

# V.C.D(ecider)

*A Venture Capital Investment decision tool using Bayesian network*

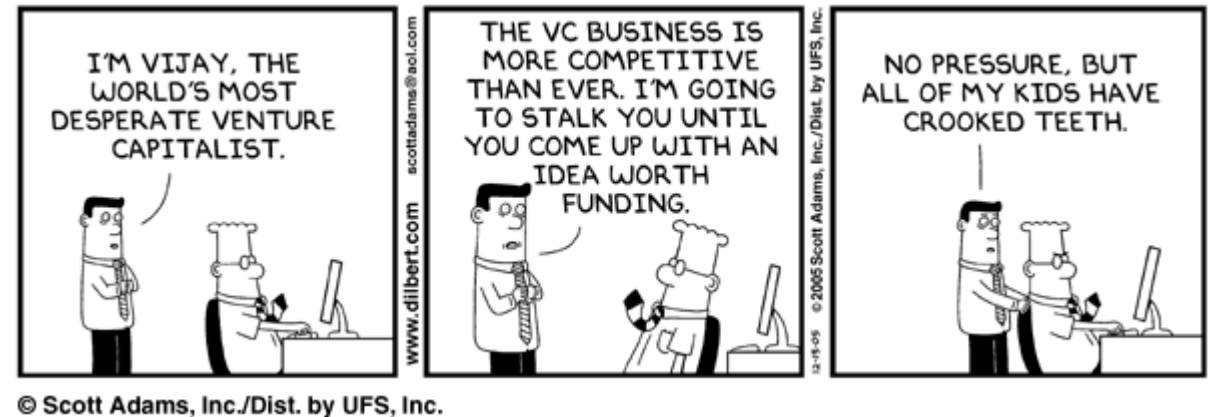
# Domain: Venture Capital Investment

- If a **Start-up company** is perceived to have potential for **good long-term growth**, **investors** can hope to obtain **above-average returns**
- **Money** provided by investors to start-up firms is called **Venture Capital (VC)**
- Typical **VC providers**:
  - Wealthy investors
  - Investment banks



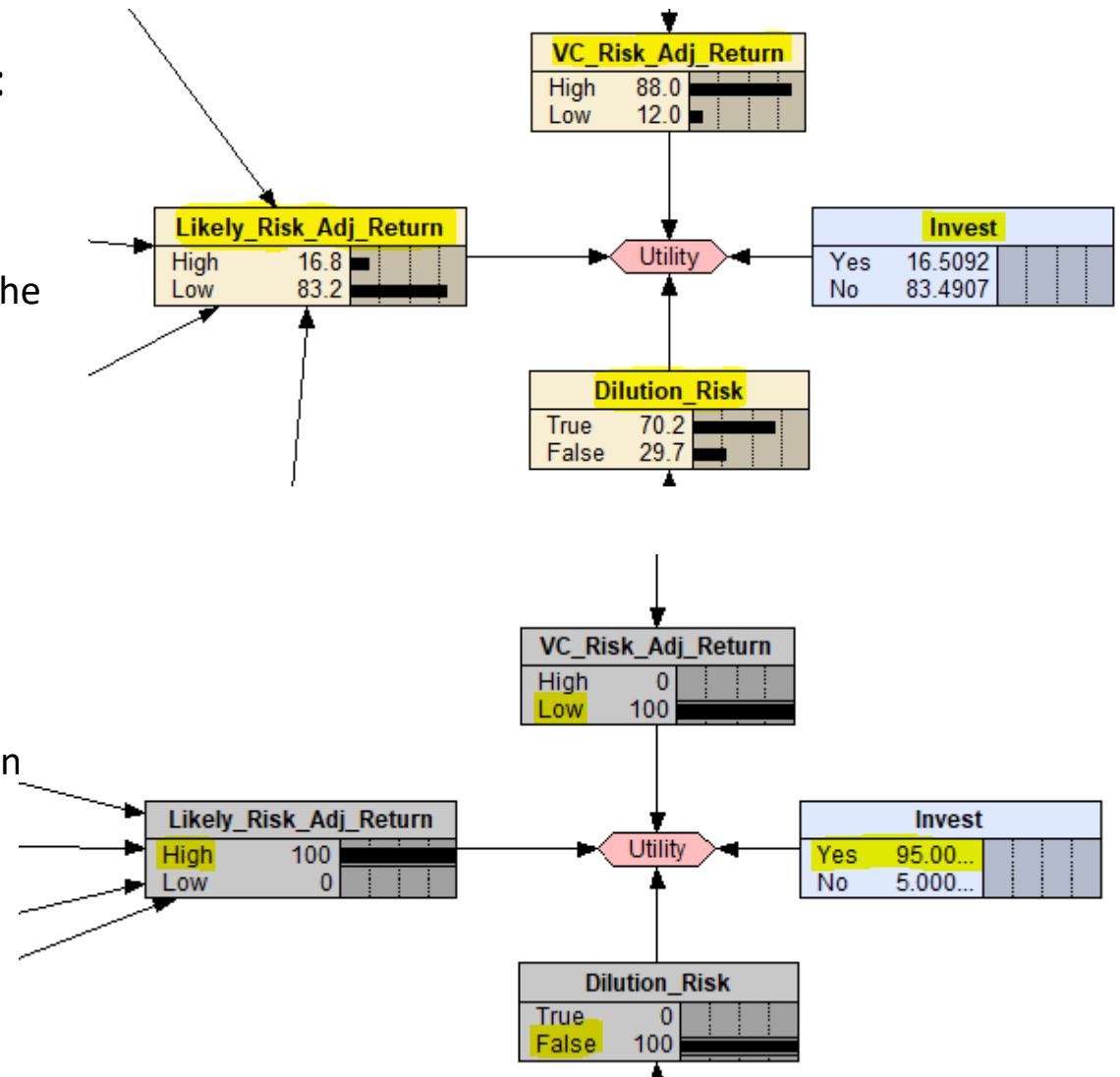
# Struggles within Domain | Tool Importance

