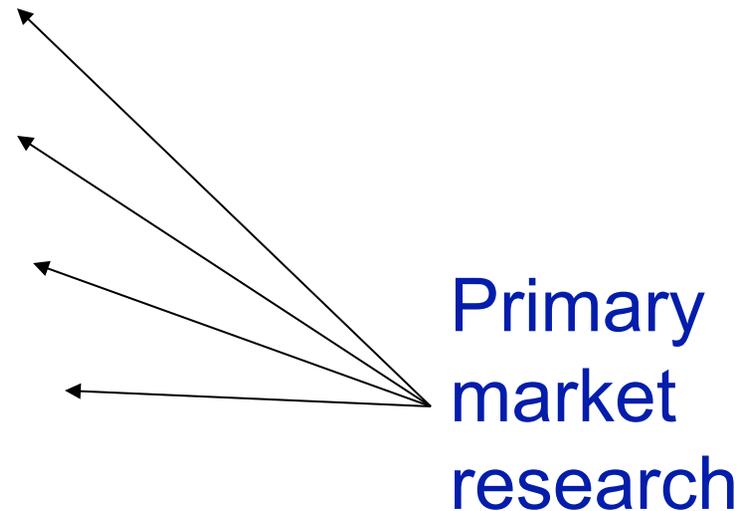
# Role of Market Research

**Revenue =**

**# of prospects at time t  
(months before rev.)**

**X probability of success**

**X ave. revenue/customer**



# Selling Process

1. Establish a customer profile
2. Identify leads (as economically as possible)
3. Qualify leads (as economically as possible)
4. Move the potential customer through the process in a structured fashion

This is best managed by a professional.

# A Model

Products & Marketing

“Possible” customers

Decision points

A

B

C

Deal

Probability & Duration

Selling effort



# A Couple of Principles

- Build a model
- This drives your budget.
- **Measure and revise!!**

# Agenda

- Discussion: building and operating plan
  - Budget
  - Revenue projections
  - COGS
  - Expenses
- Align

# BUILDING A BUDGET



# Building a Budget



Sales & marketing  
Research & development  
General & administrative

$$\begin{array}{r} \text{Revenue} \\ - \text{Cost of goods sold} \\ \hline \text{Gross margin} \\ \\ - \text{Operating expense} \\ \hline \text{Net profit} \end{array}$$

- Build a model that captures everything
- The plan must close

# Revenue

- Detailed plan
- Bottom up
  - Number of customers
  - Groupings / segments (e.g. quintiles or deciles)
  - Rate of use
  - Expected conversion rate
  - Good comparables?
  - Reconcile with projected sales activity
- Accounting issues - timing of revenue recognition, reserves



# COGS

## Variable:

- Material, including associated expenses
- Direct labor
  - Wages + training
- Shipping & other direct costs

## Fixed:

- Overhead
  - Facilities, management
- Capital
  - Product manufacturing equipment & systems



# People

- By month
- Personnel – timing and salary
  - Benefits (18% - 20%)
  - Training
  - Travel, etc.
  - Computer, office, etc.

# Marketing Program Expenses

- Market research
- Creative
- Production
- Advertising
- Events / shows
- Speakers
- Consultants
- PR

# Other

- Facilities
- Supplies
- Licenses
- Capital
  - Systems
  - Software
  - Furniture, etc.
- Regulatory?

# Key Principles

- The basis of the plan is what you have to accomplish.
- The elements of the plan should tie together and be in support of a strategy.
- The basis of the plan should be your best estimates and include issues of:
  - Time to hire
  - Learning curve, start up issues, etc.
- Forecasts should be based on best available evidence.
- You should continually monitor and make adjustments as necessary.



