



venrock

**Fostering Security Innovation:
Silicon Valley VC Perspective**

Doug Dooley

June 2016



8 years



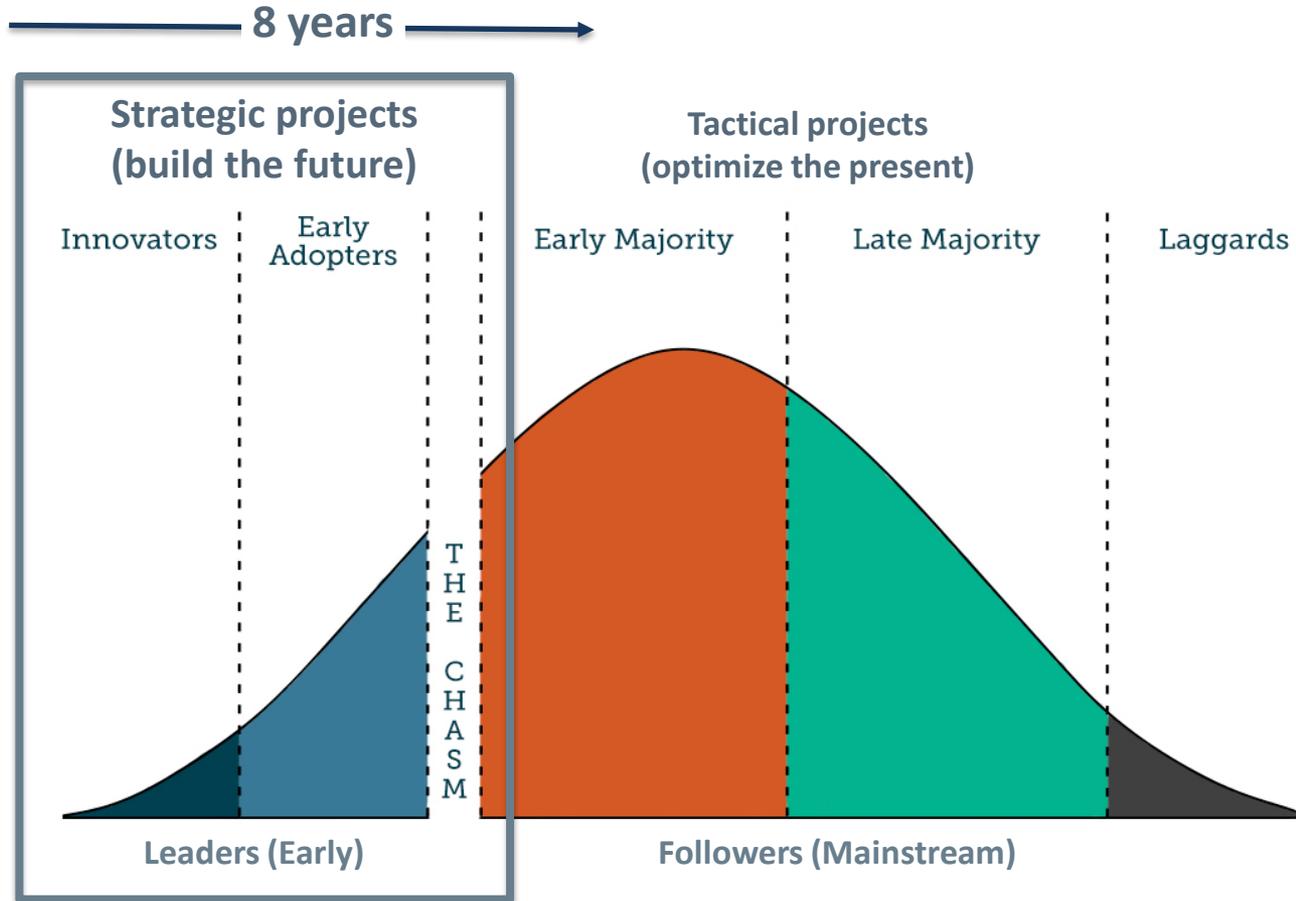


Startups: When to get involved?



“Innovation distinguishes a leader from a follower.”
–Steve Jobs

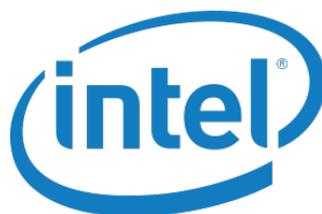
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- Background → Venrock and its security council
- Learning organization → assumptions, insights, outcomes
- Life of startups → time vs revenue vs value
- Disruptive innovation → core tenants
- Incumbents with aging products → interesting markets
- Final thoughts → glimmer of greatness

Who is Venrock?



