ipvision

Focus on Value

Intellectual Property in Early Stage Commercial and Investment Success

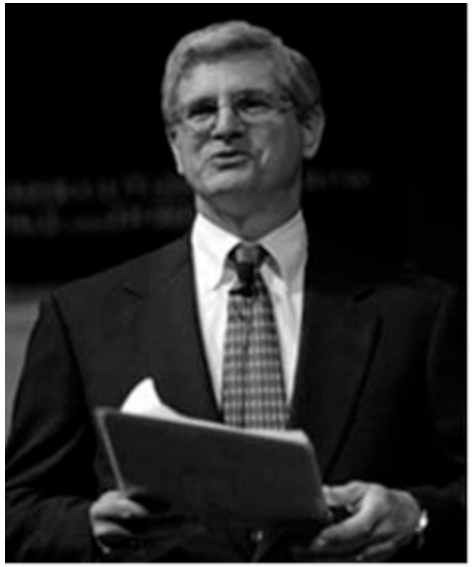
September 11, 2009

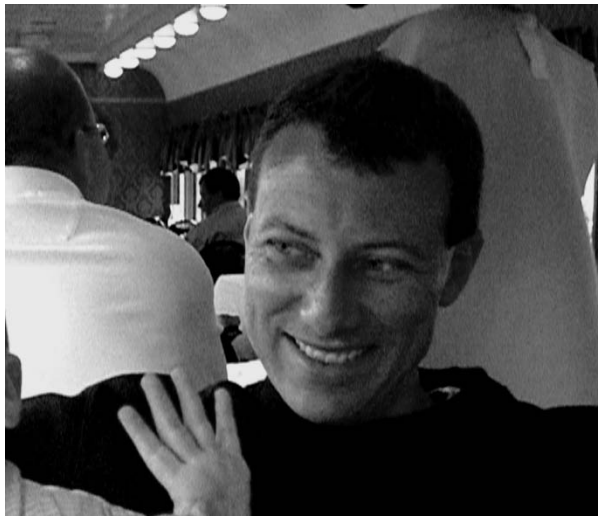
Joseph Hadzima, Jr.
Alexander Butler

Copyright, 2009
IPVision, Inc.

Introductions and Agenda

- Who We Are
- Early Warning Signals
- Can We Forecast Success Based Upon Intellectual Property?
- Perspectives on Value
- Guiding Principles
- Methodology and Application to Venture Capital Investment Decisions
- Findings
- Actionable Strategies





Joseph Hadzima, Jr. — Senior Lecturer, MIT
hadzima@ipvisioninc.com — CEO, IPVision

Alexander Butler — Executive Vice President, IPVision
abutler@ipvisioninc.com

Copyright, 2009 IPVision, Inc.

IPVision Is:

- A Leading Provider of Innovative Decision Support Services and Solutions for **Evaluating**, **Managing** and **Creating Value** in Patents / Intellectual Property.

- Based on **Expertise**, **Algorithms** and **Models** developed in the course of commercializing technologies from the Massachusetts Institute of Technology

- Committed to providing **Innovative**, **Actionable**, **Cost-effective** offerings for **IP / Patent Management**, **Intellectual Property Assessments**, **Due Diligence** and **Litigation Support**

2009: 10 Years of Service

Copyright, 2009 IPVision, Inc.

Early Warning Signals

Early Warning Signals

One Year After the Financial Contraction Became Evident . . .

- Reduced Risk Profiles and Decreased Allocation of Funds to Higher-Risk / Higher-Beta Investments
- Funding for Venture Capital Firms is Diminishing

Impact

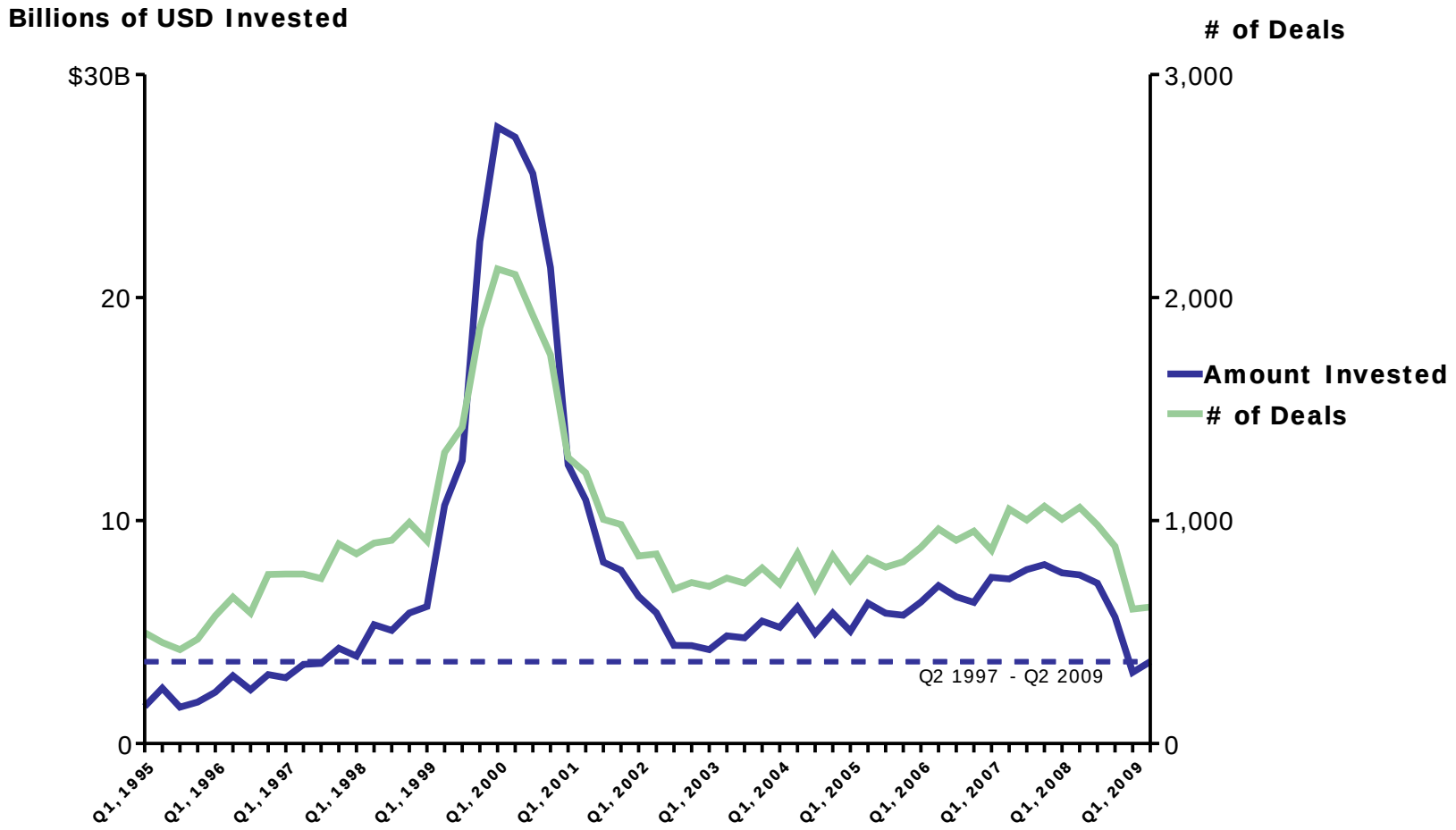
- Less Capital Available for Investments and Early Stage Innovation / Research and Development

