

# Starting a High-Tech Business

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**Jim Swanson**  
**Mike Baird**  
contact info at [firstonline.com](http://firstonline.com) or [eysu.org](http://eysu.org)

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# About the instructors

## -Jim Swanson

- Past CEO, CFO Ramtek, Corp. – public co
- Past CEO Los Altos Technologies
- Partner, Los Altos Incubator [firstonline.com](http://firstonline.com)
- SB Degree MIT, MBA & JD Stanford University
- Peace Corps
- Author: *Engineering Your Start-Up: A Guide for the High-Tech Entrepreneur* (Professional Pubs. Inc., 2<sup>nd</sup> Ed. 2003) [eysu.org](http://eysu.org)

# About the instructors

## -Mike Baird

- Past V.P. Eng. Ask Jeeves, Inc. ask.com  
one of most successful Internet IPOs in history
- Past CTO Snap-on Inc. \$2 billion co.
- Partner, Los Altos Incubator [firststone.com](http://firststone.com)
- PhD Computer Science, MBA
- Author: *Engineering Your Start-Up: A Guide for the High-Tech Entrepreneur* (Professional Pubs. Inc., 1992, 2003); *Starting a High-Tech Company* (IEEE Press, 1995) [eysu.org](http://eysu.org)

# **ENGINEERING YOUR START-UP**

***A Guide for the  
High-Tech Entrepreneur***

**Second Edition**

**JAMES A. SWANSON  
MICHAEL L. BAIRD**

**Professional Publications, Inc. • Belmont, CA**

# Session I

## Basic Entrepreneurship

- Basics for business success for the entrepreneurial engineer
- Writing a compelling business plan
- Getting funded, Q & A

# **Session II**

## **Advanced Entrepreneurship**

- **Capitalizing your start-up**
- **Legal structures**
- **Stock (restricted, common, preferred...)**
- **Stock Options (ISO's, NQSO's) , Other wealth building vehicles**
- **Stock & Option Grants, vesting, §83(b) elections...**
- **Valuation, Q & A**

# Today...

- **Is a start-up for you? Are you a “hunter” or a “farmer?”**
- **Internalizing the *five fundamental success factors* for launching and funding a successful technology-fueled start-up.**
- **How to identify killer products or services for exploiting growing lucrative protected niche markets.**

# **Your Needs: Who Are You?**

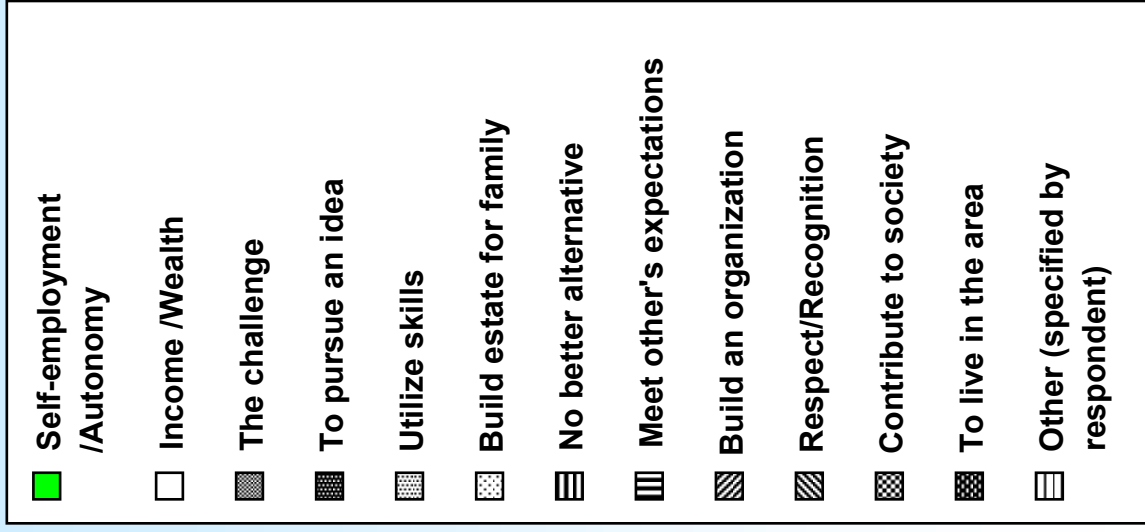
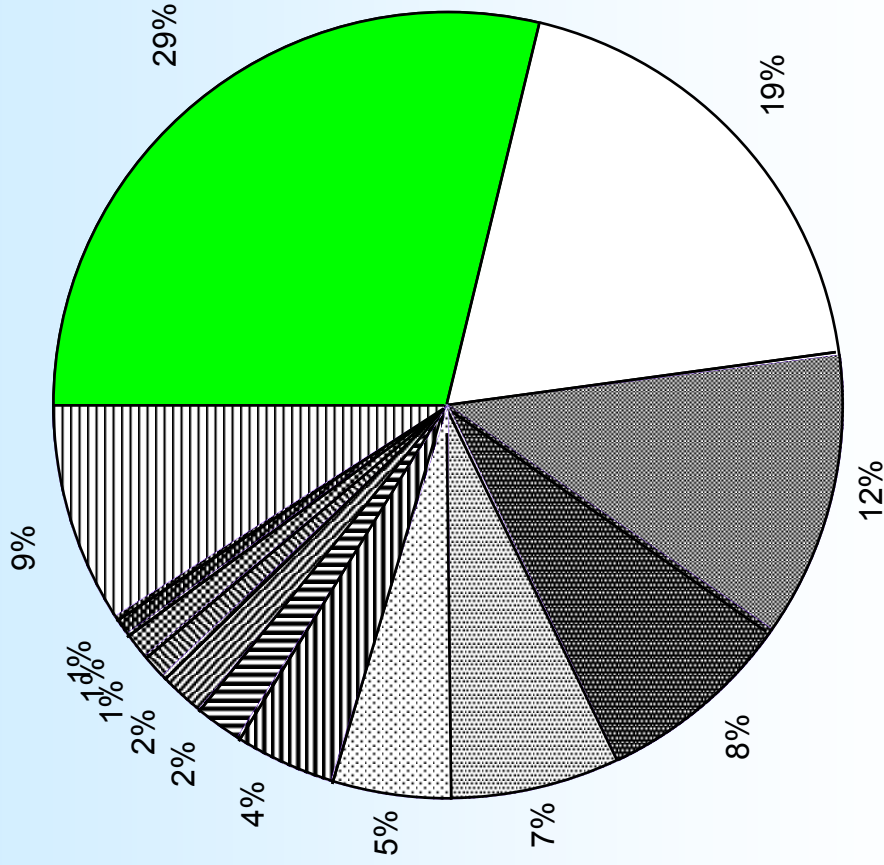
- **Employed, thinking of starting own business?**
- **Own a (small) business?**
- **Looked / looking for / raised funds?**
- **Written a business plan? funded? rejected?**