Top Venture Capital Investors By IPO/M&A Share Since 2009

Investor	% of IPO Exits	% of M&A Exits
New Enterprise Associates	28%	72%
Venrock	27%	73%
DAG Ventures	25%	75%
Kleiner Perkins Caufield & Byers	25%	75%
Sequoia Capital	25%	75%
Greylock Partners	24%	76%
Bessemer Venture Partners	24%	76%
Polaris Partners	21%	79%
Foundation Capital	19%	81%
Benchmark Capital	19%	81%
Accel Partners	16%	84%
Battery Ventures	13%	87%
Draper Fisher Jurvetson	13%	88%
Charles River Ventures	12%	88%
Index Ventures	11%	89%
Menlo Ventures	10%	90%
Intel Capital	9%	91%
US Venture Partners	8%	93%
Lightspeed Venture Partners	7%	93%
Felicis Ventures	2%	98%
First Round Capital	2%	98%
SV Angel	2%	98%

CBINSIGHTS

www.cbinsights.com



A Typical Year for Many Venture Capitalists



300-500

entrepreneurs
request a meeting

60-120 first meetings

30-40 deeper diligence

3-5 worthy deals





Venrock's security portfolio

Security Management

Configuration Management • Monitoring and Forensics • Risk Management • Threat Intelligence • Event Log Management • Policies and Procedures Governance, Risk & Compliance • Access Control/User Provisioning • Managed Security/Service Providers (MSSP) • Federated Identity/Management Information and Event Management (SIEM)

Network Security

Network Data Loss Prevention (DLP)
Network Access Control (NAC) • Anti-Botnet
Secure File Transfer • Secure E-mail Messaging
Firewall • Application Aware Firewall
Virtual Private Networks (VPN)
Advanced Anti-Malware & Incident Response
Intrusion Detection/Prevention Systems (IDS/IPS)

Infrastructure Security

Endpoint Data Loss Protection (DLP)
Anti-Spam • Key Management • Tokenization
Data Encryption • Web Content Filtering
Anti-Spyware • Vulnerability Management
Dual Factor Authentication • Anti-Virus
Host Intrusion Detection/Prevention Systems (HIDS/HIPS)

Application Security

Dynamic Code Analysis
Web-Application Security Vulnerability Scanners
Static Code Analysis
Web-Application Firewalls (WAF)



Check Point
SOFTWARE TECHNOLOGIES LTD.



VONTU



IMPERVA



CLOUDFLARE



evident.io

velocloud

niara



Entrepreneur → Venture Capitalist



venrock
Security Council

MISSION
Foster Innovation in Security

Do's
Share Ideas
Seek the Truth
Support Each Other
Build Long Term Relationships
Take Risks, Entrepreneurial Spirit
Chatham House Rules Apply

“I’m the plumber at Venrock. Security and Infrastructure are my focus areas.” – *Doug Dooley*

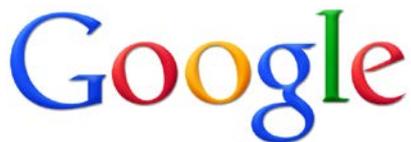




Venrock Security Council → learning organization



Apple™



Bank of America



Bain Capital Ventures



venrock

Engineering Capital
venture capital for engineers



greylock



vmware

true ventures

UBER

velocloud

A close-up photograph of a hand holding a crystal ball. The crystal ball is held in the palm of a hand, with the thumb visible on the left side. The crystal ball is highly reflective and shows a distorted, fisheye view of a cityscape. The city features numerous buildings with red-tiled roofs and some taller, modern structures. The background of the image is a blurred city street with buildings and a clear blue sky. In the top left corner, there is a small yellow icon of a speech bubble with three horizontal lines inside.

Assumptions about the future

ROI for hacker innovation continues to be positive



bad guys can get financial payments with ease

Hacking Email and Social Media Accounts

	Recent Prices
Popular U.S. Email Accounts (Gmail, Hotmail, Yahoo)	\$129
Popular Russian Email Accounts (Mail.ru, Yandex.ru, and Rambler.ru)	\$65 – \$103
Popular Ukrainian Email Accounts (Ukr.net)	\$129
Popular U.S. Social Media Accounts	\$129
Popular Russian Social Media Accounts (VK.ru and Ok.ru)	\$194
Corporate Email Accounts	\$500 per mailbox
IP address of Computer User	\$90

Secureworks Hacker Markets Annual Report – April 2016

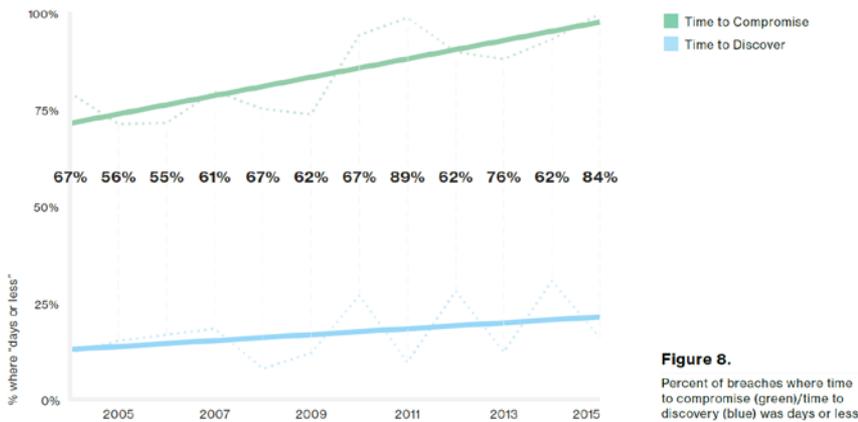


Figure 8.
Percent of breaches where time to compromise (green)/time to discovery (blue) was days or less