Fundraising by Venture Funds

Year/Quarter	Number of Funds	Venture Capital ($M)
2004	211	19,156.0
2005	239	28,767.4
2006	241	31,925.0
2007	251	36,064.9
2008	221	28,395.9
2009	70	6,312.8
2Q'07	86	8,661.1
3Q'07	77	8,595.8
4Q'07	86	12,322.5
1Q'08	72	7,123.4
2Q'08	82	9,284.5
3Q'08	62	8,393.3
4Q'08	49	3,594.7
1Q'09	49	4,610.9
2Q'09	25	1,701.9

Source: Thomson Reuters & National Venture Capital Association

Copyright, 2009 IPVision, Inc.



Copyright, 2009
IPVision, Inc.

Sources: PriceWaterhouseCoopers / National Venture Capital Association MoneyTree™ Report; Data: Thomson Reuters

Quarterly Venture Capital Investments

Copyright, 2009
IPVision, Inc.

Implications

Investors

- More Difficult to Create Diversified Holdings
- Need to Upgrade Level and Quality of Fundamental Analysis to Accomplish Same Levels of Risk in Smaller Portfolios

Company Management

- Increasing Focus on Role of Intellectual Property in Early Stage Companies
- Need to Translate Legal Assets into Business Assets
- New Approaches to Communication Required

Copyright, 2009
IPVision, Inc.

Can We Forecast Success Based Upon Intellectual Property?

Can We Move Beyond Intuition to Evidence?

How Much Is This Worth?

United States Patent [19]

Cohen et al.

[11] **4,237,224**

[45] **Dec. 2, 1980**

[54] **PROCESS FOR PRODUCING BIOLOGICALLY FUNCTIONAL MOLECULAR CHIMERAS**

[75] Inventors: **Stanley N. Cohen**, Portola Valley; **Herbert W. Boyer**, Mill Valley, both of Calif.

[73] Assignee: **Board of Trustees of the Leland Stanford Jr. University**, Stanford, Calif.

[21] Appl. No.: **1,021**

[22] Filed: **Jan. 4, 1979**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 959,288, Nov. 9, 1978, which is a continuation-in-part of Ser. No. 687,430, May 17, 1976, abandoned, which is a continuation-in-part of Ser. No. 520,691, Nov. 4, 1974.

[51] **Int. Cl.**[3] **C12P 21/00**

[52] **U.S. Cl.** ..... **435/68**; 435/172; 435/231; 435/183; 435/317; 435/849; 435/820; 435/91; 435/207; 260/112.5 S; 260/27R; 435/212

[58] **Field of Search** ..... 195/1, 28 N, 28 R, 112, 195/78, 79; 435/68, 172, 231, 183

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,813,316 5/1974 Chakrabarty ..... 195/28 R

OTHER PUBLICATIONS

Morrow et al., Proc. Nat. Acad. Sci. USA, vol. 69, pp. 3365–3369, Nov. 1972.
Morrow et al., Proc. Nat. Acad. Sci. USA, vol. 71, pp. 1743–1747, May 1974.
Hershfield et al., Proc. Nat. Acad. Sci. USA, vol. 71, pp. 3455 et seq. (1974).
Jackson et al., Proc. Nat. Acad. Sci. USA, vol. 69, pp. 2904–2909, Oct. 1972.
Mertz et al., Proc. Nat. Acad. Sci. USA, vol. 69, pp. 3370–3374, Nov. 1972.
Cohen, et al., Proc. Nat. Acad. Sci. USA, vol. 70, pp. 1293–1297, May 1973.
Cohen et al., Proc. Nat. Acad. Sci. USA, vol. 70, pp. 3240–3244, Nov. 1973.
Chang et al., Proc. Nat. Acad. Sci, USA, vol. 71, pp. 1030–1034, Apr. 1974.
Ullrich et al., Science vol. 196, pp. 1313–1319, Jun. 1977.
Singer et al., Science vol. 181, p. 1114 (1973).
Itakura et al., Science vol. 198, pp. 1056–1063 Dec. 1977.
Komaroff et al., Proc. Nat. Acad. Sci. USA, vol. 75, pp. 3727–3731, Aug. 1978.
Chemical and Engineering News, p. 4, May 30, 1977.
Chemical and Engineering News, p. 6, Sep. 11, 1978.