# 5 Audience Questions?

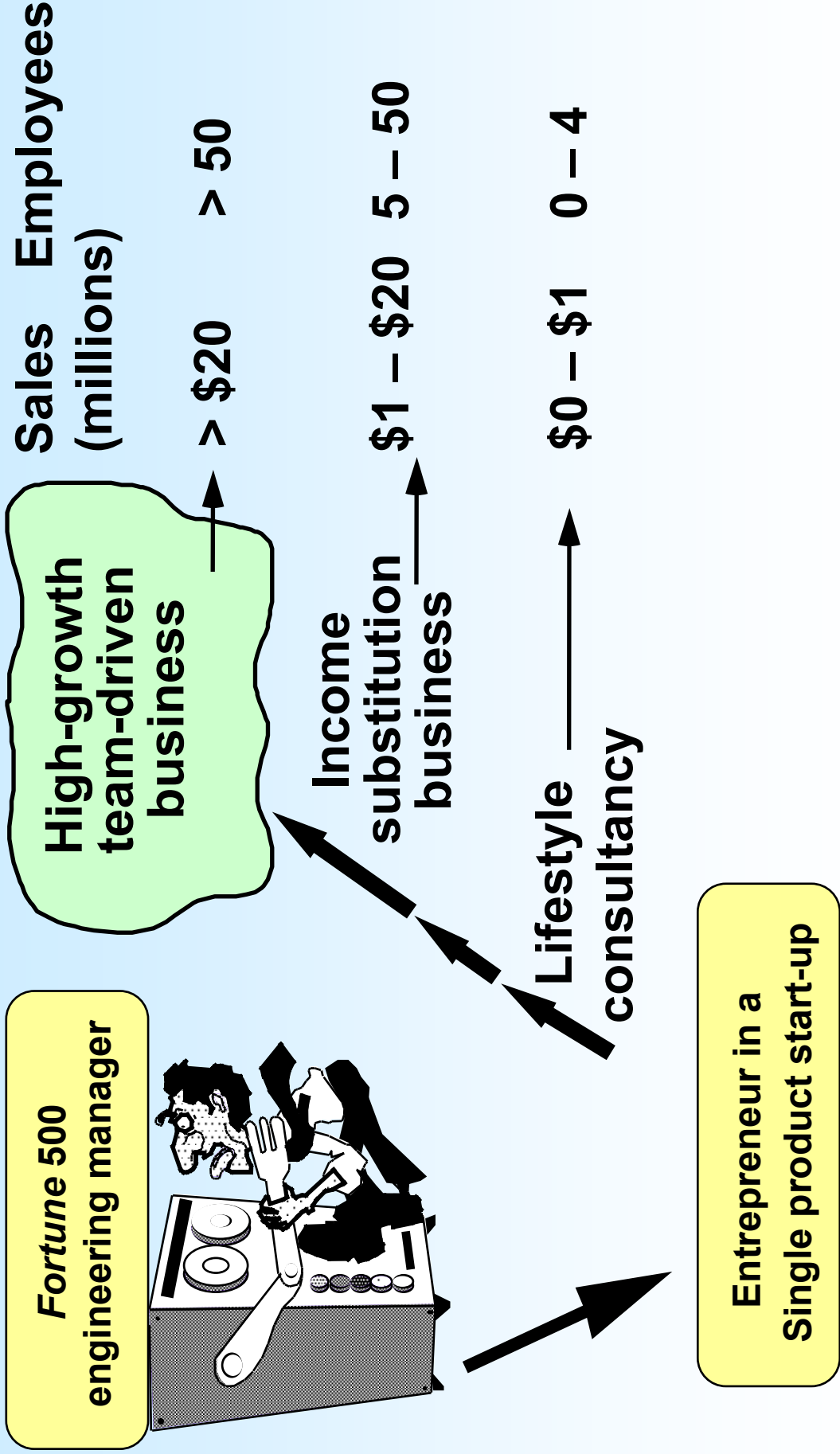


# Reasons Cited for Starting

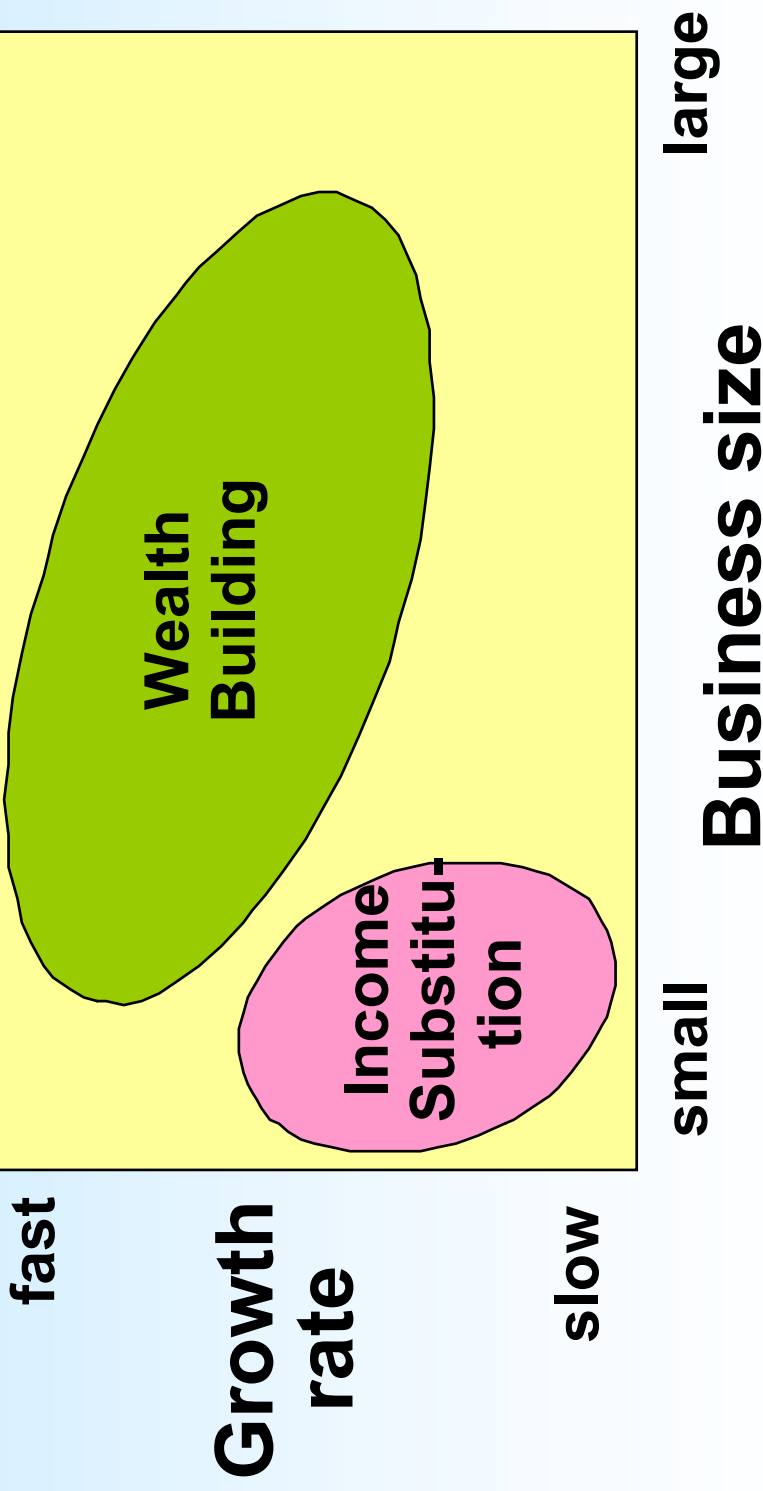
## One's Own Business



# From Where to Where?

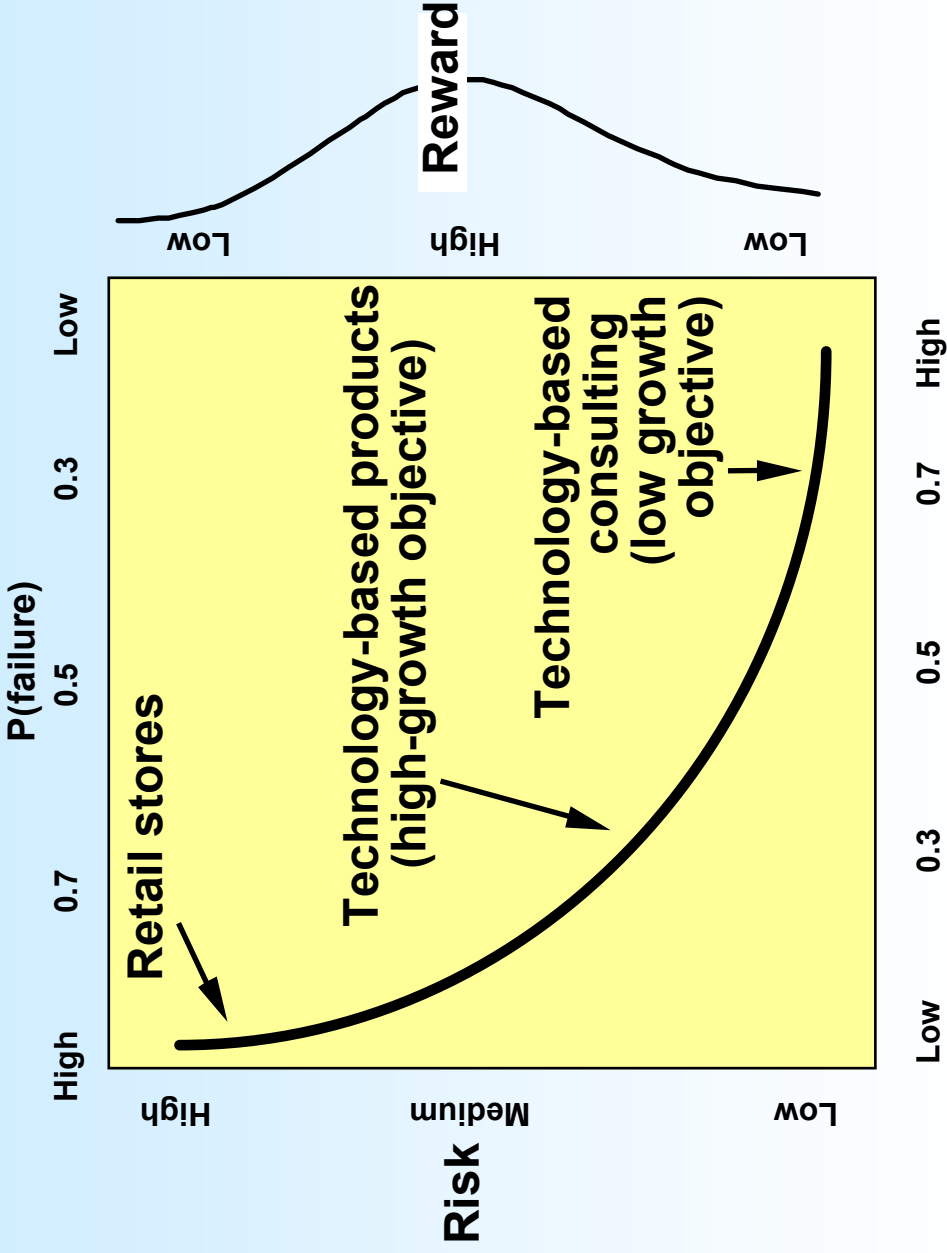


# The Income-Substitution Wealth-Creation Spectrum



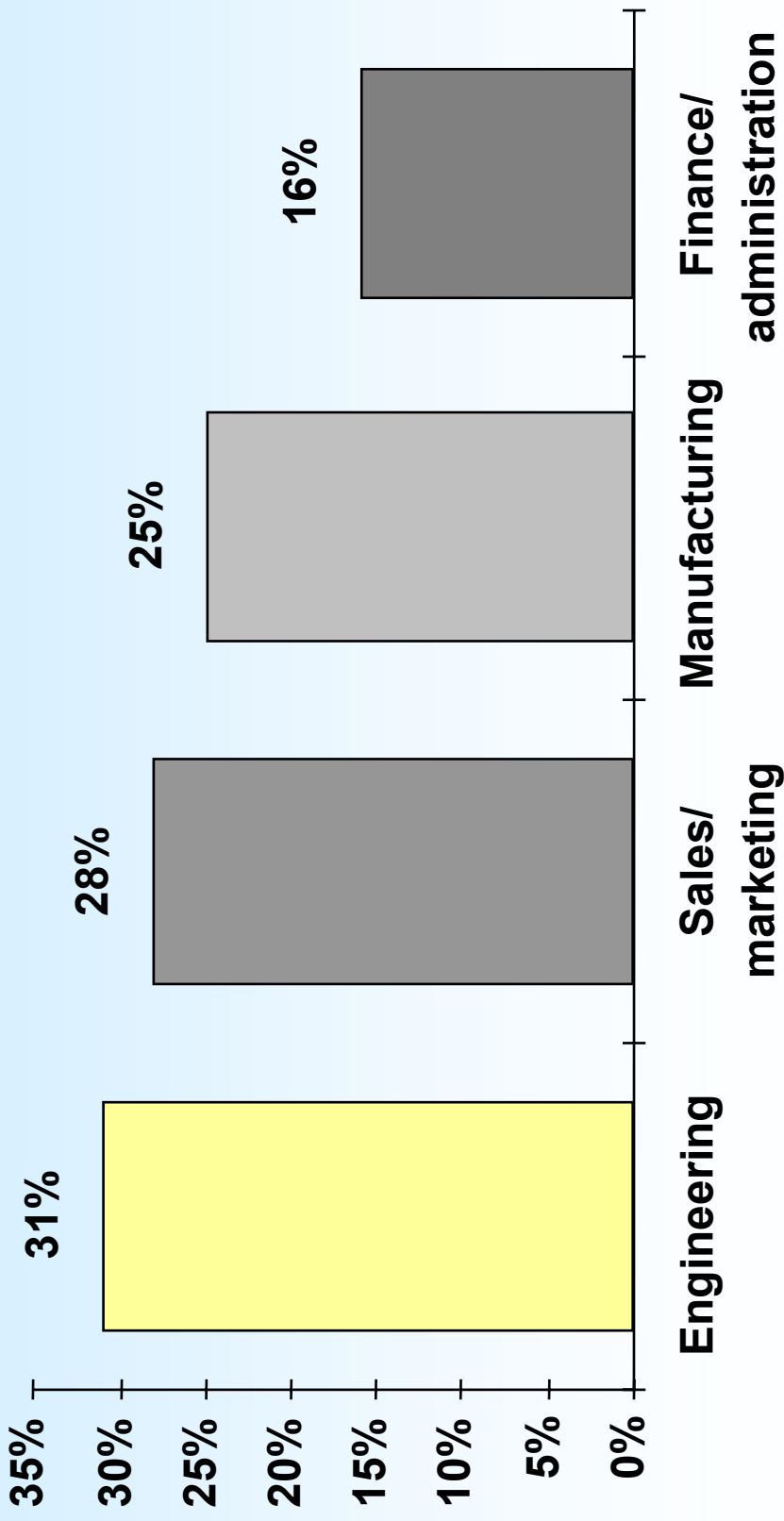
# Business Size, Risk, and Reward

P(Survival) is inversely proportional to risk



$$P(\text{survival}) = 1.0 - p(\text{failure})$$

# Effort Allocated by Founders During First Six Months



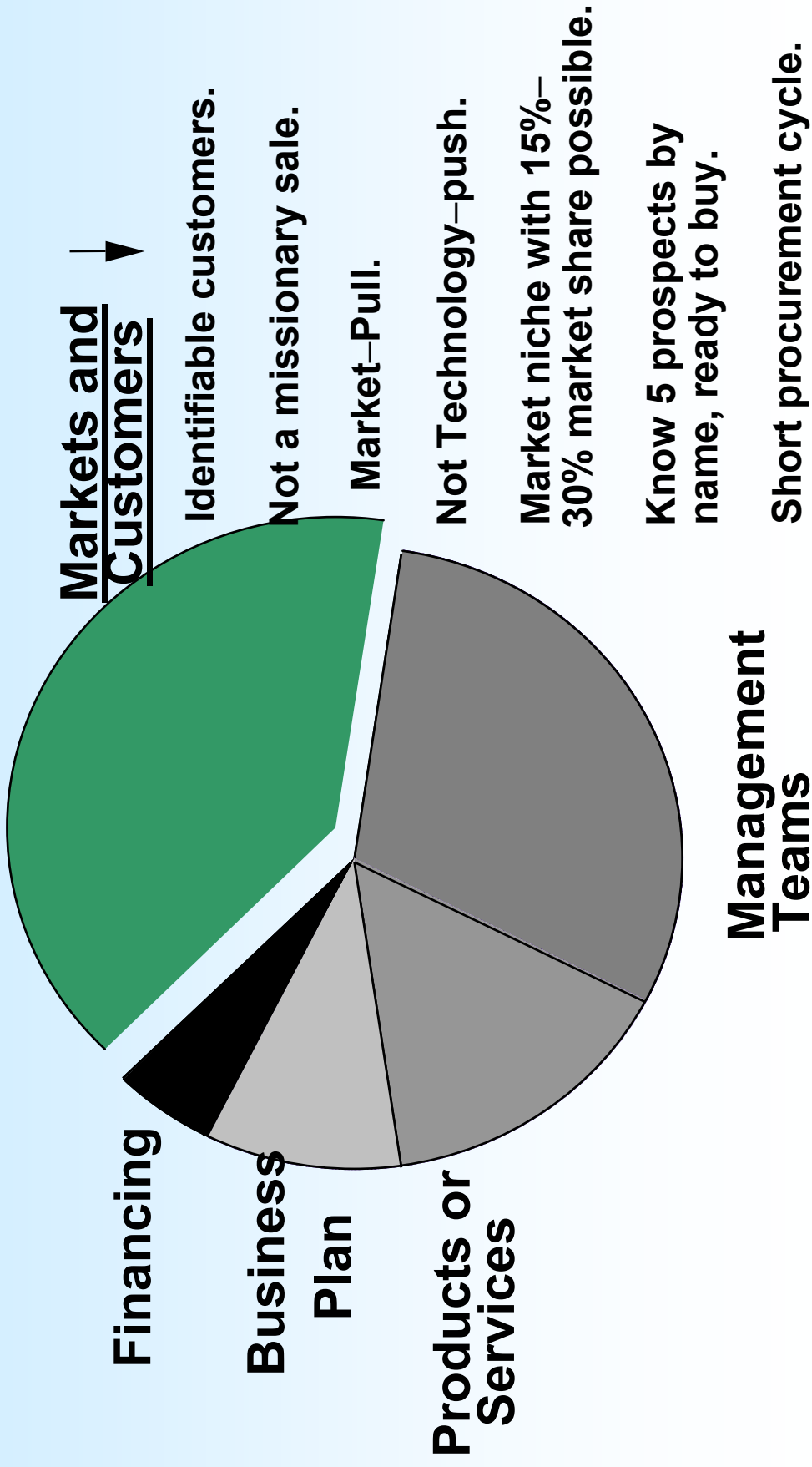