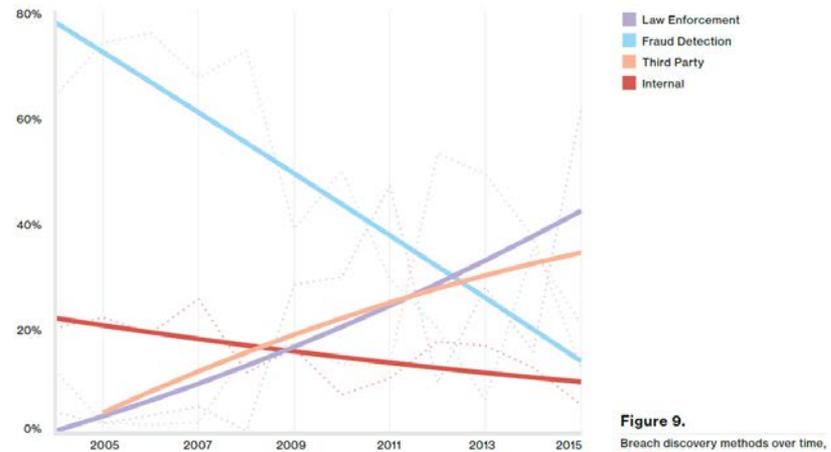


Figure 9.
Breach discovery methods over time, (n=6,133)

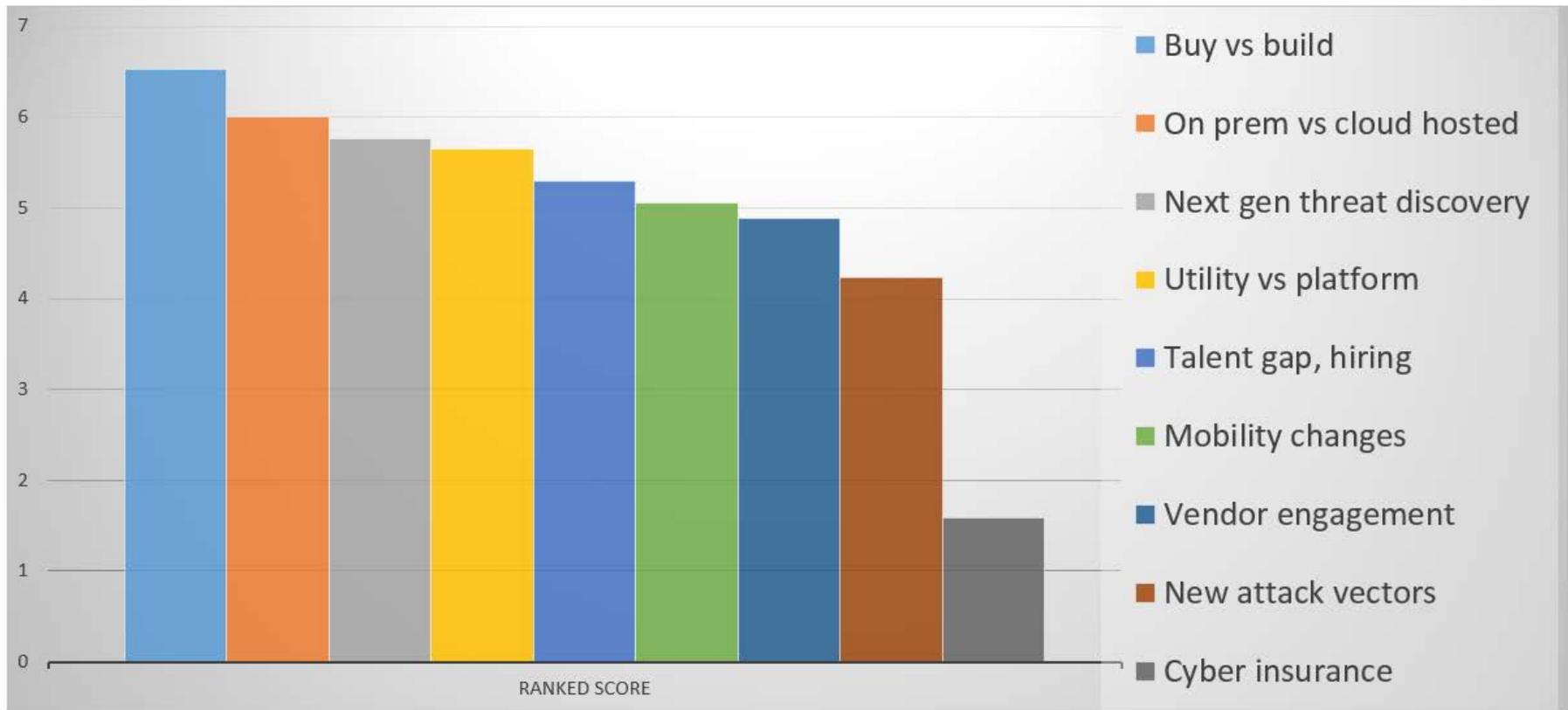
time is not on our side these last 10 years