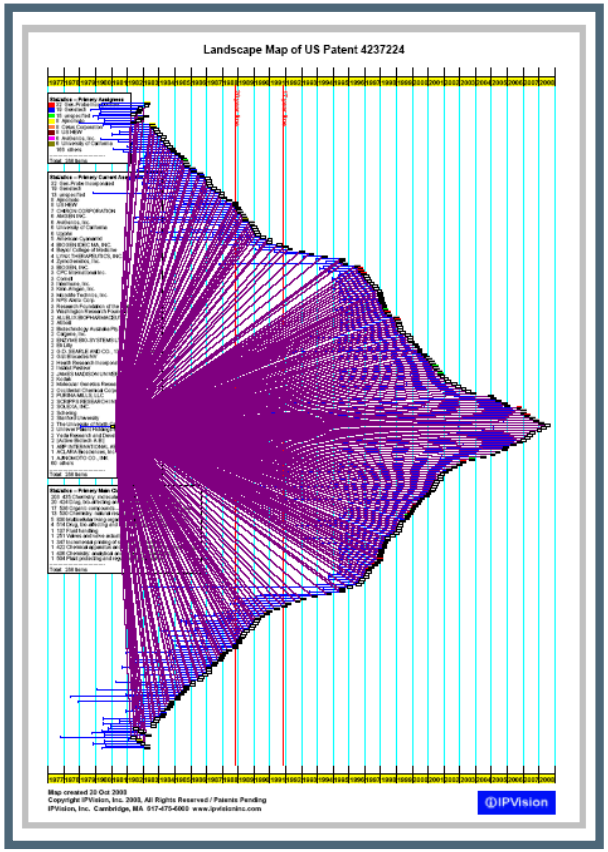
Primary Examiner—Alvin E. Tanenholtz
Attorney, Agent, or Firm—Bertram I. Rowland

[57] **ABSTRACT**

Method and compositions are provided for replication and expression of exogenous genes in microorganisms. Plasmids or virus DNA are cleaved to provide linear DNA having ligatable termini to which is inserted a gene having complementary termini, to provide a biologically functional replicon with a desired phenotypical property. The replicon is inserted into a microorganism cell by transformation. Isolation of the transformants provides cells for replication and expression of the DNA molecules present in the modified plasmid. The method provides a convenient and efficient way to introduce genetic capability into microorganisms for the production of nucleic acids and proteins, such as medically or commercially useful enzymes, which may have direct usefulness, or may find expression in the production of drugs, such as hormones, antibiotics, or the like, fixation of nitrogen, fermentation, utilization of specific feedstocks, or the like.

14 Claims, No Drawings

IPVision Landscape Map™



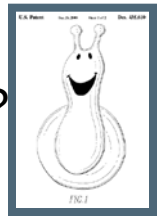
Cohen-Boyer
$255M for Stanford

Copyright, 2009 IPVision, Inc.

Components of Patent Value

The "**Value**" of a Single Patent is dependent on:

Importance of the Invention



- Is this a cure for cancer or a toy?

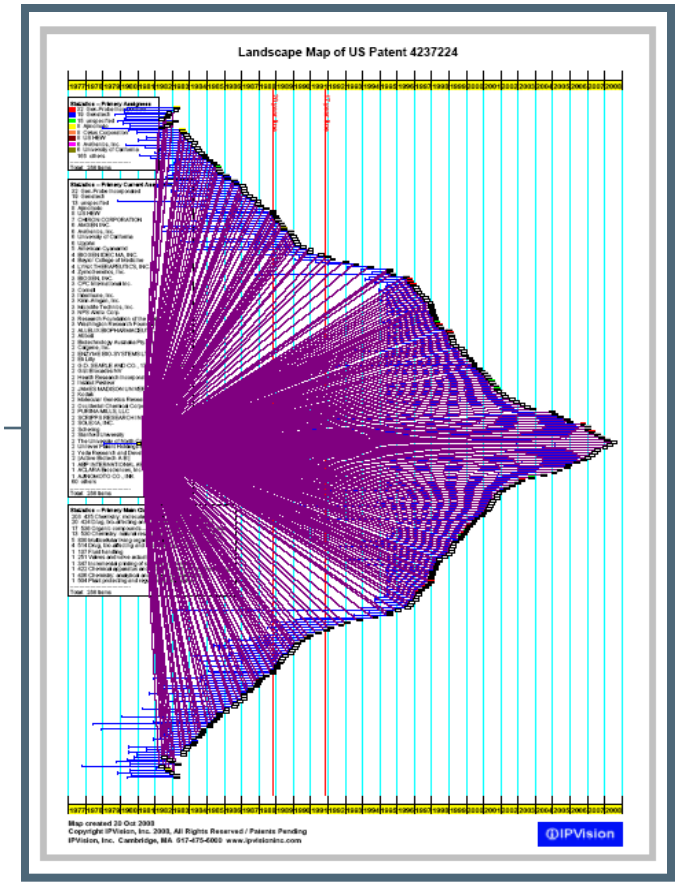
Protection of the Invention

- Has the value of the invention been "captured"?
- The quality of patent claims and the protection strategy.