# **5 Basics for Success**

**Beyond "The Big Idea, the Passion, the Vision" ... making it real... involves...**

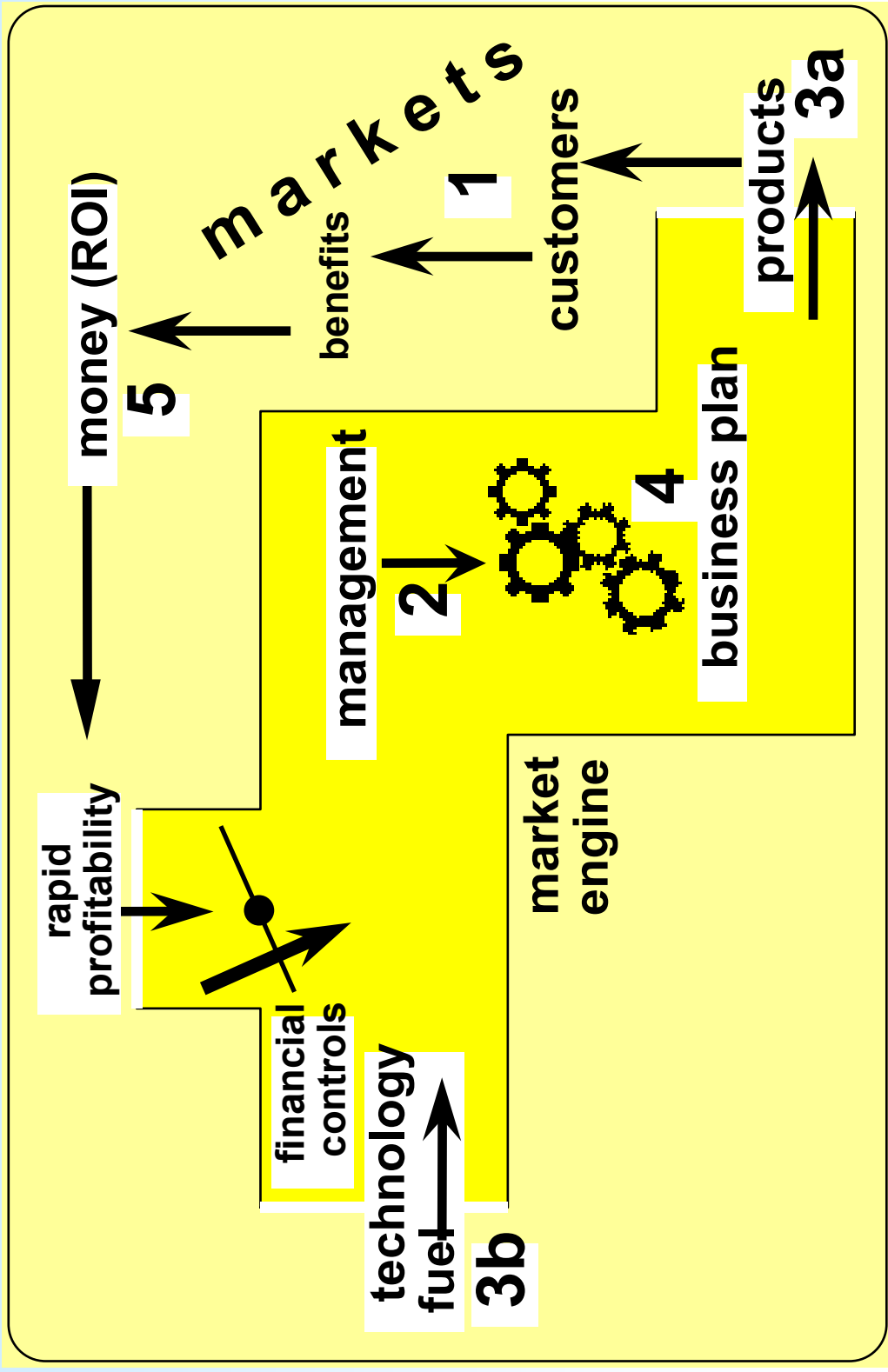
- **Management**
- **Markets and Customers**
- **Proprietary Products, Technology, Services**
- **Attractive Financing and ROI**
- **Compelling Business Plan**

**Do You Need a Radical  
New Idea?**

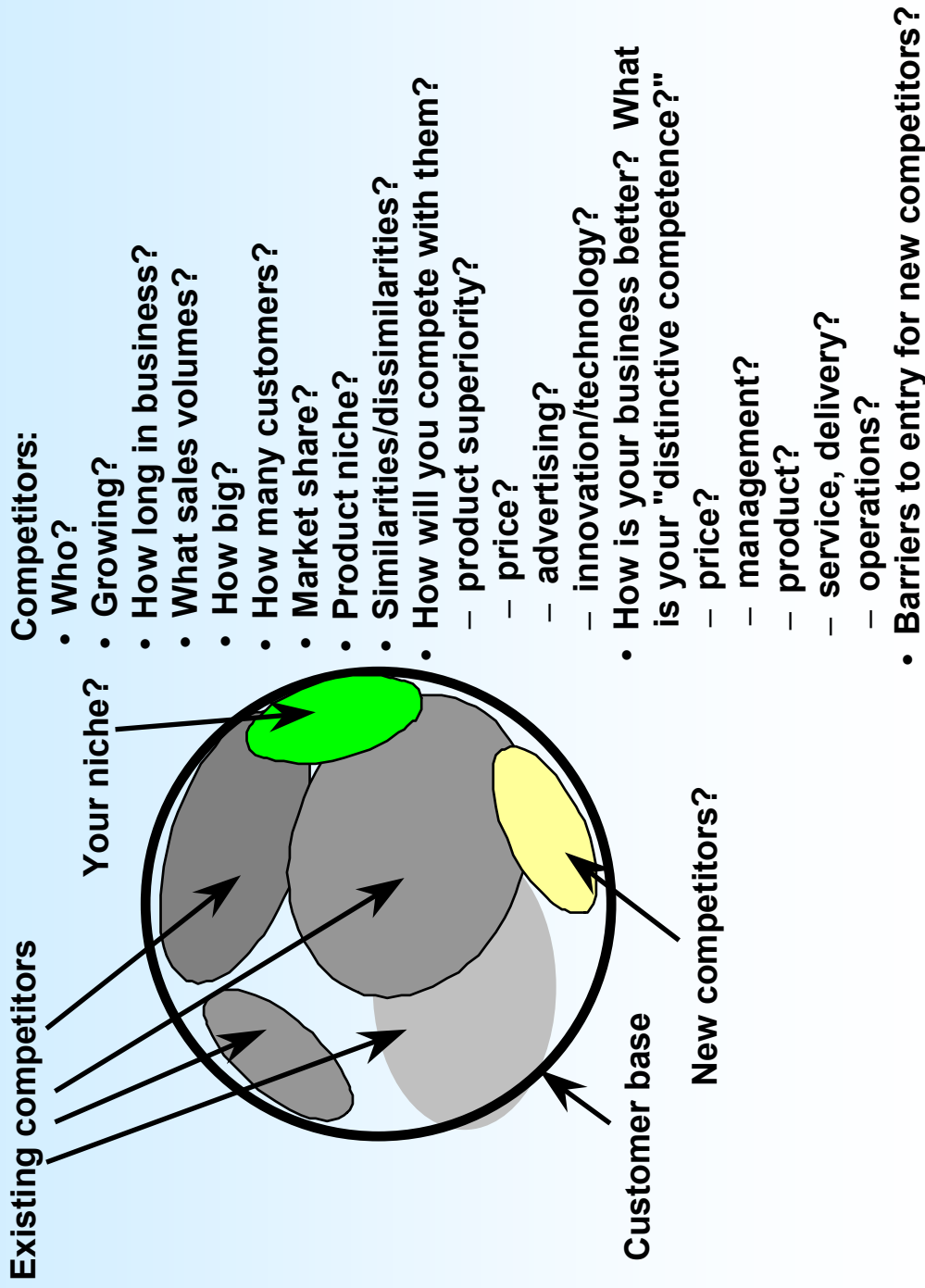
# First of Five Elements of Start-Up Success



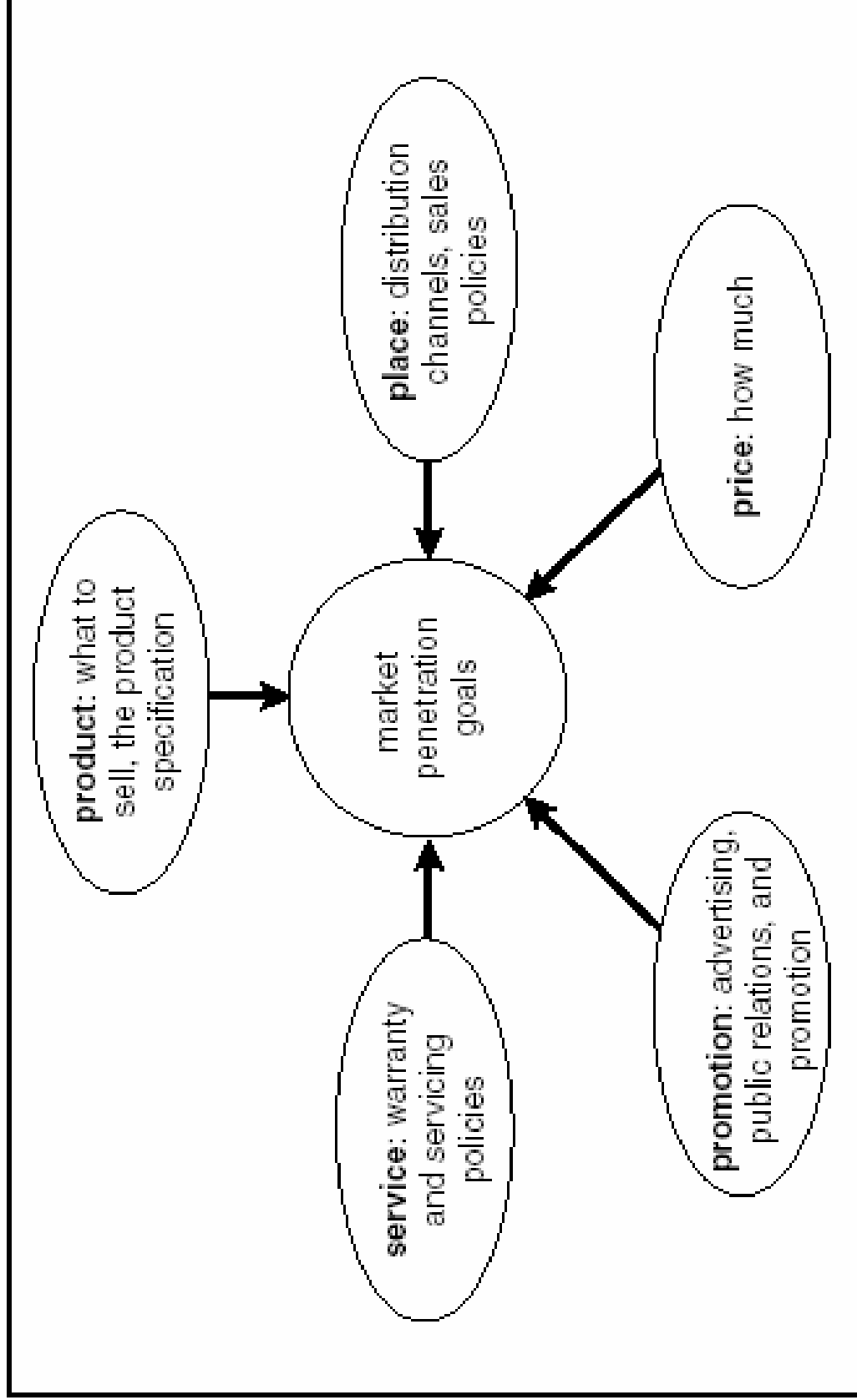
# Market- and Customer- Driven Technology-Fueled Business Machine