- Study shows **75%** of the VC investments **fail**
- VC market is extremely **competitive**
- **Careful Analysis** of a new firm's prospects is essential before deciding whether to back the firm
- **VCDecider** provides a simple network modelling the decision of **whether to invest** in a start-up firm

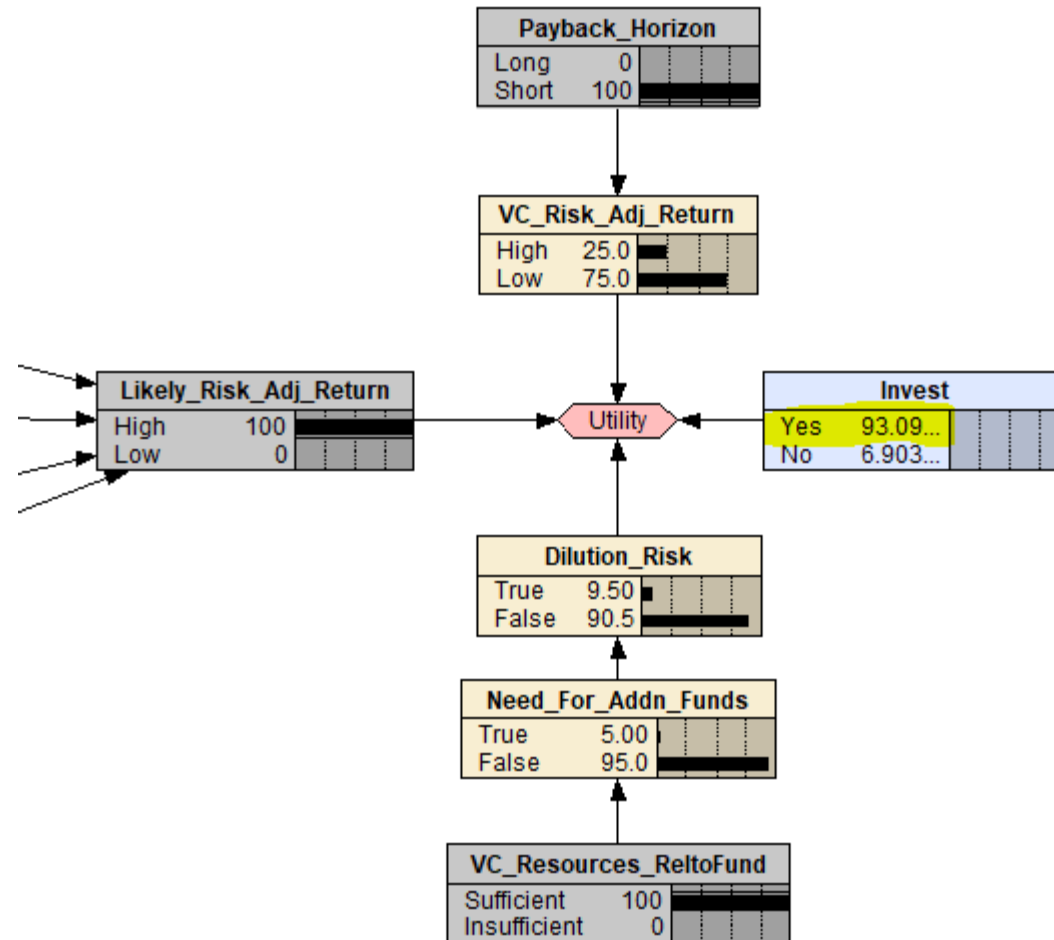


# VCD | How it works

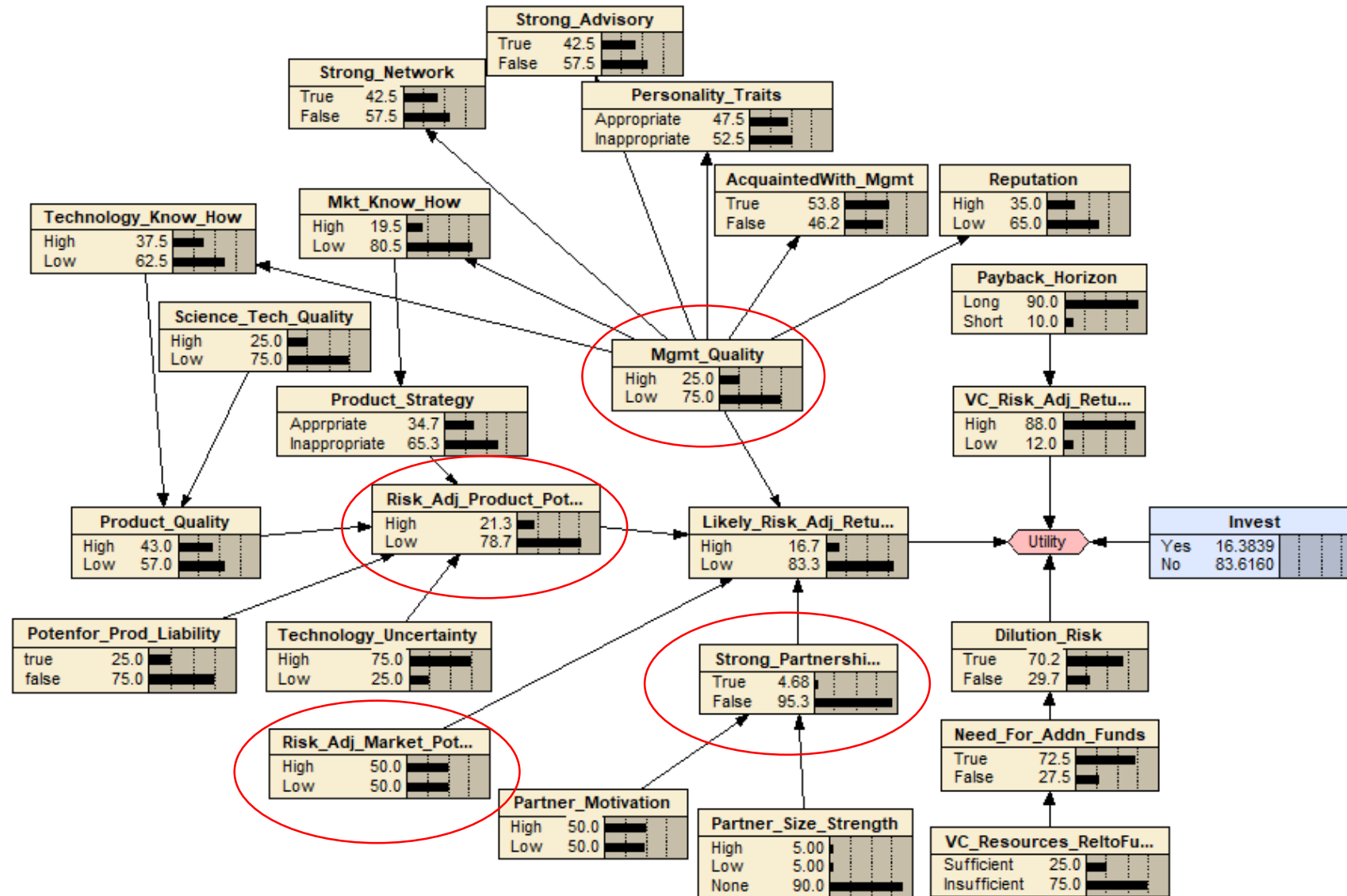
- three variables directly affect the utility of the investment:
  - VC\_Risk\_Adj\_Return\_Exp
    - concerns the risk-adjusted expectation measuring how soon the firm will repay the loan (ideal : LOW)
  - Likely\_Risk\_Adj\_Return
    - concerns the likely return of the investment (ideal : HIGH)
  - Dilution\_Risk
    - concerns the risk inherent in the firm's ability to repay the loan (ideal : FALSE)



