

Edmund Pendleton

Technology Entrepreneur

Lead Instructor & Faculty Director

*NSF & NIH I-Corps, NSF SBIR Beat-the-Odds
Bootcamp, DC Regional I-Corps*

Corporate Innovation Consultant

10,000+ hours

3,000+ teams





CORPS
NSF Innovation Corps

“How can we increase the economic impact of the \$7B+ we invest in research every year?”

MIT Technology Review

VOL. 15 NO. 6 | \$5.99 US

HAS QUANTUM
COMPUTING
FINALLY
ARRIVED?

Upfront p24

HOW
TOMORROWS
STARTUPS WILL
BE FUNDED

Business Report p75

TECH
TRANSFORMS
MUSIC, ART,
AND PROSE

Reviews p87



Buzz Aldrin,
Apollo 11
moonwalker,
would like a
word with you.

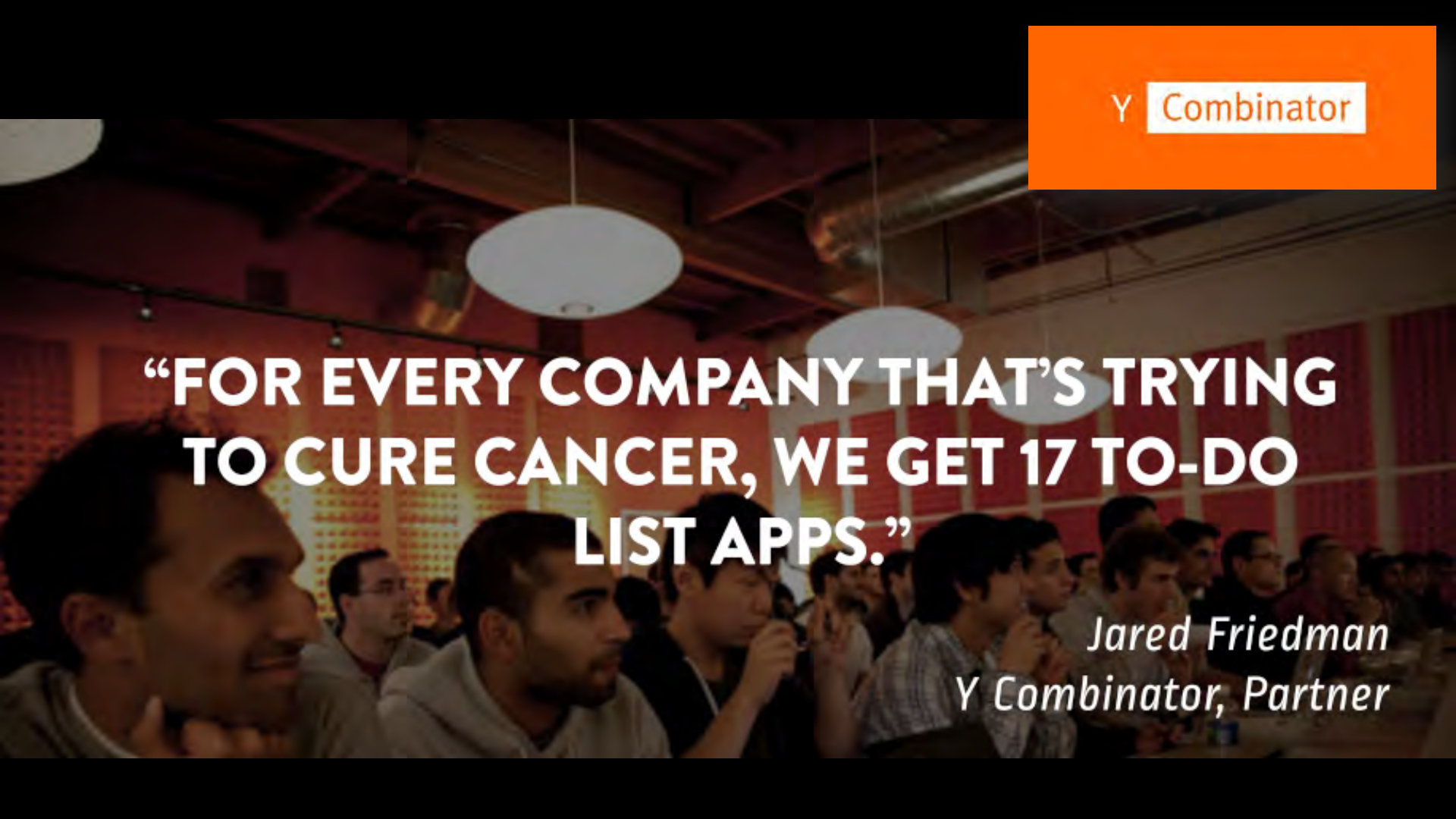
**You Promised Me Mars Colonies.
Instead, I Got Facebook.**

We've stopped solving big problems.
Meet the technologists who refuse to give up. p26

***"You Promised Me
Mars Colonies.***

***Instead, I Got
Facebook."***

- Buzz Aldrin

A photograph of a large crowd of people, mostly men, sitting at tables in a conference room. They are looking towards the left side of the frame, presumably towards a speaker. The room has a high ceiling with exposed wooden beams and several large, white, circular pendant lights. The background is slightly blurred, showing more people and the structure of the room.