# Competitive Forces in Your Marketplace



# Marketing Strategy

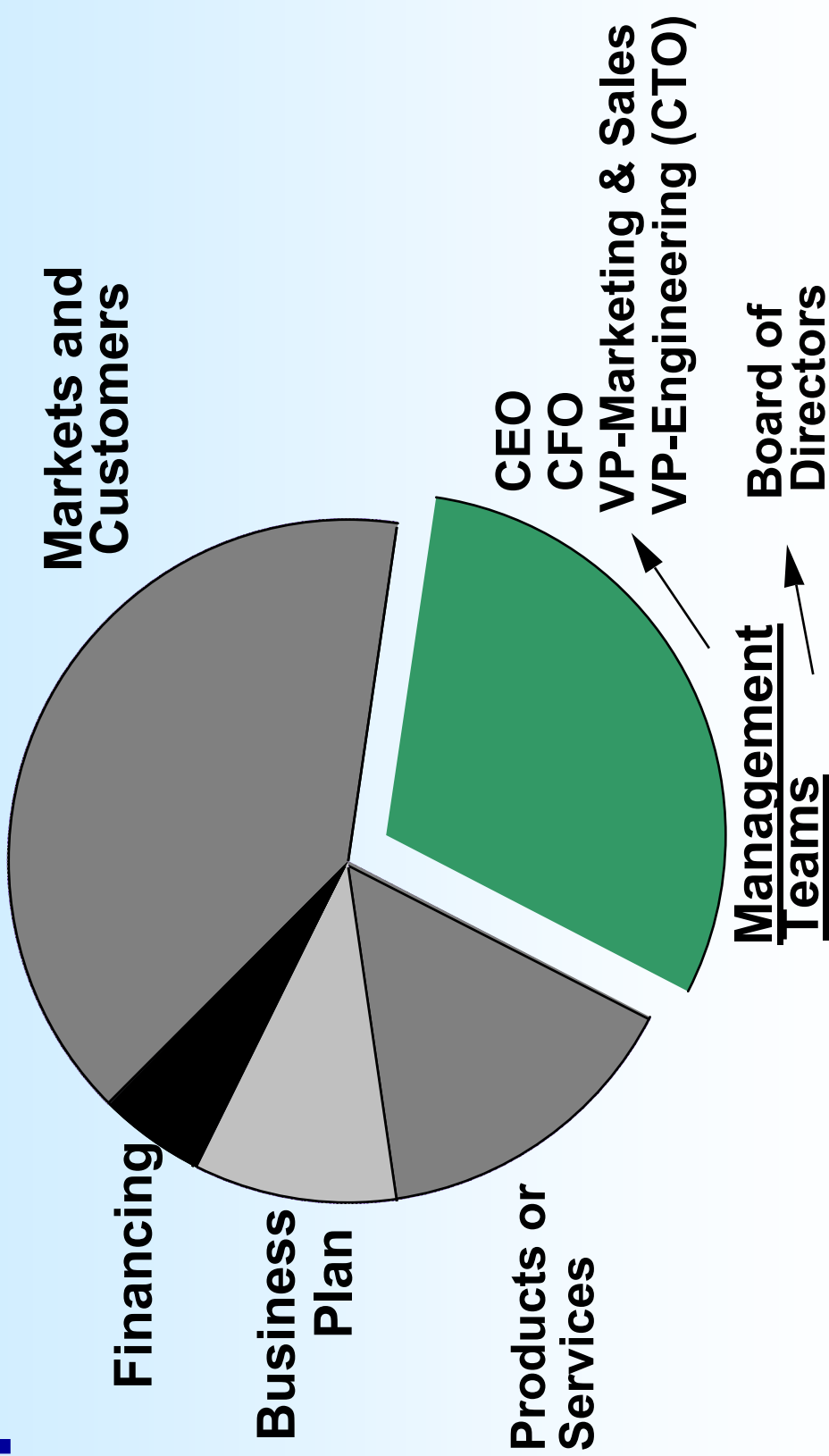


**Figure 8.2** Marketing Strategy—the Four Ps Plus an S

# Markets versus Marketing

- Gillette introduces The Sensor™ razor for men
  - | Retail price: \$3.75 with three blades
  - | R&D costs: \$200 million
  - | First-year advertising budget: \$110 million
  - | Estimated annual retail sales: \$390 million
- Even if you could invent a superior razor blade, would you want to compete in this game?

# Second of Five Elements of Start-Up Success

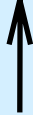
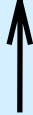


# Management Completeness- Experience Grid

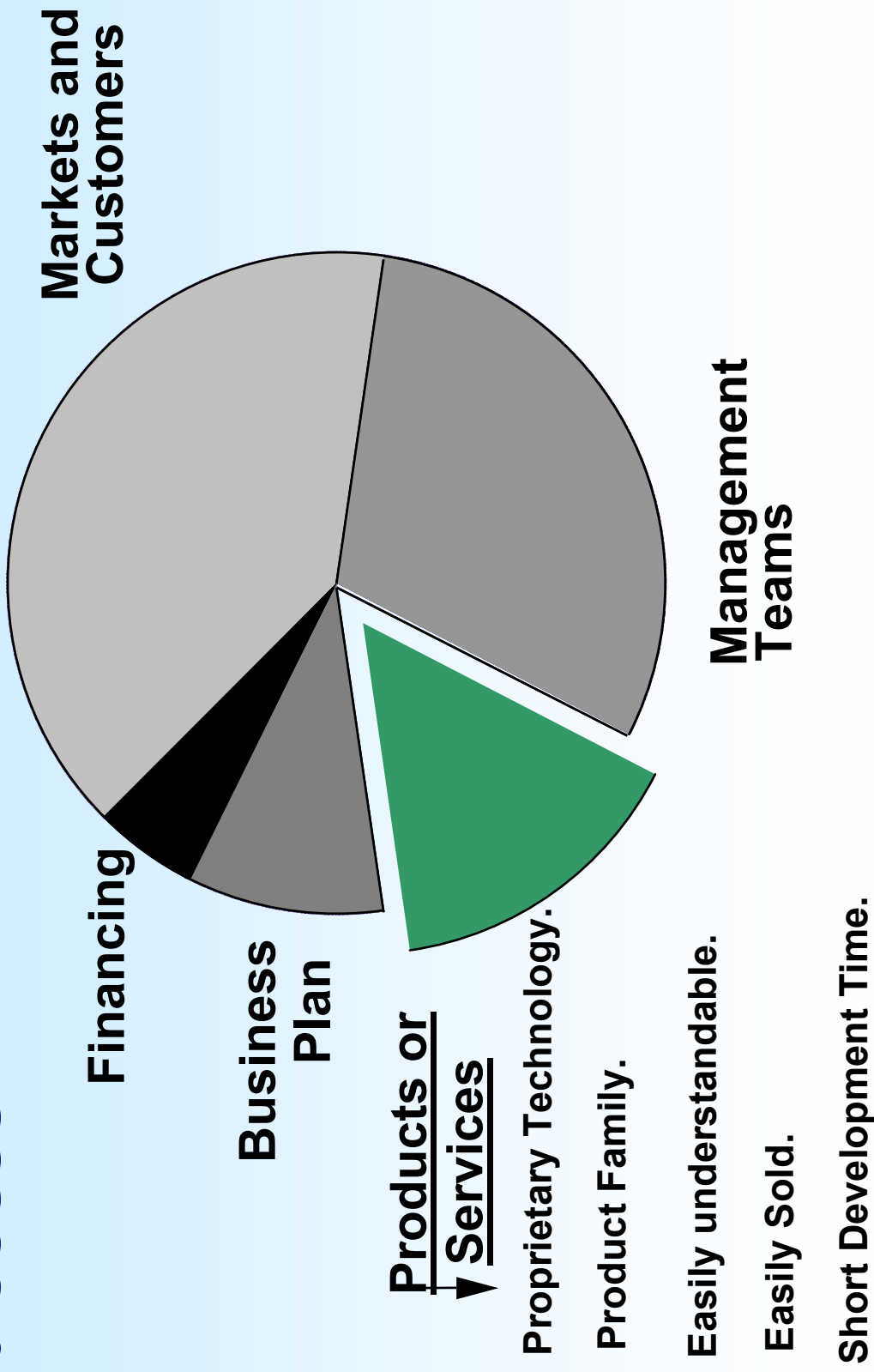
Complete team (2)	2	3	4
Partial team (1)	1	2	3
No team (0)	0	1	2

Inexperienced (0)  
Experienced (1)  
Very experienced (2)

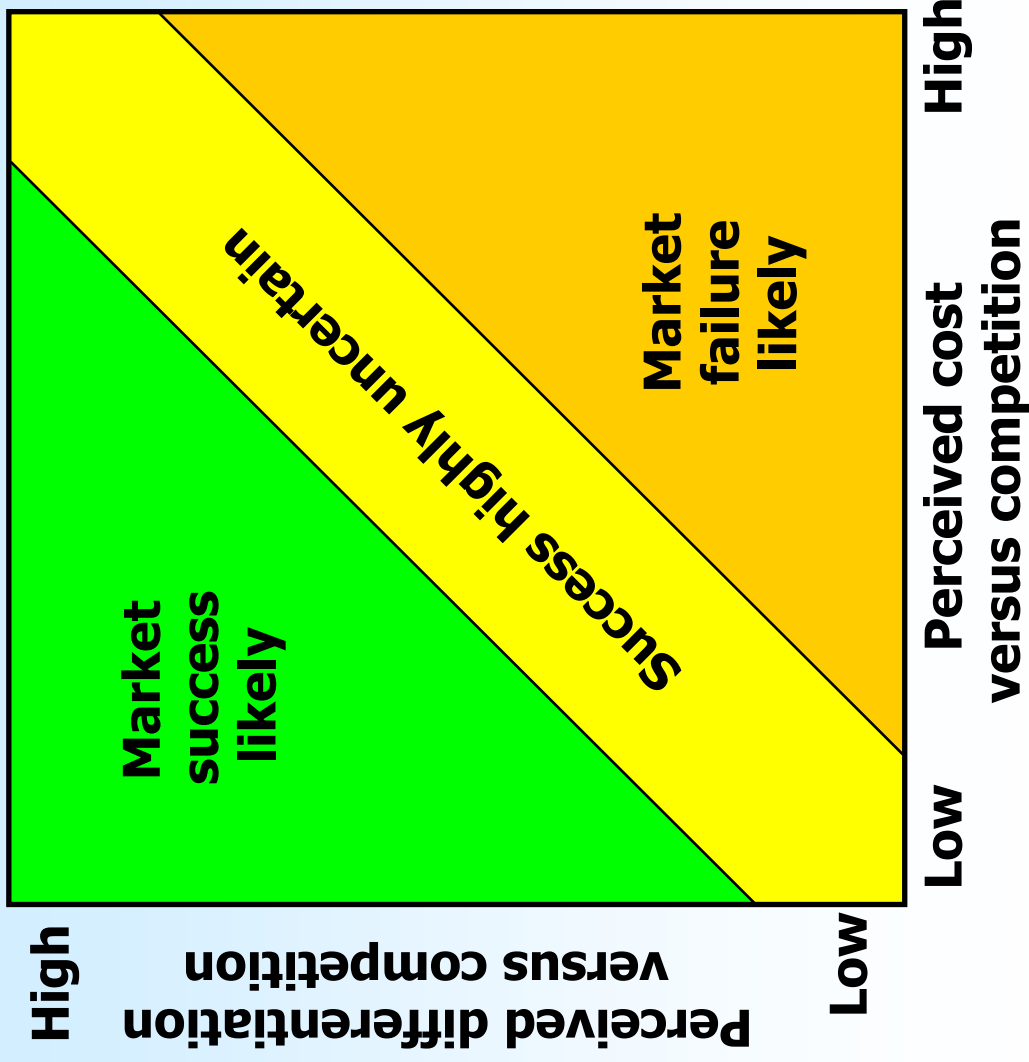
# Team Size and Product Status in Business Plan Reception