# Simple VC Decision Model



# Detailed VC Decision Model



# Case Study | *Is Procket's science strong enough?*

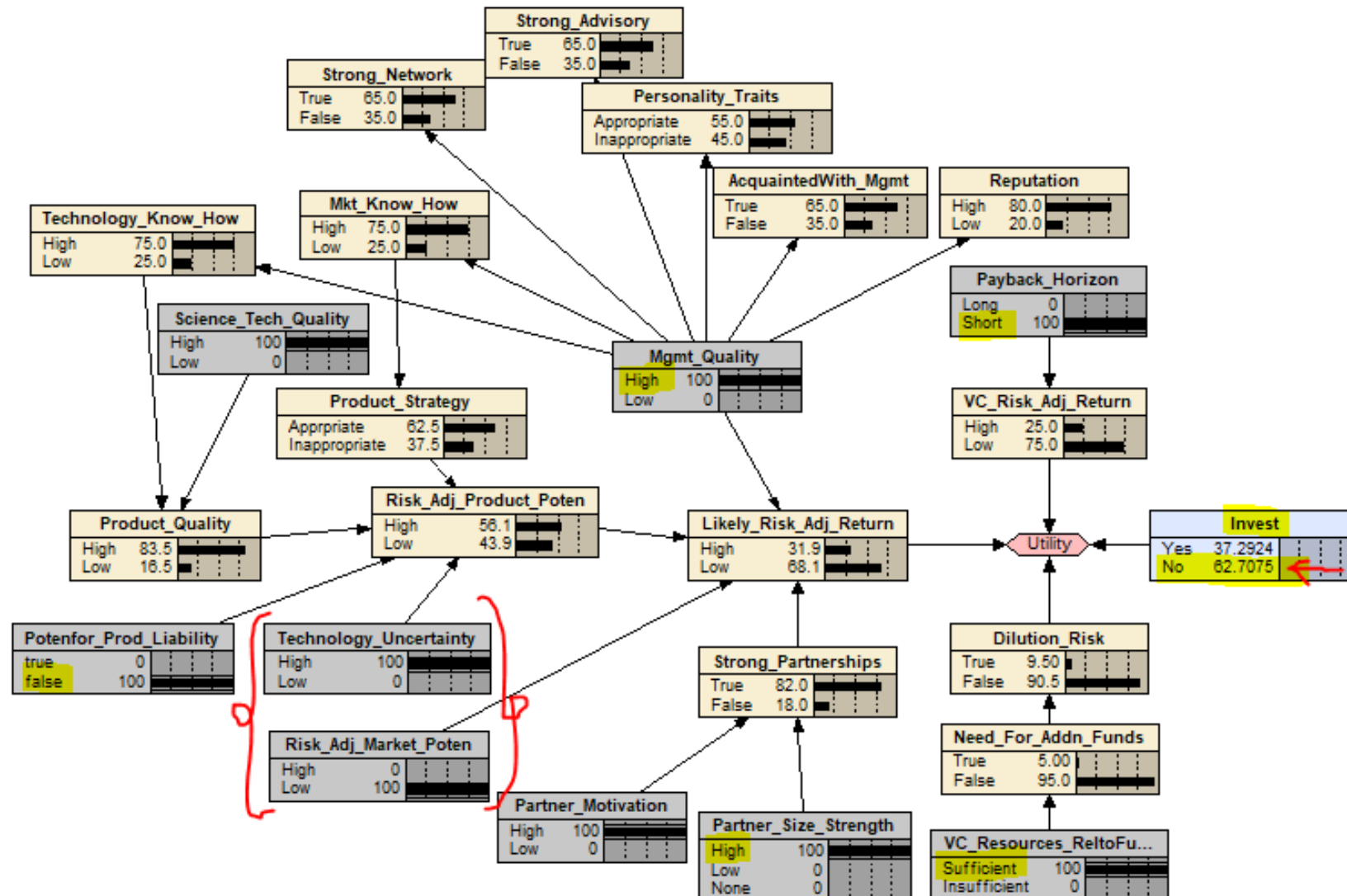
## Against Investment

- Difficult to enter the market against Cisco and Juniper and be different and attractive to carriers
- New networking companies were getting weeded out in the financing round like *IronBridge Networks* (bankruptcy), *Caspian Networks*(devaluation)

## Supporting Investment

- Tony Li, Procket **co-founder**
  - helped develop the software that runs on all **Cisco routers**; jumped ship to Juniper; designed the software for its high-end router; **Juniper gained a 30 percent share** of the \$2 billion market
- Market Pressure
  - The softening market **destroyed** much of **Prockets' competition**, leaving the telecommunications company in an incredible position to dominate the marketplace.
- **CEO** Kruep's control
  - the company still has its **original investors** and has **not had to devalue itself** to attract funding, an issue other networking start-ups such as Caspian Networks has faced.
- Strong Science
  - a mix of hardware, software and network processor technology that will allow telecom companies to offer new Internet services at a lower cost, as well as improve the performance of their networks

# Tool's decision





# Market's Response

- raised **\$272 million** in venture capital (2002)