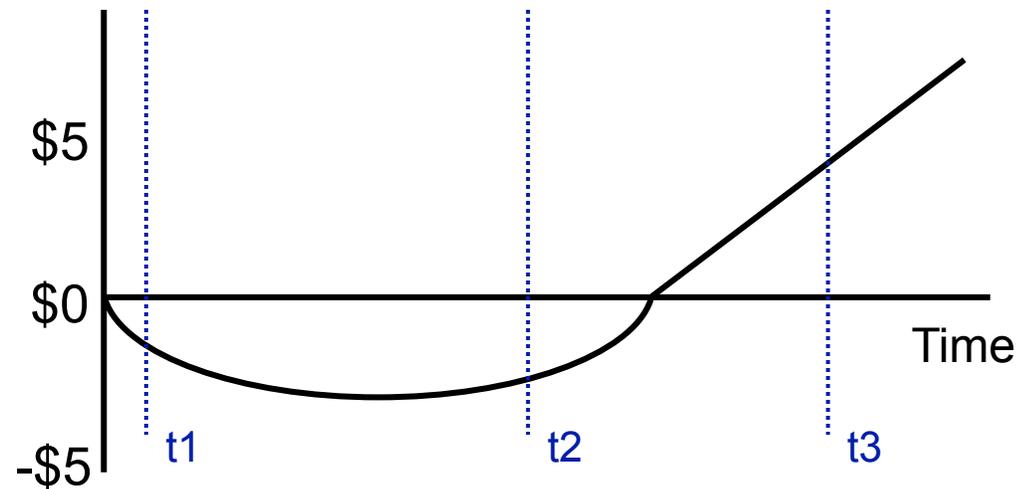
# Understanding the Market

- What are you trying to achieve?
- Complete and accurate financial projections
  - How many customers?
  - How much will they pay you?
  - For exactly what product?
  - How will you convince them to buy?

# FINANCING



# How much Money Do You Need?



- Should you raise the total amount of cash needed (according to projections) in a single investment?

Usually not

- How much is the business worth?
- What increases the value of the company?

Reduction of uncertainty

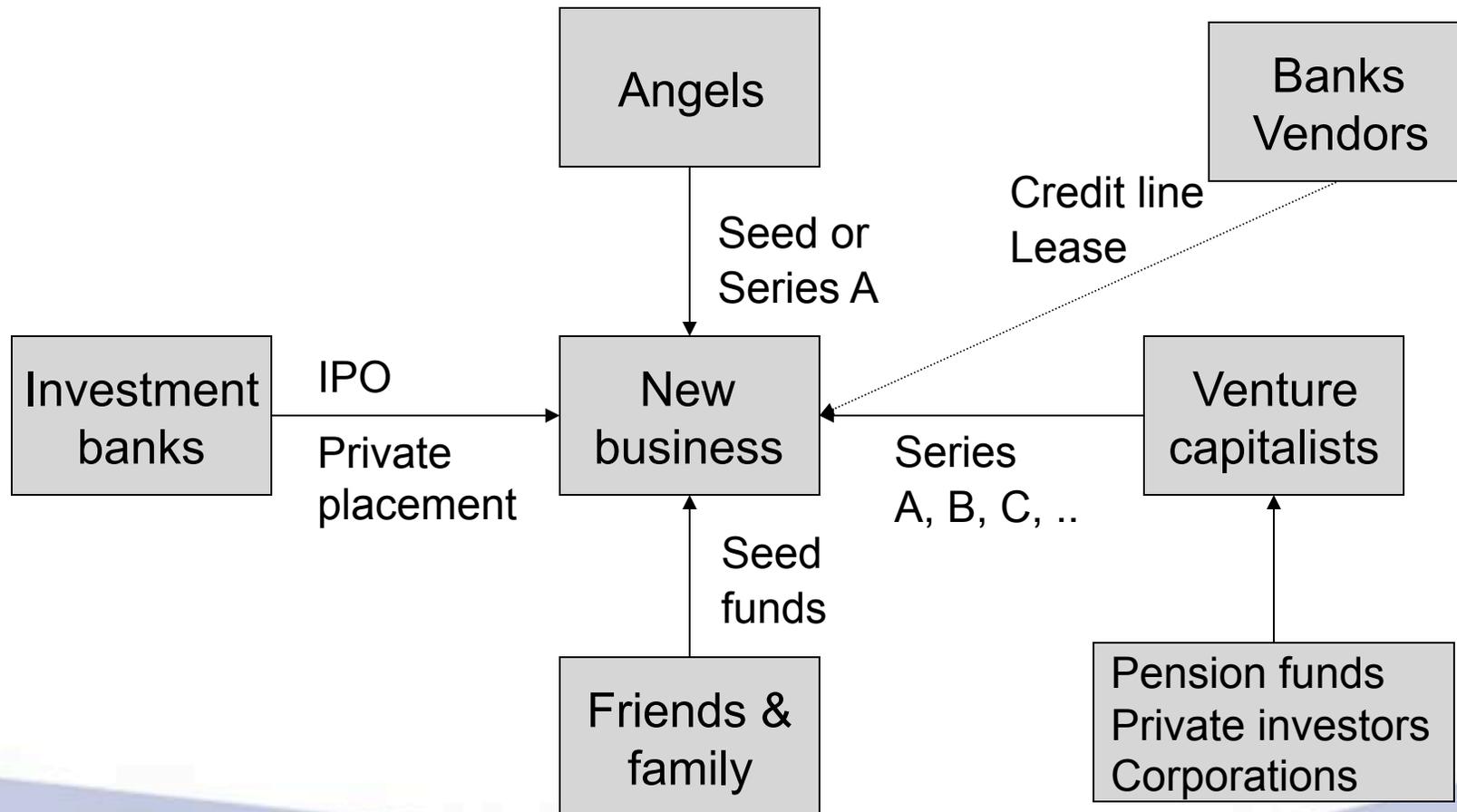
# How Much Money Should You Raise or Invest?