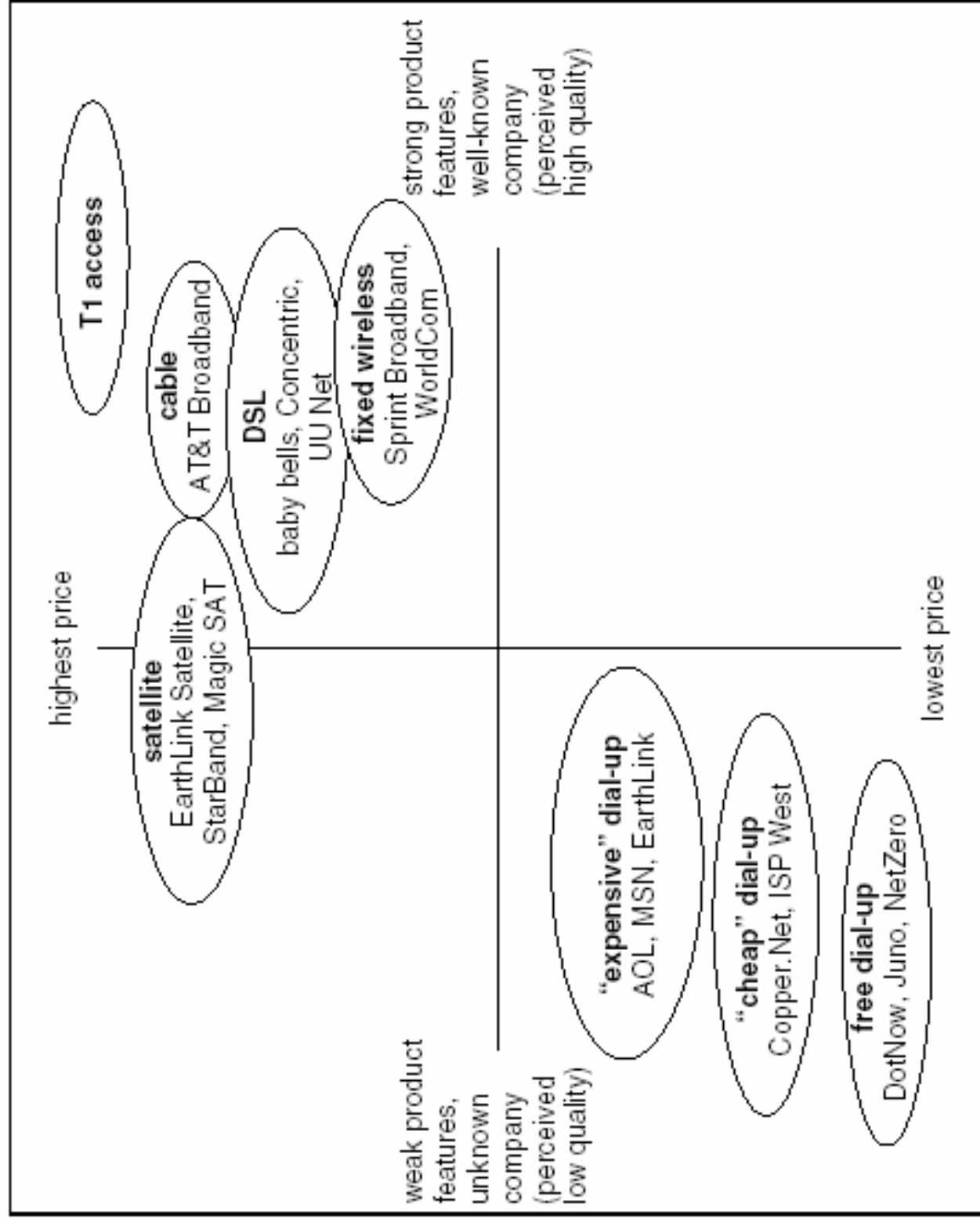
Management status		  Most desirable			
Level 4. All members on board and experienced.	4 + 1 = 5	4 + 2 = 6	4 + 3 = 7	4 + 4 = 8	
Level 3. All members identified; some on board only after funding.	3 + 1 = 4	3 + 2 = 5	3 + 3 = 6	3 + 4 = 7	
Level 2. Two founders; others not identified.	2 + 1 = 3	2 + 2 = 4	2 + 3 = 5	2 + 4 = 6	
Level 1. Single entrepreneur.	1 + 1 = 2	1 + 2 = 3	1 + 3 = 4	1 + 4 = 5	
	Level 1. Idea only; market assumed.	Level 2. Prototype operable but not developed for production; market assumed.	Level 3. Product fully developed; few or no users; market assumed.	Level 4. Product fully developed; satisfied users; market established.	
<b>Product status=&gt;</b>					

# Third of Five Elements of Start-Up Success



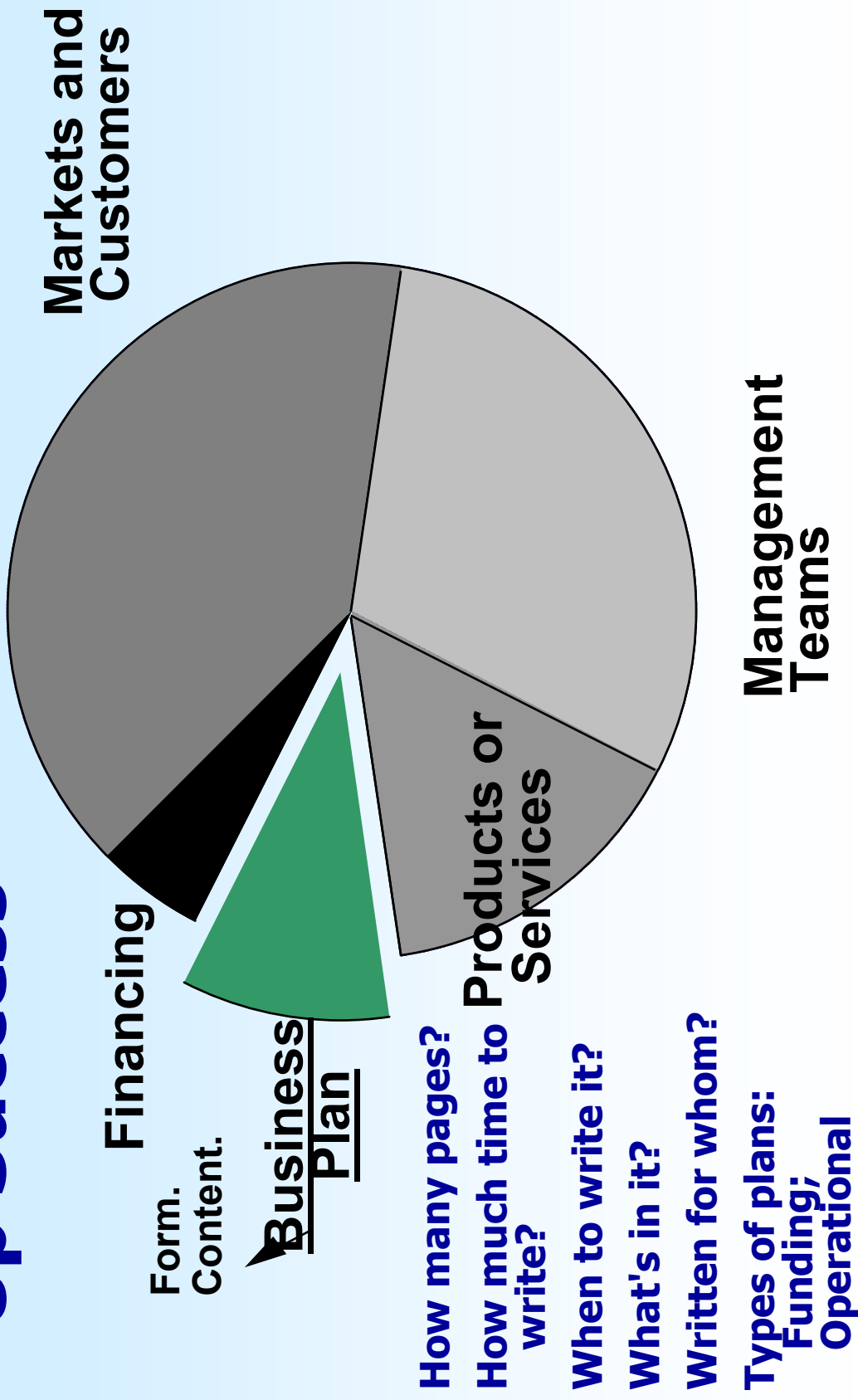
# Cost versus Perceived Differentiation Model



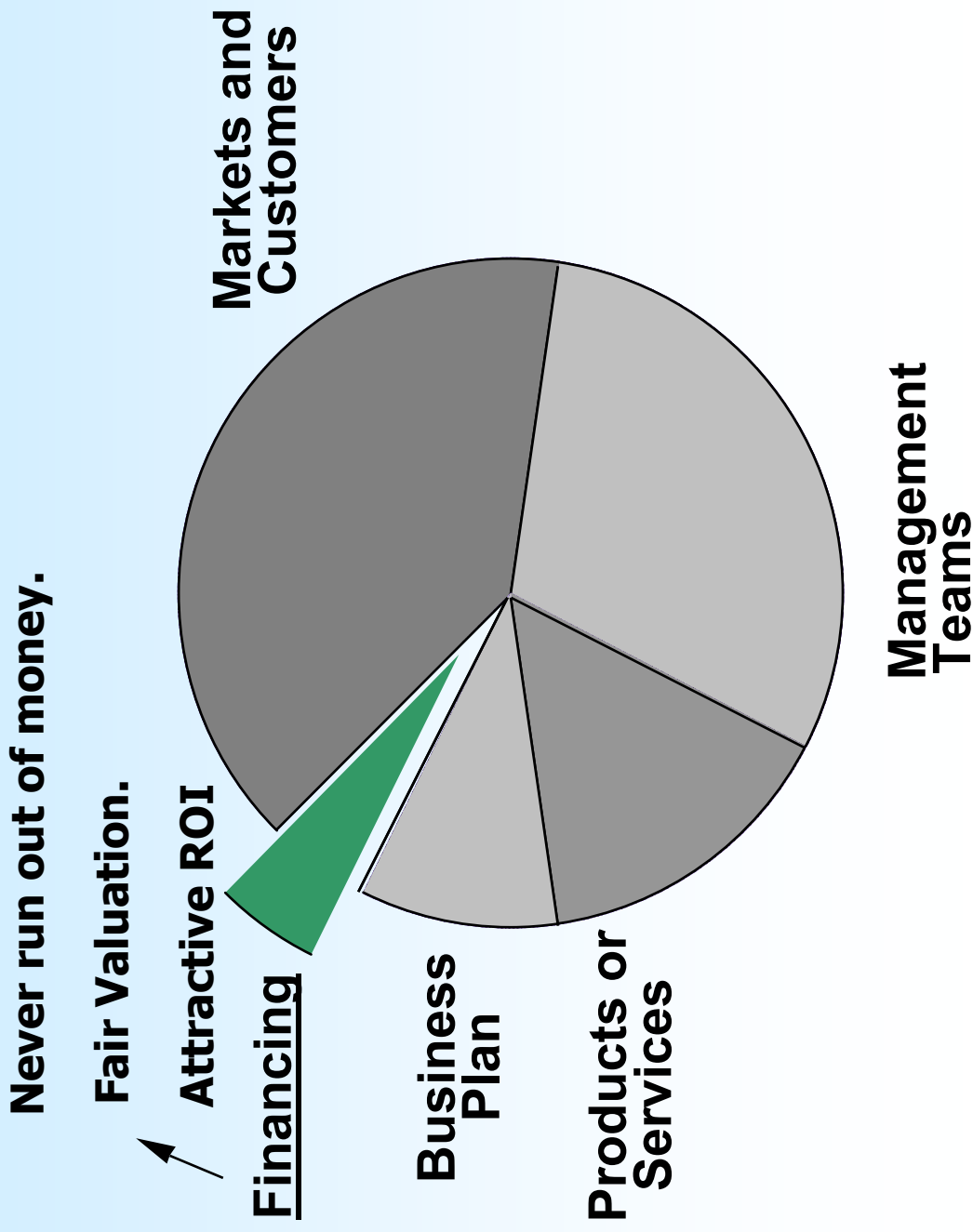


**Figure 9.2** Positioning of Internet Service Providers (ISPs)

# Fourth of Five Elements of Start-Up Success



# Fifth of Five Elements of Start-Up Success



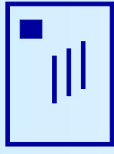
# **Writing a compelling business plan**

- **Elements of a successful and fundable plan**
- **Some sample plan outlines**
- **Analysis of a classic venture capital-funded business plan**
- **Fatal flaws and deal killers – how to avoid them**
- **"Tips and Tricks" for writing the plan**

# **Elements of a successful and fundable plan**

- **Markets and Customers  
(compelling...)**
- **Management Team (proven...)**
- **Products and Services  
(proprietary...)**
- **Business Plan (content, format,  
presentation)**
- **Financing (ROI, pro-formas...)**

# Some sample plan outlines



See *Engineering Your Start-Up*  
for many sample outlines

# **Analysis of a classic venture capital-funded business plan**

# Genus, Inc. Case Study (\$9.5M, 1981)

Section name	Number of pages	Comments
Executive Summary	2	It is compelling and powerful.
Marketing Analysis	15	The section is comprehensive.
Product Analysis	4	Says what the product will do, <i>nothing</i> about how it will be developed or invented. Technology is not being sold here.
Operations Plan	1	The strong management team, with proven track records, can administer operations.
Management and key personnel	8	Three two-page résumés for the president/general manager, the V.P. finance, and the V.P. engineering, plus an organization chart says it all. <b>No mention is made of any key engineers</b> who might design the product.
Financial Data	12	Tells investors how much money the business is going to make, when, and what will be spent to make it happen.