Commercialization Strategy

- What is the plan to extract the value that has been created and captured?

$255m Patent



Copyright, 2009 IPVision, Inc.

Components of Portfolio Value

Portfolios are Comprised of "IP Building Blocks"

Does the Portfolio Create and Sustain Competitive Advantage?

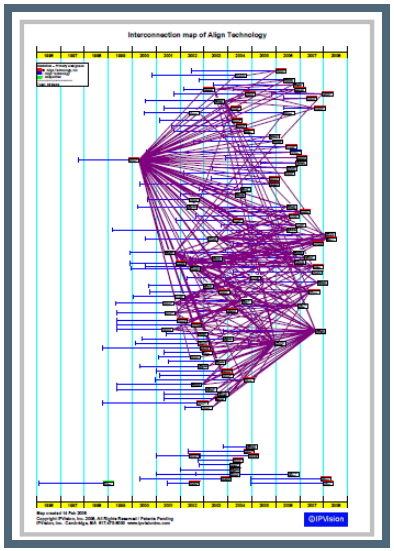
Importance / Strength of Patents

Barriers to Entry or Expansion

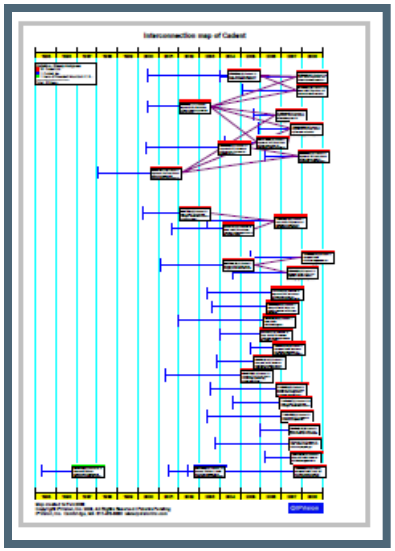
- Protect current revenue streams
- Enable future revenue streams

Freedom to Operate

- Can others block the company?
- Can the company leverage its position?



Stronger Portfolio



Weaker Portfolio

Copyright, 2009 IPVision, Inc.

IP Signals Good Management and Enterprise Value

- Although IPVision Cannot Measure "Good" Management and Leadership…

- If the Three Core Factors Are in Place it is Safe to Presume that Management is Talented and Able

"Intellectual Property Provides a Strong Signal of Leadership and Management's Stewardship of Corporate Assets and Value Drivers"

Copyright, 2009 IPVision, Inc.

The Challenge

Increasing Recognition	Unfortunate Reality
“Intellectual Property is Important”	**Investors and Management do not Have a Consistent, Clear and Efficient Assessment Method or “Language”**

Copyright, 2009
IPVision, Inc.

Information is Not Knowledge

Decision-makers and Experts Are Drowning in Data

- Nearly 8 million issued U.S. Patents
- 9,000 new applications per week
- 3,500 new patents issued per week

Traditional, Manual Approaches are Inadequate

Example: Patentability Search

- Identify 3-4 patents out of dozens - hundreds
- Cost = $400-800

Example: Validity Research

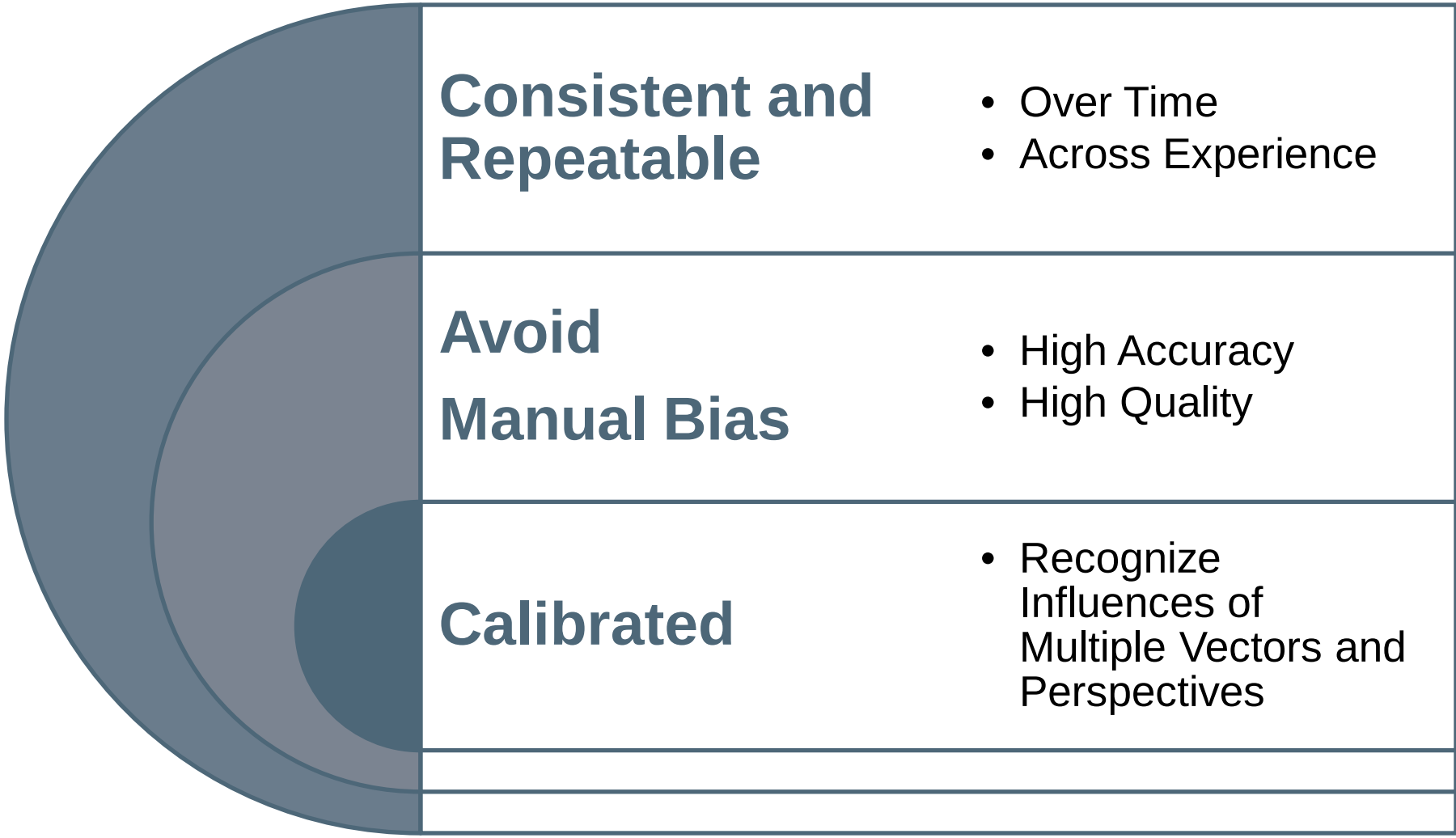
- Identify dozens of patents out of hundreds – thousands
- Cost = $10,000 - $100,000+