- Venture Economics ranked Procket as the **country's highest valued** (*\$1.55 billion*) VC-backed company (2001-02)

# Fate of Procket

- the company went into a tailspin and was unexpectedly upended by Cisco and Juniper Networks
- Cisco eventually acquired the company's intellectual property in '04 for meager \$89M
- Considered as one of the top 50 worst Venture Capital Investments of all time

## The 20 Worst Venture Capital Investments of All Time Inside CRM Oct 1, 2009 |

2. **Procket:** Networking company Procket was once one of the most highly valued telecom startups in the U.S. It had \$272 million in venture-capital funding and a valuation of \$1.55 billion but was ultimately sold to industry behemoth Cisco Systems Inc. for a disappointing \$89 million.

### 46. **Procket Networks** Source: <http://www.complex.com>

Year Of Birth: 1999

Year Of Demise: Acquired by Cisco Systems in 2004

CEO: Randall Kruep

Founded By: Dr. Sharad Mehrotra, Dr. Bill Lynch, and Dr. Tony Li

# Conclusion

- VCDecider has the potential to suggest the most favorable output for the user given the user provides correct data
- Helps in visualising and ensuring consideration of the aspects an investor must reflect upon before investing
- Future Work
  - Consider investment nature and strategy of the Investor for personalized decision-making
  - Include various other factors such as Pace of Industry Development and Trends, Needed Industry Innovation, Progress of Big Players in the Industry