# **Some fatal flaws and deal killers – how to avoid them**

- **Lofty Mission Statement (e.g., reduce world hunger, plow 10% of profits into charity...)**
- **Missing any of the 5 basics of success w/o acknowledging the fact**
- **Imputed ROI not attractive**
- **Fixation on "control," overt greed**
- **"Distributed leadership," or professed "socialist" management philosophies**

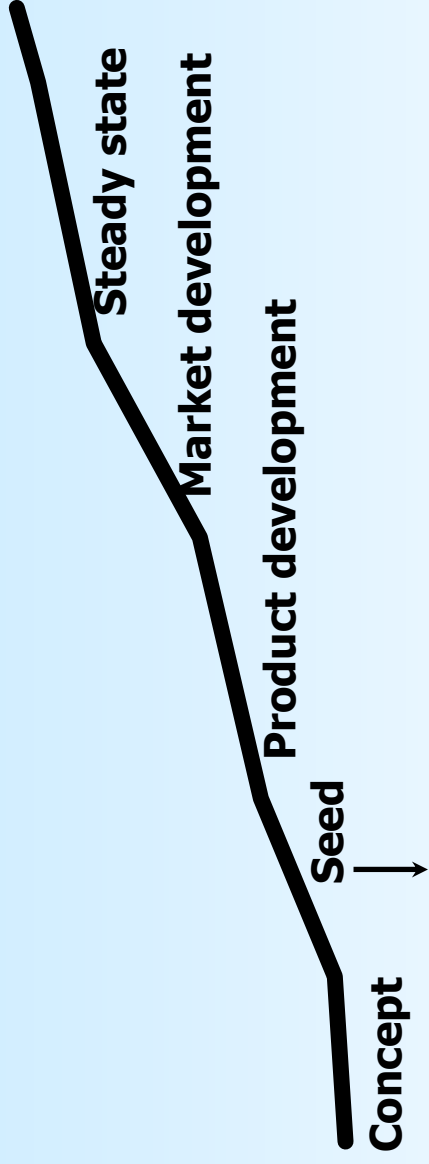
# **Case Study: One Business Plan that Will Never be Funded**

- **Entrepreneur looking for \$500,000 for 15% of the company**  
**(Implied pre-money valuation = \$2.83 million; post-money valuation = \$3.3 million)**
- **Projected Sales of \$1 million in 3 years**
- **Management team is one person**
- **Market is "everyone"**

# "Tips and Tricks" for writing the plan

- Can someone else write *your* plan?
- When to use a consultant?
- Watch out for promises to help raise funds, especially with up-front fees.

# Operational Stages of Company Growth — When to Write Your Plan

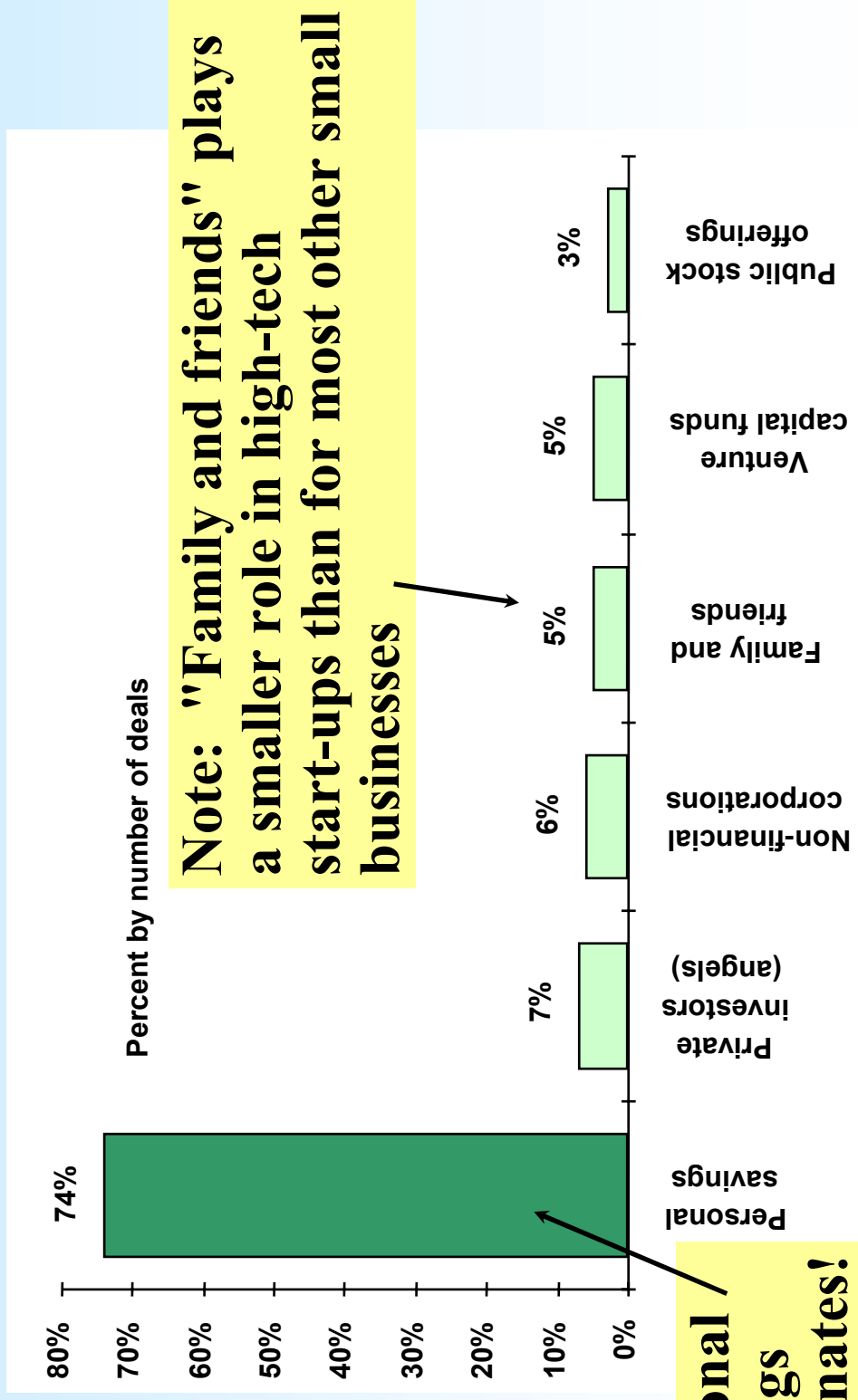


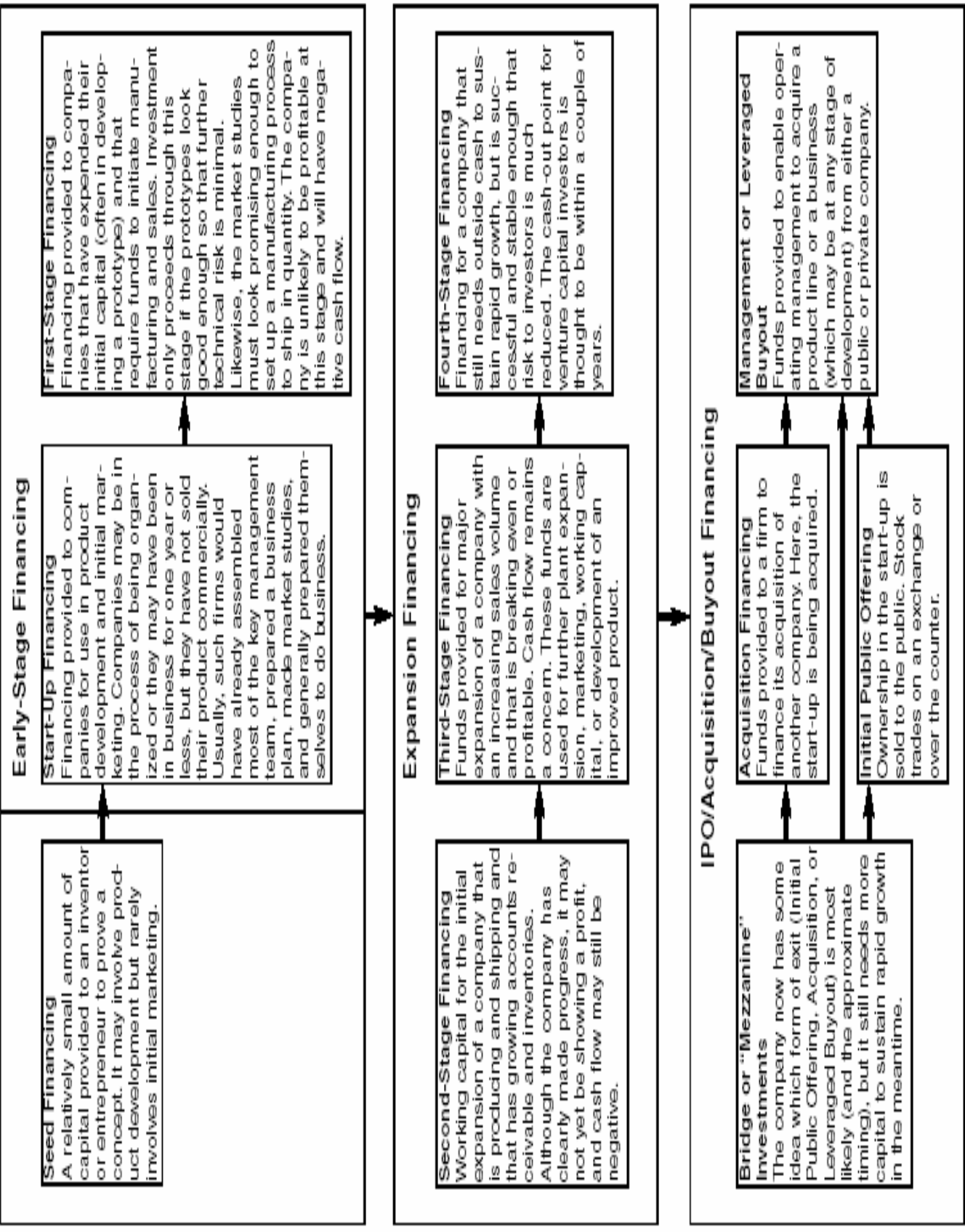
<p>Still working, you formulate your ideas in a business plan outline, and you start to build your management team</p>	<p>You quit your job to pursue business planning full time. Your co-founders may remain working</p>	<p>Funding is obtained. Your team members join you in the business launch</p>
<p>Concept</p>		<p>Seed</p>