+70% breach notification by outsiders

Verizon 2016 Data Breach Investigations Report

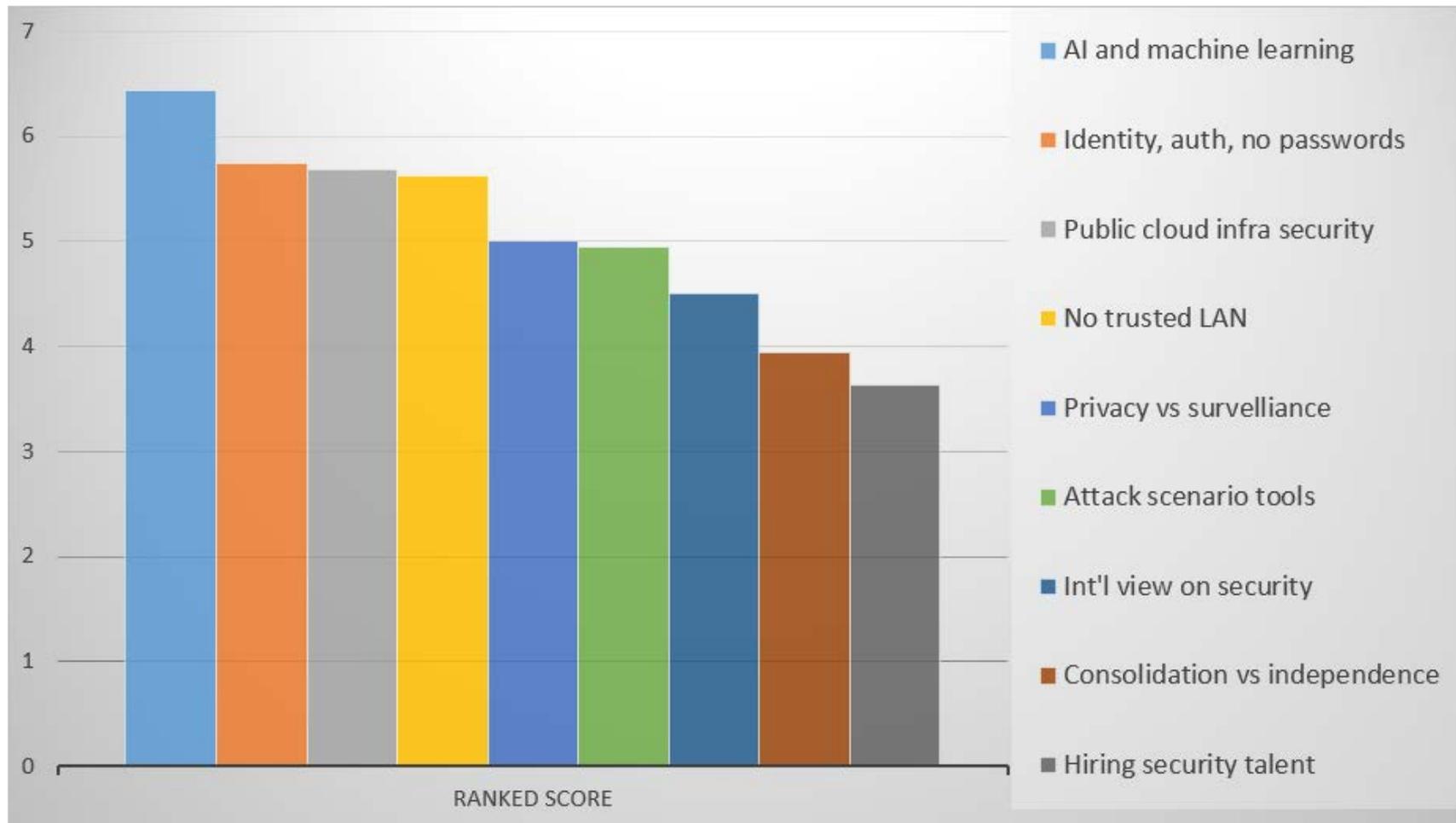


VSC Discussion Topics – Feb 2015 (RSA)