Need: Assess tens of thousands – hundreds of thousands of patents in a timely, cost-effective, and accurate manner

Copyright, 2009 IPVision, Inc.

Guiding Principles

Guiding Principles



Copyright, 2009 IPVision, Inc.

Methodology and Application to Venture Capital Investment Decisions

Purpose

Provide an **Evidence-Based**, Efficient Approach to Screening Venture Capital Investment Opportunities

Maintain a **Business Perspective**

Answer Three Core Questions About "IP Building Blocks":

1) Does the company have intellectual property, and, if so, how strong is it?
2) What is the intellectual property landscape – namely, how are the company and its IP Building Blocks positioned?
3) Does the company appear to have a consistent, well executed strategy for its IP Building Blocks?

Another Challenge

How to Make **Complex Analytics** and Measurements **Understandable**?

IPVision Rating System:

IP Portfolio Strength Rating

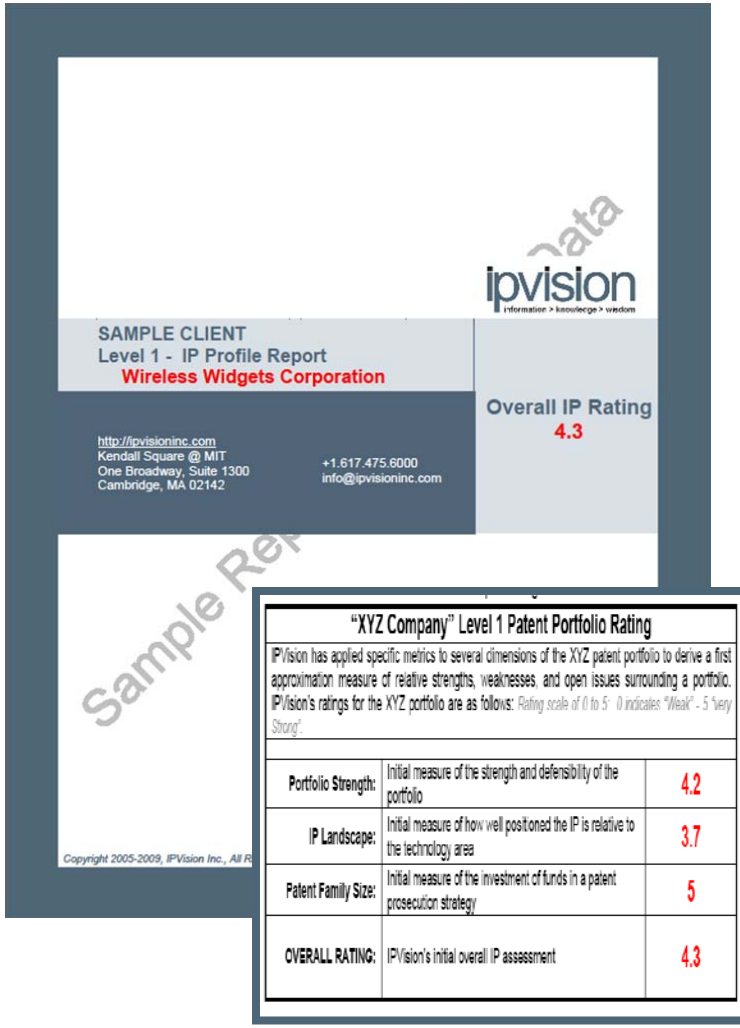
- Absolute and Relative Amount of Intellectual Property
- Degree of Portfolio Building
- Intellectual Property Strength / Quality

IP Landscape Rating

- Define and Measure the “Crowdedness” of the surrounding intellectual property space

IP Investment (Family Strategy) Rating

- An initial measure of the sophistication of the patent prosecution strategy



Copyright, 2009
IPVision, Inc.

Population and Sample

Assessments of 9,000 portfolio companies

Sources

- Publicly available U.S. patent data*
- Dow Jones VentureSource
- Thomson VentureXpert
- Proprietary IPVision Data Derivations and Calculations

Sample Results from Back-Test

- 5 top quartile venture capital fund groups
- Containing 1,025 portfolio companies
- 639 companies holding intellectual property per the public record

*IPVision will rerun its analysis upon request if relevant non-public data is provided. Examples include non-recorded assignments, licenses, etc.