# Getting Funded

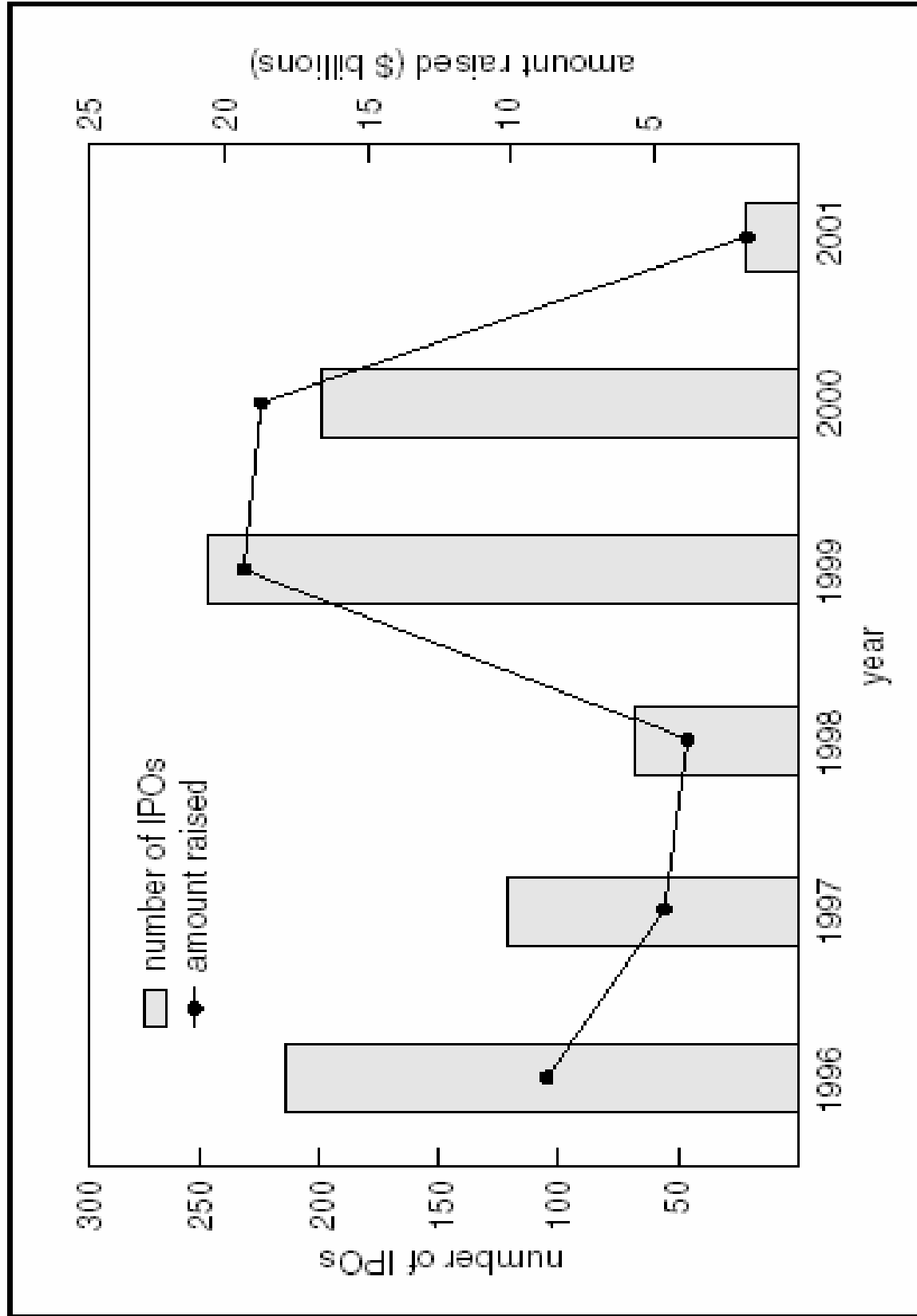
- Sources of start-up capital
- "Shopping" the plan
- Venture capital – is it for you?

# Sources for Seed Capital for High-Tech Companies





**Figure 6.1** Stages of a Company's Growth

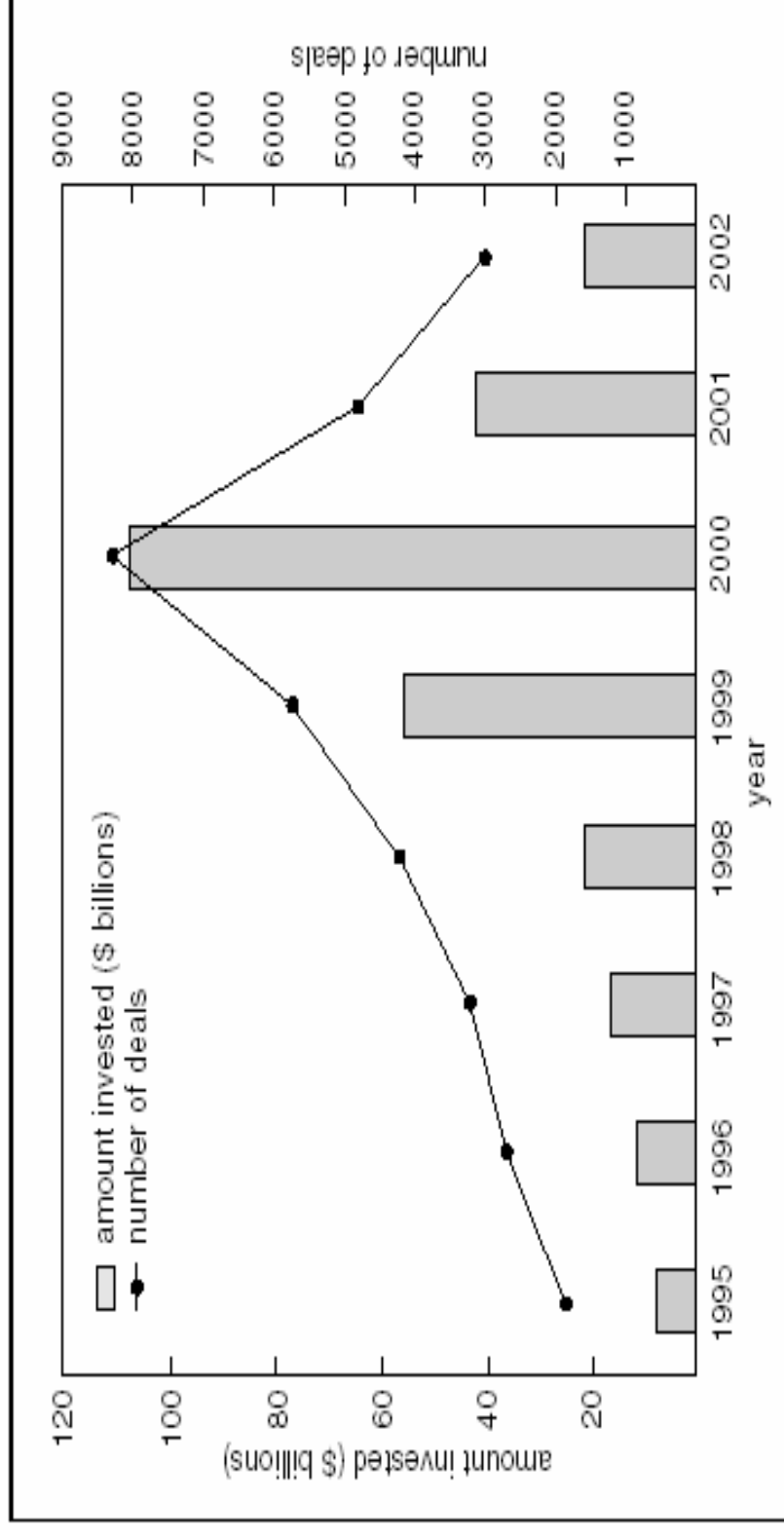


**Figure 6.4** Several Years of Venture-Backed IPOs

# VCS versus Angels

Venture funds back  
~2,000+ deals per year

Angels support ~30,000  
deals per year



Source: PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree™ Survey

Figure 11.2 Venture Capital Investments (1995–2002)

# **Venture capital – is it for you?**

- **Who is getting funded? (read, attend...)**
- **What's your "score" (on the 5 success factors)**
- **Outside advice (seek it, and listen)**

# "Shopping" the VC plan

- Unsolicited "Over the transom" plans: % funded  $\approx 0$
- Use VC directories only as a road map (WAVC is good)
- Strong partners are well-connected (work on developing, or joining, a team)

# Summary

- **Commit**  
**(make the right decision for yourself)**
- **Educate yourself (read, network, explore, experiment, invest time and money, build relationships, build prototypes, cultivate potential customers)**
- **Plan**  
**(what will result in success for you?)**
- **Execute (persist, but know when to call a loss)**

# **Starting a High-Tech Business**

## **Session II**

# **Advanced Entrepreneurship**

**2004**

This presentation is published at <http://www.eyasu.org>

**Jim Swanson**

**Mike Baird**

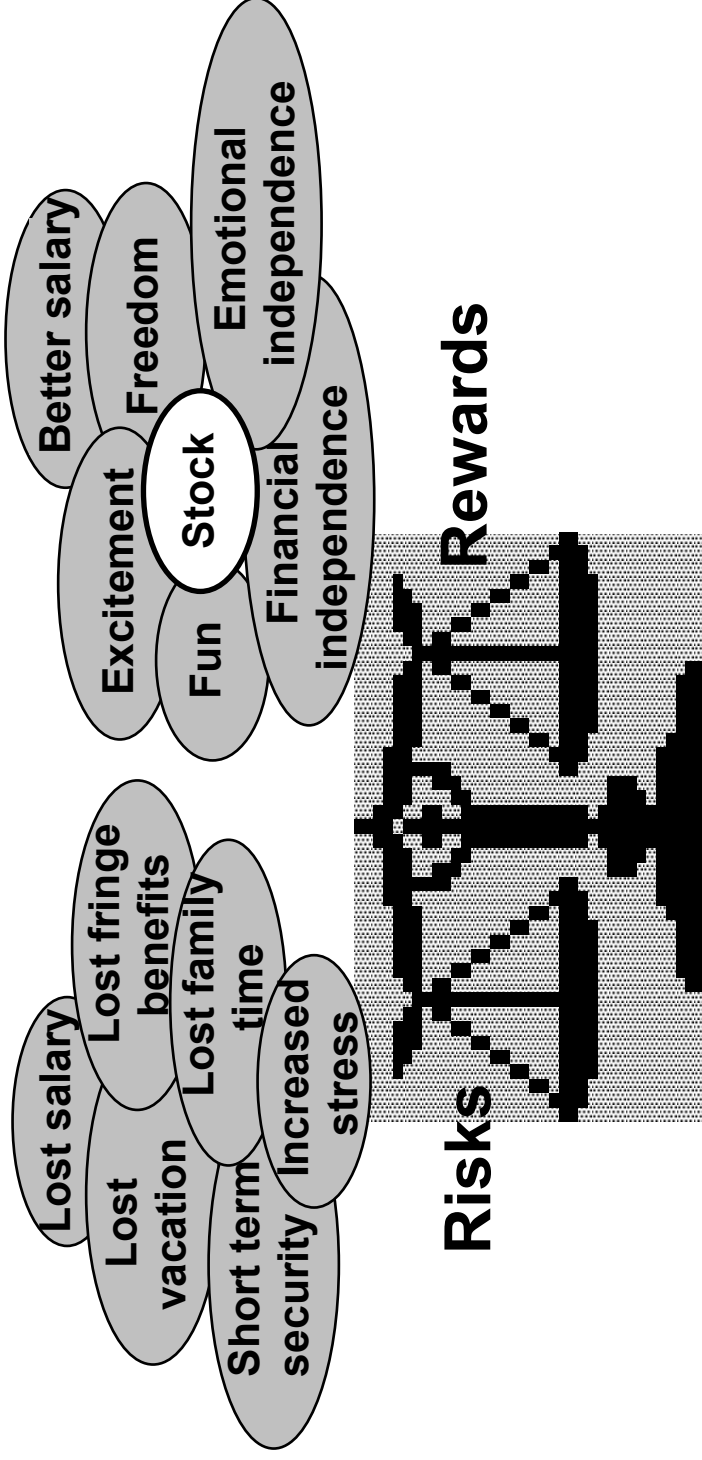
# Advanced Entrepreneurship

- Capitalizing your start-up
- Legal structures
- Stock (restricted, common, preferred...)
- Stock Options (ISO's, NQSO's) , Other wealth building vehicles
- Stock & Option Grants, vesting, §83(b) elections...
- Valuation, Q & A

# Knowledge is \$\$\$

- Lack of knowledge of financing tricks, stock grant, and stock option practices can do more to limit your financial success than lacking knowledge of the fundamental basics for business success:
  - Markets and customers
  - Management team
  - Products and services
  - Attractive ROI,
  - Supported by a written Business Plan

# The Relative Importance of Stock



# **Capitalizing your Start-Up**

## **–Levels of Financing**

**To raise the money you need to speak the language...**

**Seed financing**

**Early stage financing**

- Start-Up**
- First-stage**

**Expansion financing**

- 2nd, 3rd, 4th stages**

**IPO / Acquisition / Buyout financing**

# Capitalizing your Start-Up (cont.)

**Private vs. Public sales of stock**

- **Private stock offerings**
- **SEC Registration Requirements**
- **Initial Public Offerings (IPOs)**
- **SCORs Small Company Offering Registration**