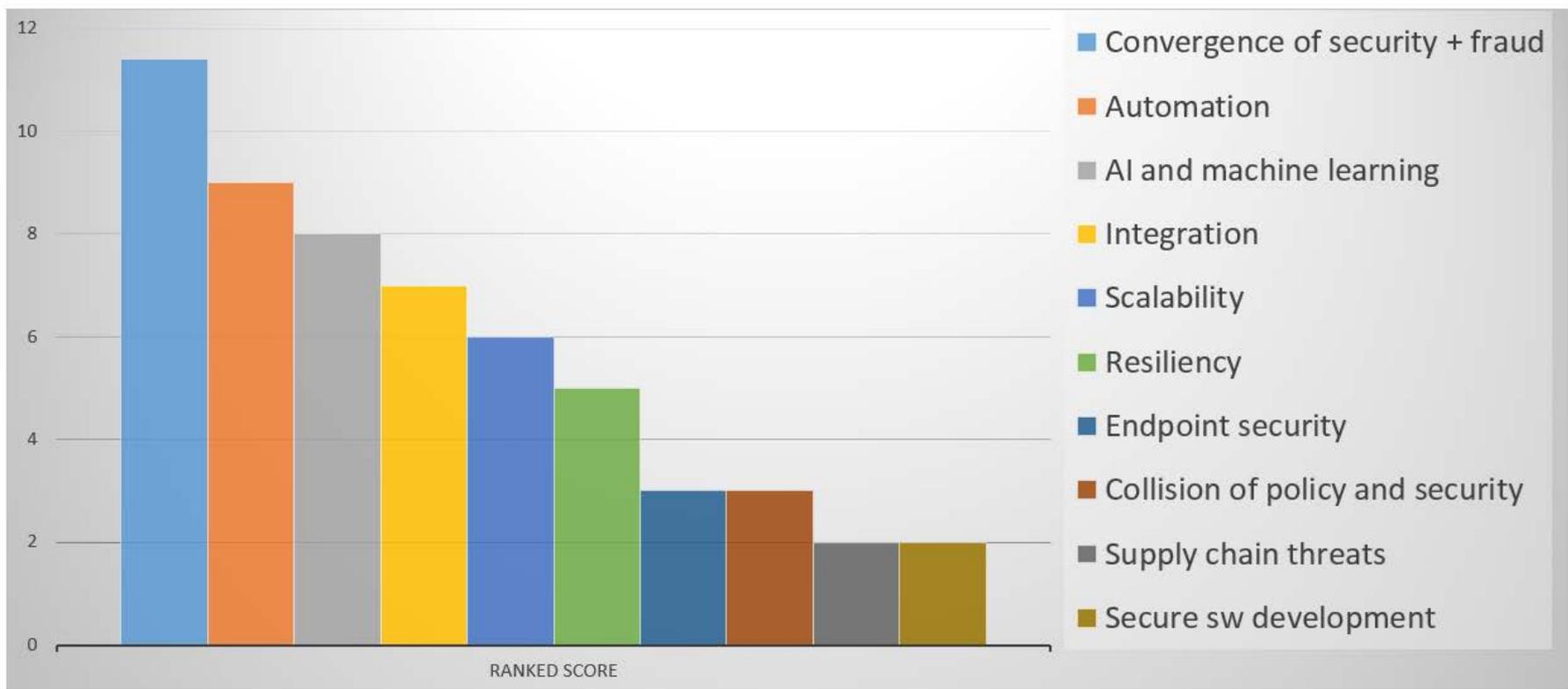


VSC Discussion Topics – Mar 2016 (RSA)





Voted Topics – May 2016 (FS-ISAC)*



* Miami May 4: three votes per participant for top topics of interest, not done via survey like in past events



Insights



SEARCH

ANALYSIS

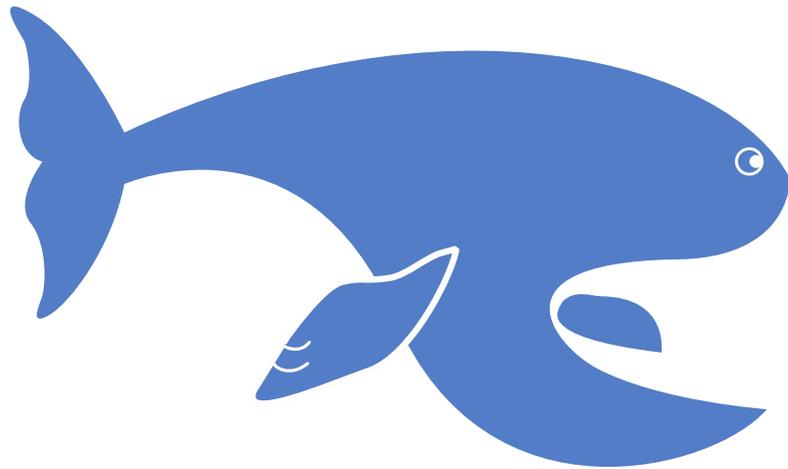
SCA



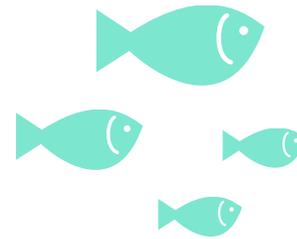
AI is eating the world



Artificial Intelligence



Data



World





Innovative outcomes





Emerging security categories



▼ **Analytics + machine learning platforms** (next gen SIEM)

- ▼ Examples: Niara, Exabeam, Fortscale, Securonix, E8 Security



▼ **Automation and orchestration** (automates repetitive tasks)

- ▼ Examples: Cloudpassage, Evident.io, Invotas, Phantom, StackStorm



▼ **Threat intelligence** (external feeds, threat sharing platforms)

- ▼ Examples: Anomoli, iSIGHT Partners, Flashpoint, Soltra, ThreatConnect



▼ **Cloud security gateways** (CASB, next gen proxies)

- ▼ Examples: Adallom, NetSkope, Skyhigh, Zscaler



▼ **Security for endpoints** (next gen + mobile + browsing)

- ▼ Examples: Bit9+CarbonBlack, Menlo Security, Skycure, Tanium



▼ **Risk ratings + cyber insurance** (financial coverage)

- ▼ Examples: BitSight, SecurityScoreCard, future stealth startups





Question: Early Stage Technology



- How can I play a leadership role in shaping the future of security?