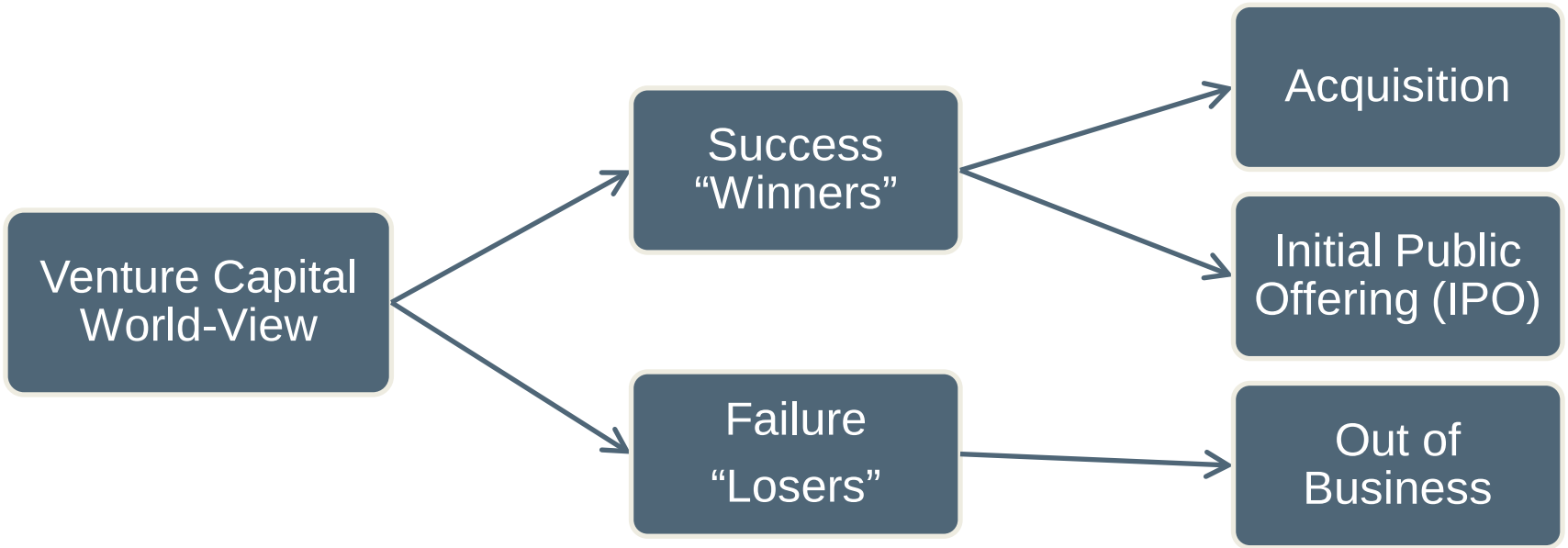
Copyright, 2009 IPVision, Inc.

Findings

Strong Intellectual Property Positions Correlate to Success

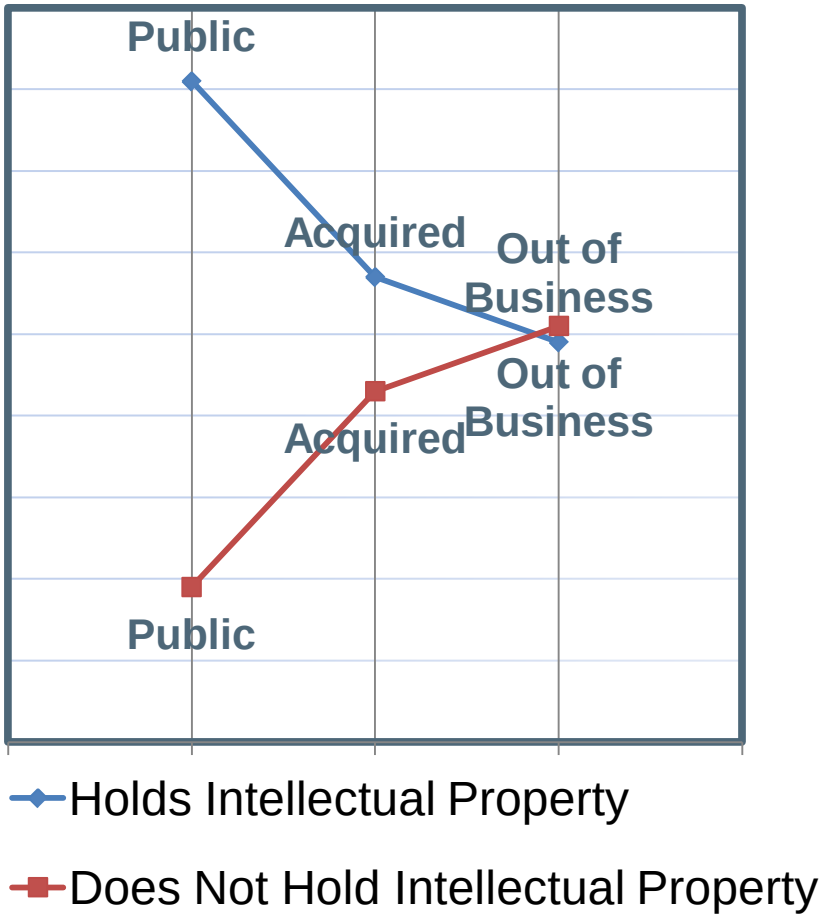
Intellectual Property Correlates to Success / Failure

- **Intellectual Property Holdings Correlates to Success**
- **Strong Intellectual Property Positions Provide a Significantly Higher Indication of Likely Success**



Copyright, 2009 IPVision, Inc.