1. Establish a plan (which you will end up revising):
  - Operating plan for functional areas
  - Revenue projections
2. Determine a milestone that produces a step up in valuation - what will remove the (a?) main source of uncertainty?
  - (Keep in mind that investment may be tranced)
3. Determine cash needs
  - Including asset based financing to reduce requirement for equity based financing

# Financing Guidelines

- Enough to get you to the next milestone that would cause step up in valuation (+ small cushion, if possible)
- Possible milestones:
  - Team & business plan
  - Technology validation / IP
  - Product
  - Initial customer acceptance
  - Broader acceptance

# Sources of Financing



Source: Dorf & Byers

# Comparison of Financing

	Founders / Friends & family	Angels	Venture capitalists
Advantages	<ul style="list-style-type: none"> <li>•Control</li> <li>•Upside</li> </ul>	<ul style="list-style-type: none"> <li>•Understanding of the process</li> <li>•Not personal</li> <li>•Expertise</li> <li>•Contacts</li> </ul>	<ul style="list-style-type: none"> <li>•Capital</li> <li>•Validation</li> <li>•Contacts</li> <li>•Expertise</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>•Risk</li> <li>•No help</li> </ul>	<ul style="list-style-type: none"> <li>•Attention required, interference</li> <li>•Impediment to future financing</li> </ul>	<ul style="list-style-type: none"> <li>•Mismatch of objectives</li> <li>•Loss of control</li> <li>•Care &amp; feeding</li> </ul>

# From Whom Should You Seek Financing?



- Find investors whose objectives are aligned with your own
- Try to find investors who can fill some of the company's needs (in addition to capital)
- Find people you can work with

# What Terms Should You Expect?

- Control issues
  - Amount of investment
  - Timing of funds (& any conditions)
  - Valuation
  - Liquidation preference, dividends, conversion, anti-dilution,  
...
- Control issues
  - Board seat
  - Management changes
  - Strategic issues

# VC Considerations

- VC expected returns
  - ^ 50% / year
  - = 7.56X in 5 years
- “Dry powder” - VCs expect to make additional investments (pro rata)
- VC want downside protection:
  - Liquidation preference, conversion terms, anti-dilution, ...
  - Control: board, strategy, management, ability to block some transactions
- Comparable companies set expectations