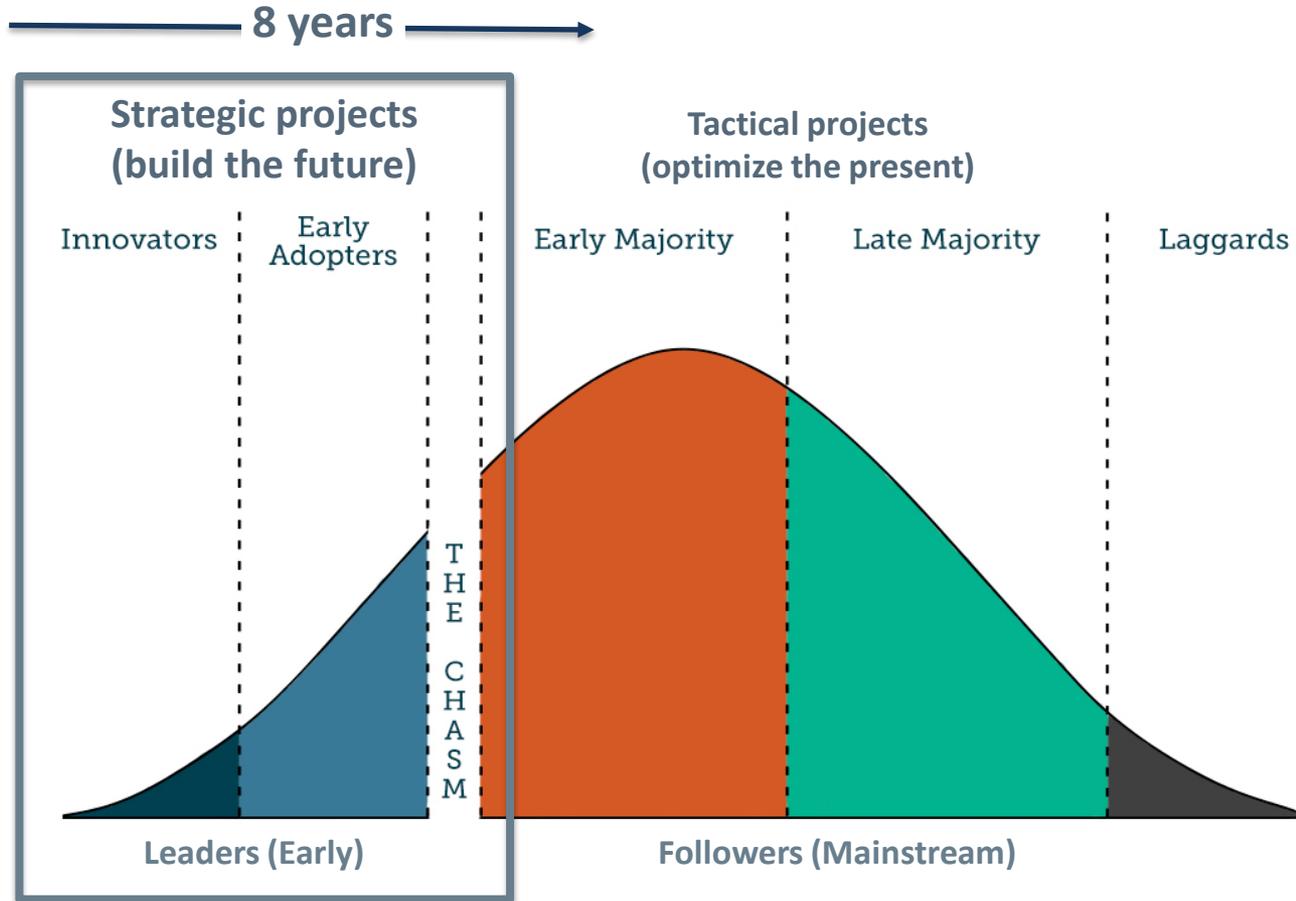


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