Intellectual Property is an Important Value Component



On Average:

- **67% of Winners** Have Intellectual Property
- **57% of Acquired Companies** Have Intellectual Property
- **81% of Public Companies** have Intellectual Property

Winners are at Least Two Times as Likely to Hold Intellectual Property Than Losers.

Copyright, 2009 IPVision, Inc.

IP Positions Correlate with Success

Winners Have Higher IPVision Ratings

Winners' Mean = 2.5

Losers' Mean = 2.1

In no instance did Winners' mean rating approach Losers' mean rating with significance

	WINNERS vs. LOSERS		
	Winners Weighted Mean	Losers Weighted Mean	Winners/ Losers
Venture Firm A	**2.7**	2.4	111.7%
Venture Firm B	**2.7**	2.0	138.2%
Venture Firm C	**2.7**	1.8	155.4%
Venture Firm D	**2.4**	2.2	108.4%
Venture Firm E	**2.2**	1.9	112.3%
Weighted Mean	**2.5**	2.1	120.6%

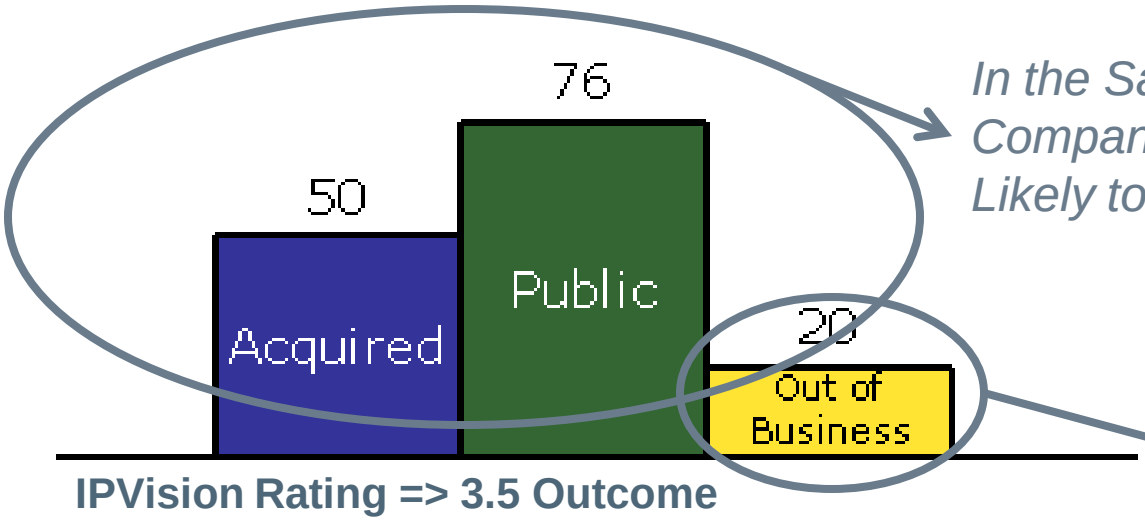
Winners' 21% Differential is Significant in Nearly Any Context

Findings from Back-test to Five Top Quartile Venture Capital Fund Groups

Copyright, 2009 IPVision, Inc.

Stronger IP Positions Provide an Important Signal

86.3% of Companies with Highly Rated Intellectual Property Positions are Venture Capital Winners



IPVision Rating => 3.5 Outcome

In the Sample Set, Highly Rated Companies were Over Six Times More Likely to be Winners than Losers

Note: Strong IP Positions Provide Risk Mitigation and Residual Value for Investors in the Event of Business Termination

Sample of 639 Companies Holding Intellectual Property from Population of 9,000+
Criteria = Upper 5 Quartile Venture Capital Firms as Investor

Copyright, 2009 IPVision, Inc.

Far Fewer Companies With Strong IP Positions Go Out of Business

Fewer Companies with Strong IP Positions Go Out of Business

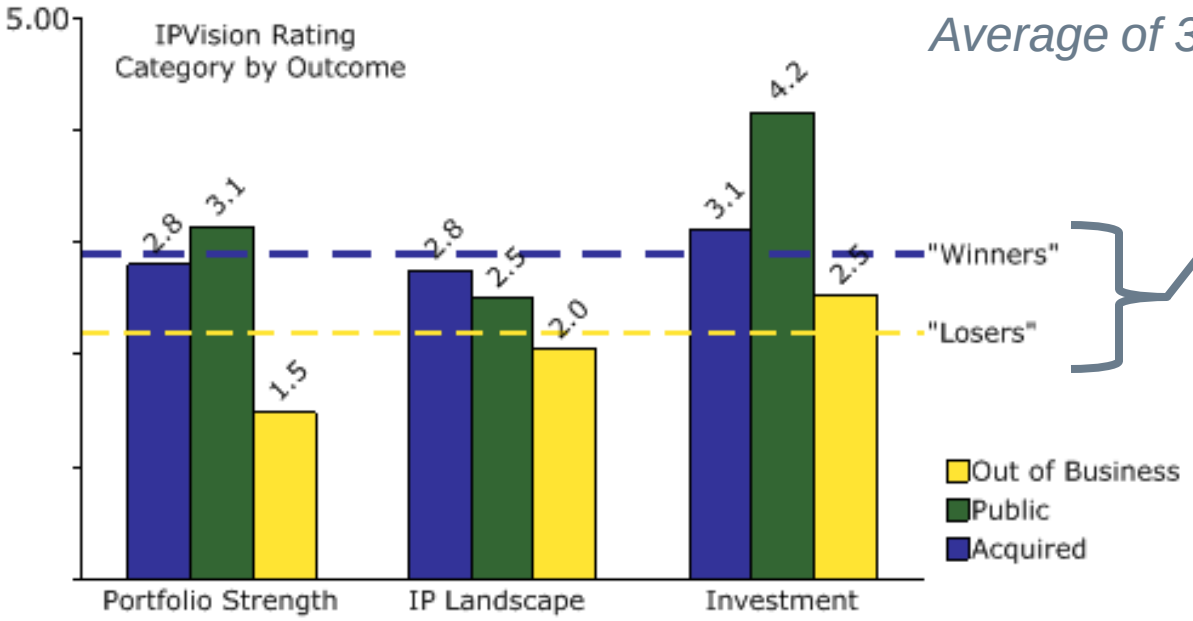
- 20% of firms with IP end in out of business status
- 14% of with strong IP end in out of business status