**§1244 IRS small business stock (common stock losses can be treated as "ordinary" rather than "capital" losses)**

# Legal Structures

and ownership vehicles

- Sole Proprietorships
- Partnerships
- Corporations
  - 'C'
  - Sub-Chapter 'S'
- Limited Liability Companies (LLCs)

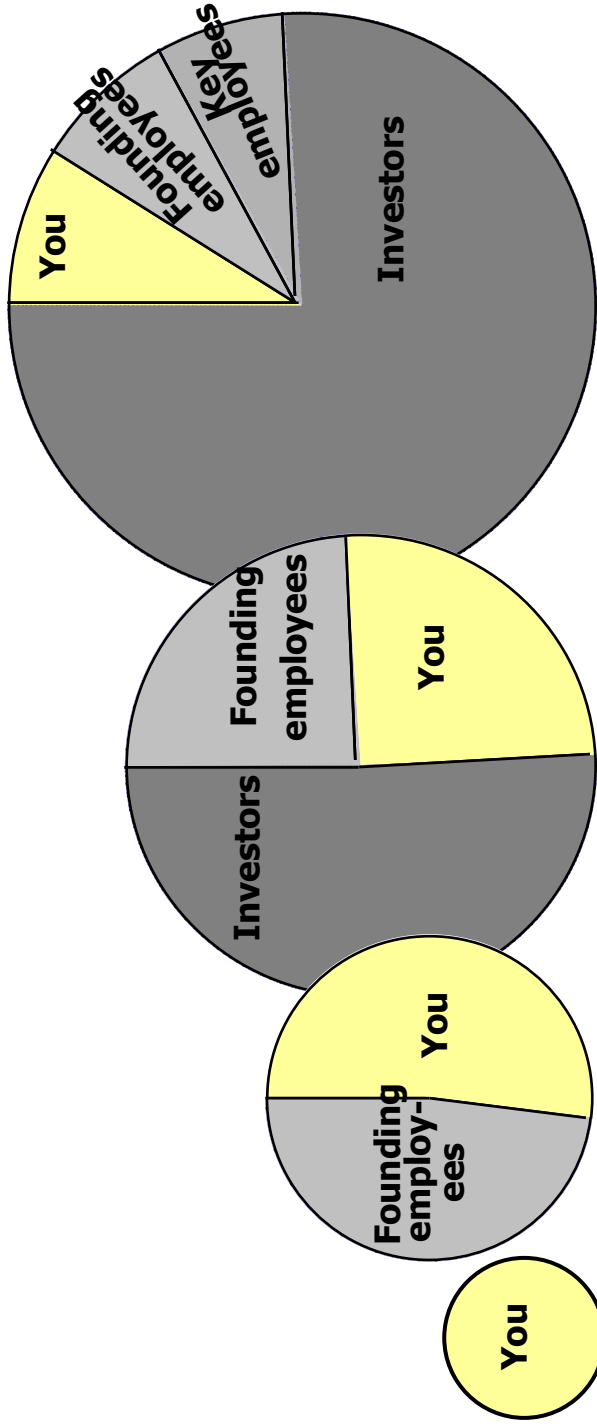
**Incorporate with an experienced lawyer!**

# **Stock Ownership, Grant and Award Practices for Your Start-Up**

**Many questions...**

**Founders' stock; options; incentive  
stock options; non-qualified stock  
options; stock grants; vesting  
schedules; how many shares?  
when? legal & tax considerations.**

# Dividing Up the Pie!



Pre-financing    Early stage financing    Expansion financing    IPO / Acquisition / Buyout financing

# Authorized and Outstanding Shares

- Authorized = number of shares you can issue (of no importance to valuation or percentage ownership calculations)
- Outstanding  $\approx$  "Issued" = number of shares granted or purchased.

# Common vs. Preferred Stock

- **“Preferred” for investors**
  - **Has preference on liquidation**
  - **Usually has (cumulative) dividend rights; Rights to ROI before common; Converts to common at “exit”**
  - **Often has anti-dilution rights**
- **“Common” for founders and key employees**

# Restricted Stock

- **Securities laws — restrictions on transfer (stock is not registered)**
- **Company restrictions — on transfer (you need to be vested before you can sell stock). Plus, the company / existing investors have rights of first refusal...**

- **Stock Gifts and Grants**
  - **Founders' stock**
- **Stock Options**
  - **Incentive (ISOs)**
  - **Non-Qualified (NQSOs)**

**See Table for Details**

# **ISO Case Study - "Exploiting employee desire for stock options" — selling stock in disguise**

- **Job offers come with numerous stock options with...**
- **only 2 year vesting (must exercise w/in short period thereafter)**
- **110% fair-market-value**
- **double up if exercise immediately**

# How Many Shares to Grant?

- Rules of thumb
- Common stock is considered to be "worth" what's being paid for the preferred, although common is priced typically at 1/10th of preferred
- Option on common stock "worth" 1-2X annual salary is good

# How Many Shares to Grant? (cont.)

- Rule of thumb (very rough)
- If CEO gets 100 shares
- Direct reports (VPs) get 10
- Next level reports get 1
- and so on...

# **Vesting Schedules and Conditions – Exercising Options**

- **Vesting is typically over 3, 4, 5 years; w/ linear, stair-step, threshold models**
- **Exercise must be done w/in 1-3 months of termination of employment for ISOs**

# Founders' Stock

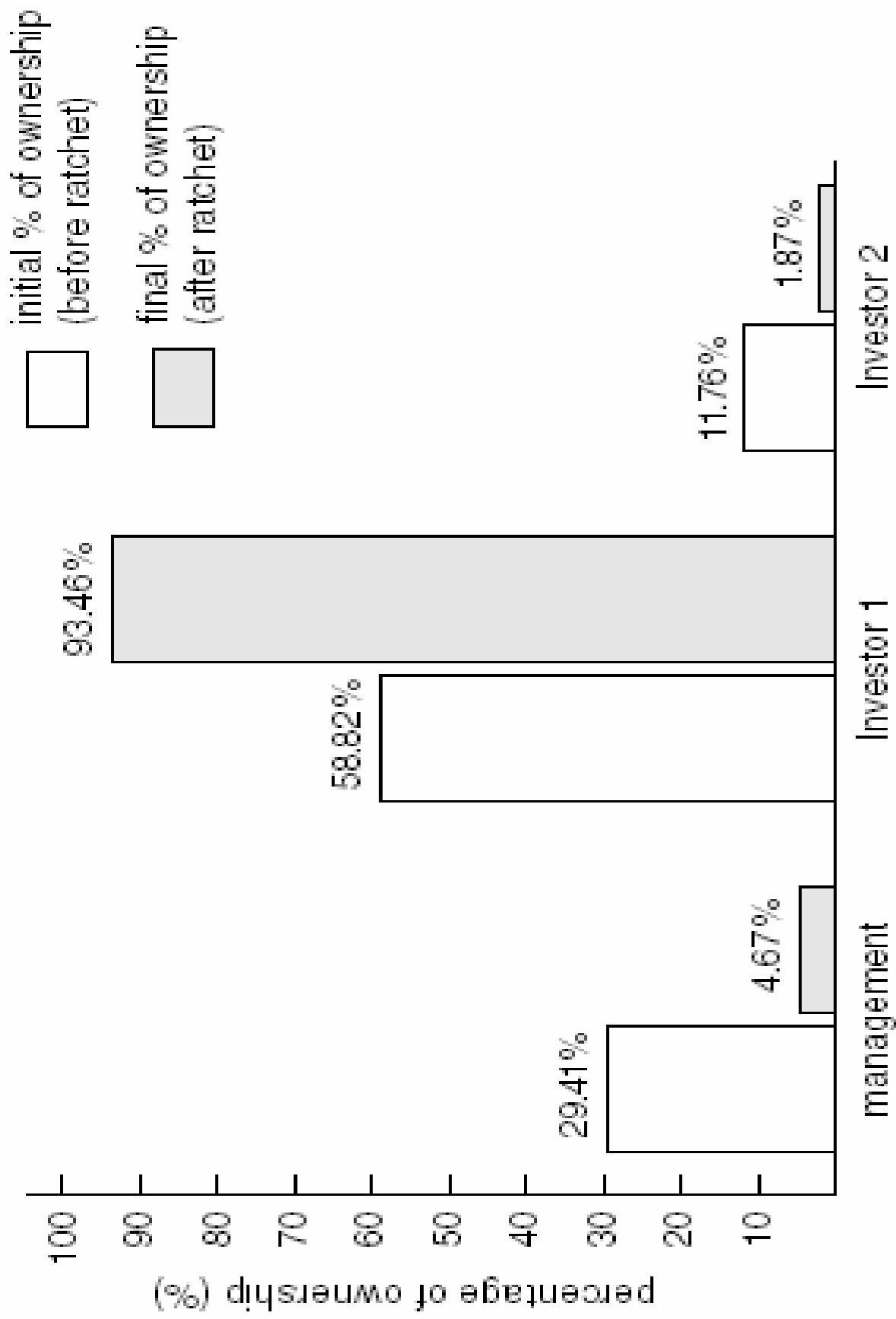
- **Common stock; Pay almost nothing if buy before funding;**
- **Vesting is by time, & may also be based on performance.**
- **Poor performance can result in dilution of your ownership (either via partial vesting, or investors' performance-based conversion formulas)**

# Section 83(b) Election

- Allows you to "pay taxes now" on any gain from buying founders stock at a favorable price, and then NOT having to pay taxes when vesting conditions expire (when stock could be worth tons) — only pay taxes later if stock is sold
- Avoids tax surprises later
- Founders should always elect 83(b) — Many don't (using inexperienced lawyers?)

# Venture Capital Ratchets

- **Significant anti-dilution protection for investors via change in conversion privileges of preferred to common if later pricing drops.**
- **Example:**
- **Ratchets are Very common**
- **Make aggressive promises, don't perform, and you may pay**



# Stock Warrants

- **Another instrument of sophisticated investors to increase their ownership**
- **Allows purchase of additional stock in the future, at older favorable price**
- **Used properly, warrants encourages your investors to stay in the play (you must insist on increasing warrant conversion prices)**

# Punitive Financing

- **Ratchets (invoked on lower pricing)**
- **Turnarounds (if pricing flat; management may be replaced)**
- **Re-starts (if pricing declines; management is replaced)**

# Company Valuation

- Pre-money defined
- Post-money defined
- Rule of thumb ( $\sim$ \$3-5 million is pre-money valuation for a start-up with a good management team, a hot market w/ identified customers, and a "protected" product

# Pre-money defined

- Example:
  - 1,000,000 shares outstanding:
  - 300,000 sold for \$0.01/share \$3,000 (founder's common shares)
  - 700,000 sold for \$1.00/share \$700,000 (preferred shares)
  - Total paid-in-equity \$703,000
- If new investors willing to pay. e.g., \$2.00/share, pre-money valuation is \$2,000,000

# Post-money defined

- Example continued:

1,000,000 shares outstanding:

New investors willing to pay \$2.00/share, for 1 million new shares (contribute \$2,000,000).

Total paid-in-equity - \$2,703,000.

Post-money valuation = # shares outstanding \* last price  
= 2,000,000 \* \$2/share =  
\$4,000,000

# Post-money defined (cont.)

- Example continued: (using "percentage" approach)

Imputed valuation = amount invested  $\div$  % purchased  
(from amount invested = valuation \* % purchased)

In above example: investors bought 1 million new shares,  
which become 50% of the company, and

Imputed valuation = \$2,000,000  $\div$  50% = \$4,000,000

"A \$2 million addition to a \$2 million valuation company  
equates to a \$4 million post-money valuation"

# Post-money defined (cont.)

**Scenario**

**Entrepreneur:**

**"My company is worth  
\$2 million"**

**VC:**

**"Is that pre- or post-  
money?"**

**[Translation]**

**"Is that before or after  
we put in \$2 million?"**

**Conclusion: simple stuff — better have  
it down cold**

# Summary

- **Incorporate with an experienced lawyer**
- **Maintain clean corporate records, follow your bylaws and articles of incorporation; Maintain CPA audited financials**
- **Full disclosure to investors — always**
- **Create fair, motivating, win-win performance-based stock and option structures; Understand dilution risks**

# Summary (cont.)

- Don't violate securities laws
- Don't neglect tax consequences (e.g. §83(b) elections, §1244 stock declarations, use of tax-deferring ISO's...)
- Valuation is in the eyes of the buyer
- Never ever run out of money
- Stop and smell the roses too