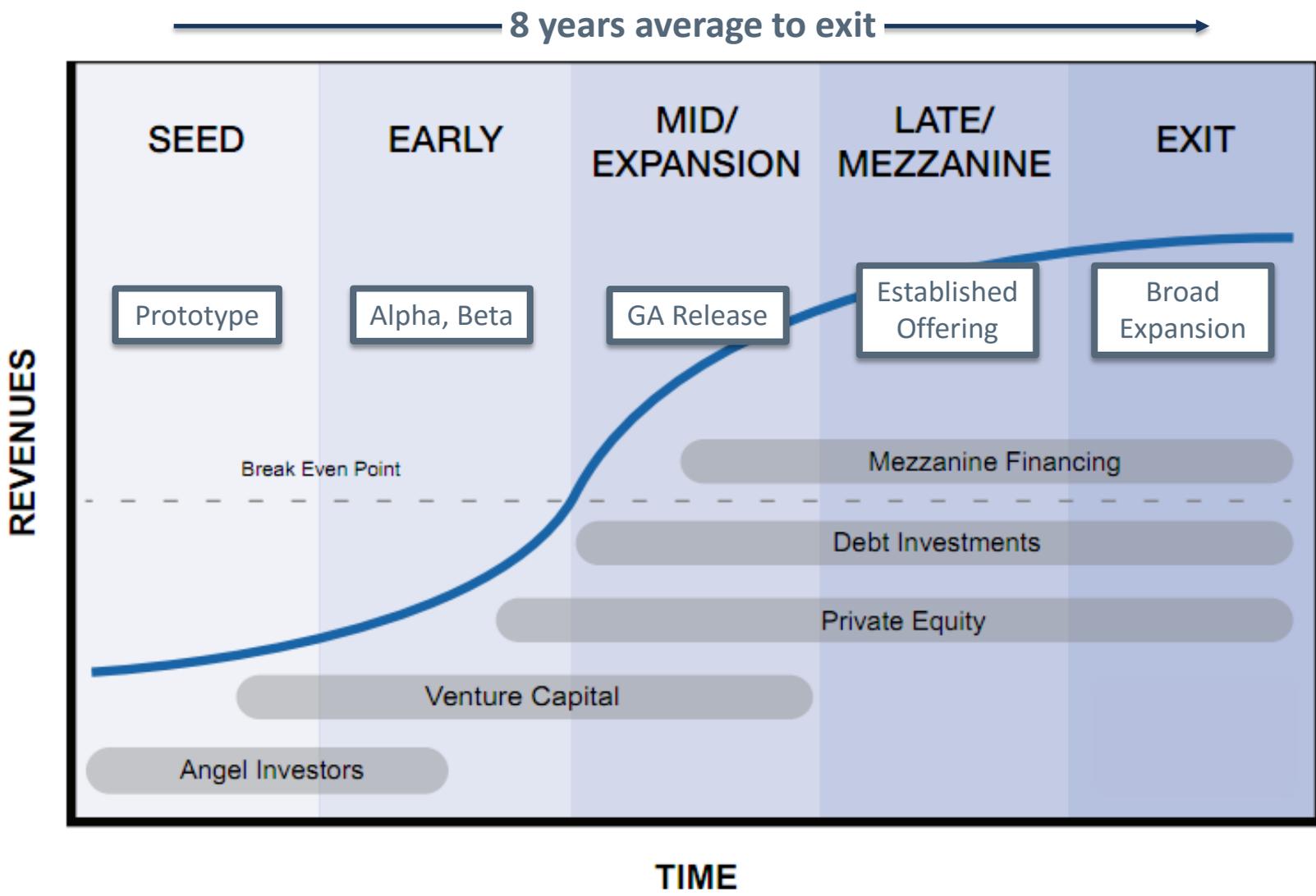
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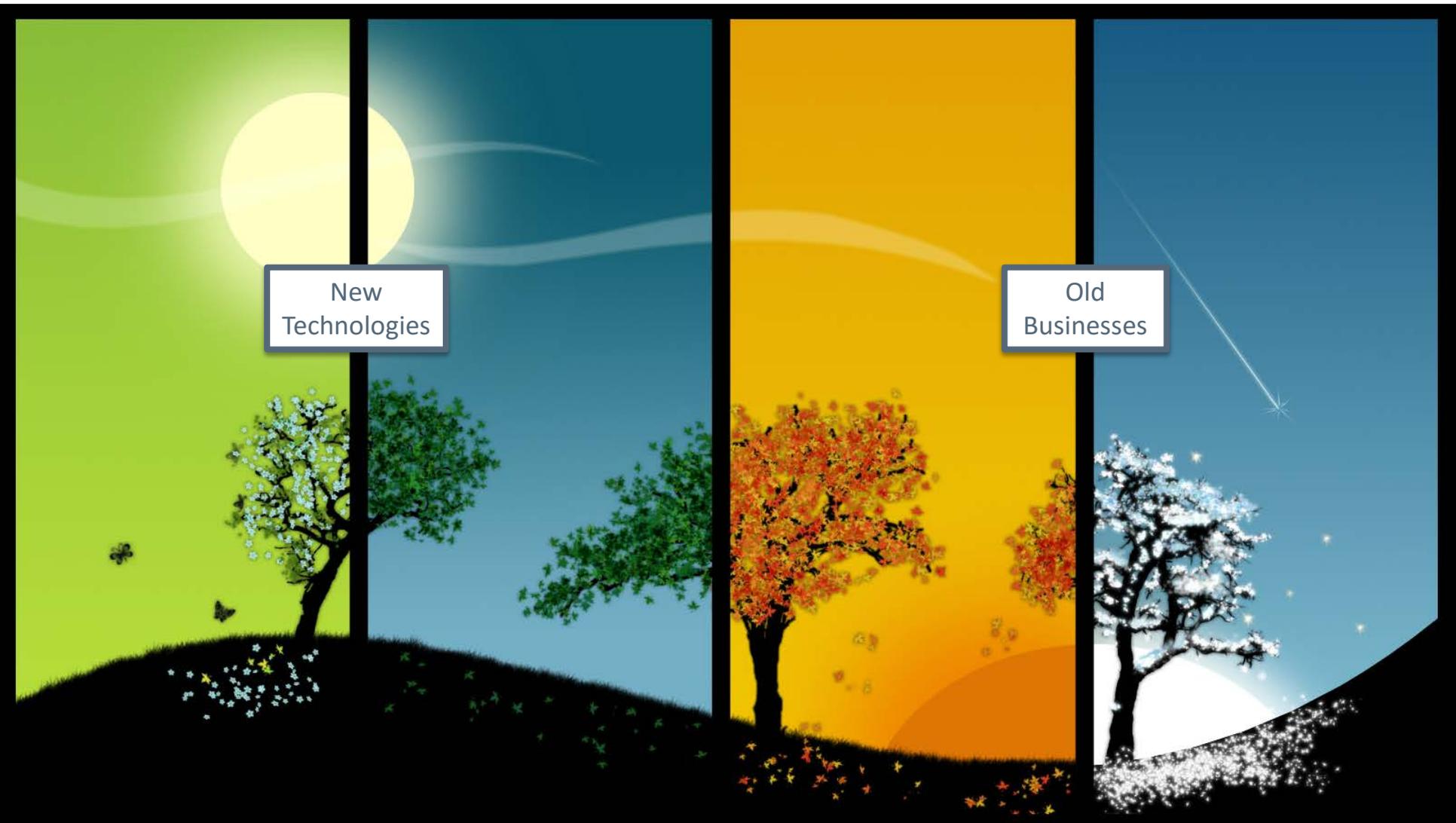