All Sectors Combined - Ratings of 3.5 or higher					
	Number of Companies				Overall Rating
	All with IP	Rating =>3.5	% of Firms 3.5 or Higher		Mean
Acquired	250	50	20.0%		4.1
Public	259	76	29.3%		4.0
Out of Business	130	20	15.4%		3.9

Drill-down into Three Factor Analysis

HealthCare Example

Winners Outperform Losers by an Average of 33%



Sample of Healthcare Sector Companies Holding Intellectual Property
from Population of 9,000+
Criteria = Upper 5 Quartile Venture Capital Firms as Investor

*Copyright, 2009
IPVision, Inc.*

What Comes Next . . .

Actionable Strategies

Incorporate Measures of Intellectual Property Development and Sophistication into “Routine” Strategy and Investment Decisions

Consider and Use Intellectual Property Strength as a Method to Proactively Create Value

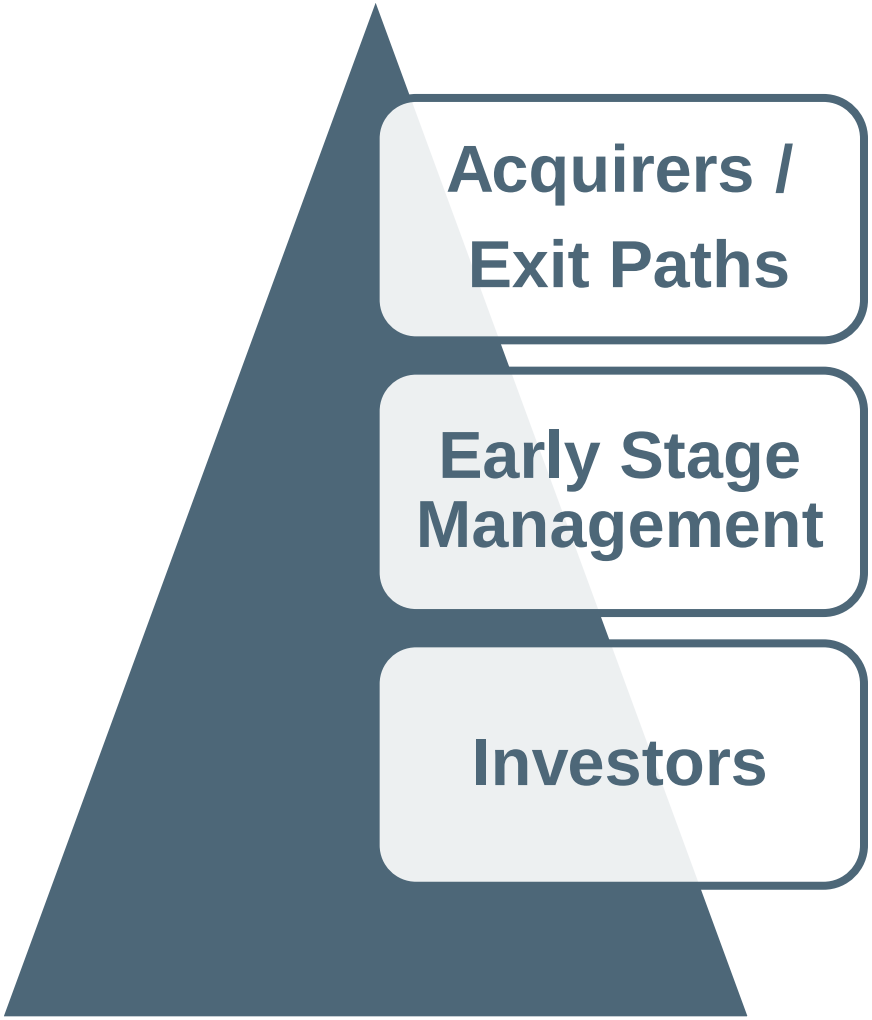
Include Intellectual Property Assessments in M&A Scouting and Target Analysis

Although IP is Good, Focus on Quality as the Payback Can Be Significant

No Matter What
Do Not Neglect Intellectual Property Rights
IP is One of the Key Value Signals for Early Stage, Technology Intensive Companies

Copyright, 2009 IPVision, Inc.

Prognosis



- Increasing Role of Intellectual Property in Routine Business Decisions
- Recognition That Intellectual Property is More than a Competitive Advantage
- Strong IP Positions Predict Success
- Strong IP Positions Signal Good Management
- Strong IP Positions Provide a “Safety-Net” to Reduce Investment Risk

Copyright, 2009
IPVision, Inc.

ipvision

information > knowledge > wisdom

For Additional Information

http://ipvisioninc.com
info@ipvisioninc.com