Startups: Revenue vs Time





Technology cycles → create new opportunities



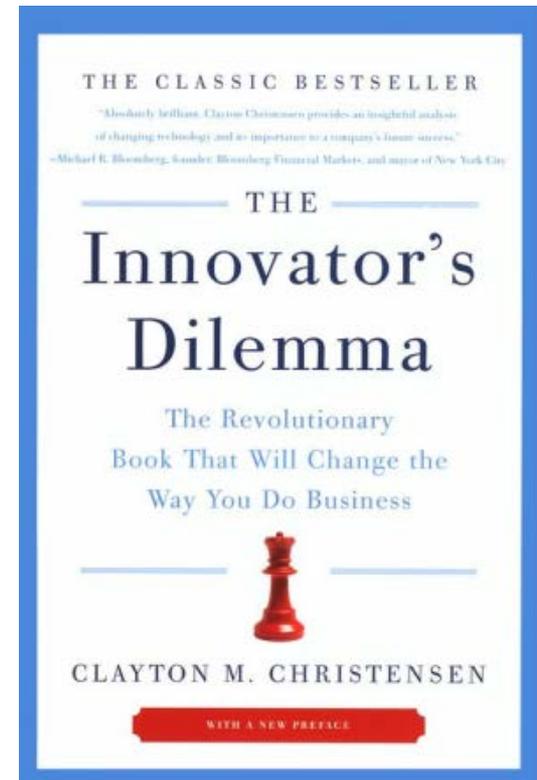
Disruptive innovation → core tenets



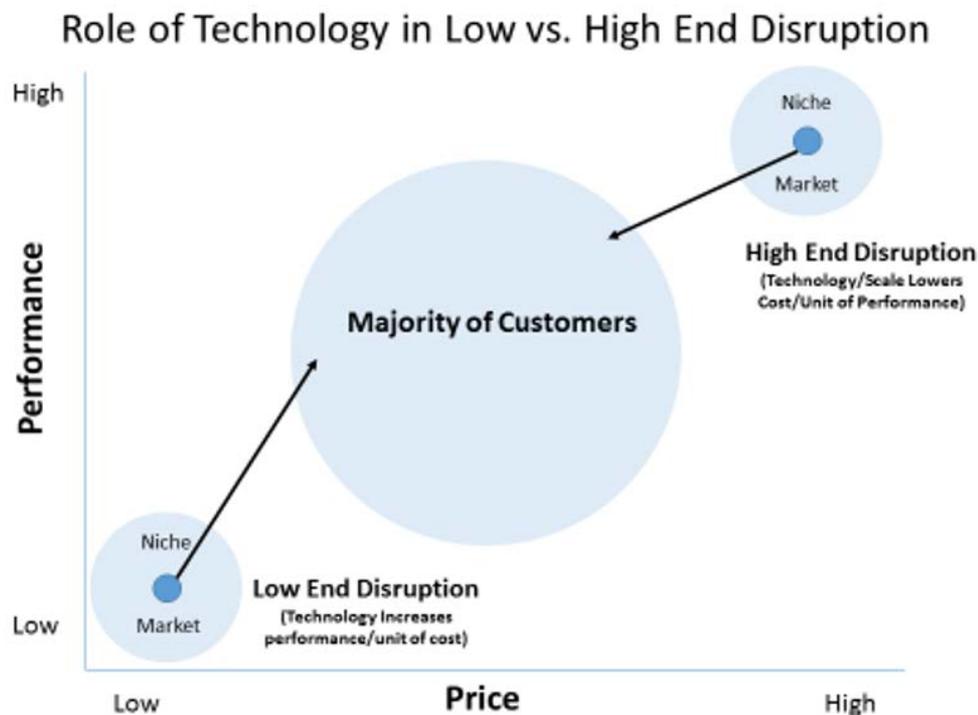
Three core tenets

1. **new product** or service designed for
2. **underserved customers** or market segment using
3. **new technology** and/or engagement model not popular with the vast majority of existing customers.

If the disruptive innovation is really successful, it will **LATER disrupt incumbents** and bring better-faster-cheaper to the mainstream.



Debate: can “high-end” innovation be disruptive?



- ▶ **Debate:** disruptive innovation can only be low-priced offerings for low-paying customers. Not high priced luxury for already affluent customers.
- ▶ **Examples:** Apple, Nest, Starbucks, Tesla, Uber... all provided higher priced products and services with unique engagement models that tapped into markets that were willing to pay premium for the innovation.



Tech + business model innovation → biggest disruptors

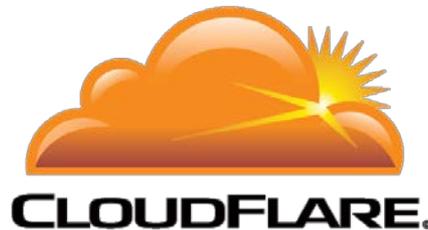


U B E R

EVERYONE'S PRIVATE DRIVER™



TESLA





Incumbents with aging products → interesting markets 





Glimmer of Greatness



Thank You



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