**“FOR EVERY COMPANY THAT’S TRYING
TO CURE CANCER, WE GET 17 TO-DO
LIST APPS.”**

*Jared Friedman
Y Combinator, Partner*



SBIR · STTR

America's Seed Fund

Awards

Click on each column for more details



Agency Micro-sites



I-Corps is the premiere
***federally funded* innovation**
and commercialization
program in the US



 **NODES**

 **SITES**



Inventors

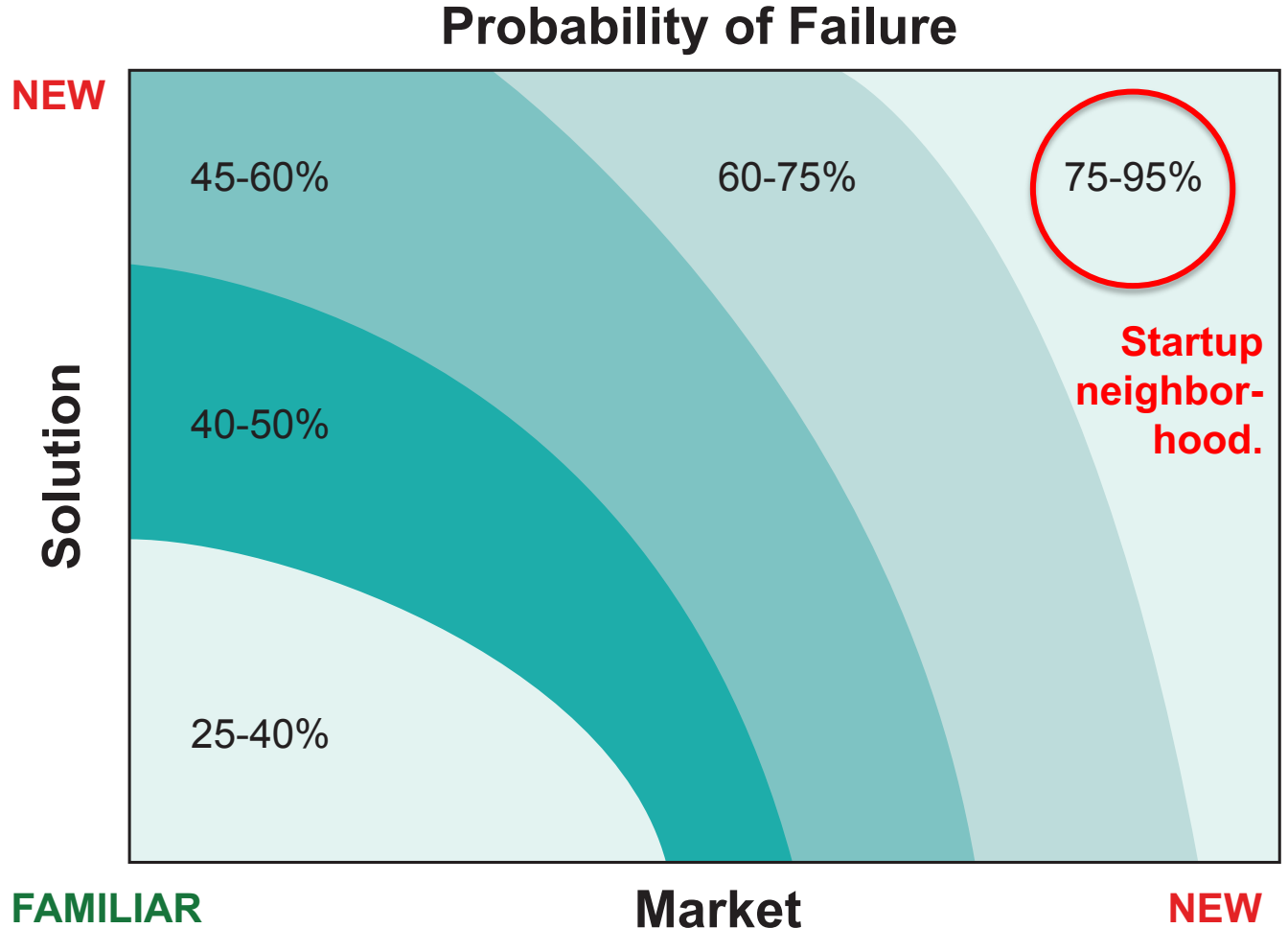
Innovators

Entrepreneurs

No single book or source...
or magic formula.



**Successful
innovation
is very
difficult!**

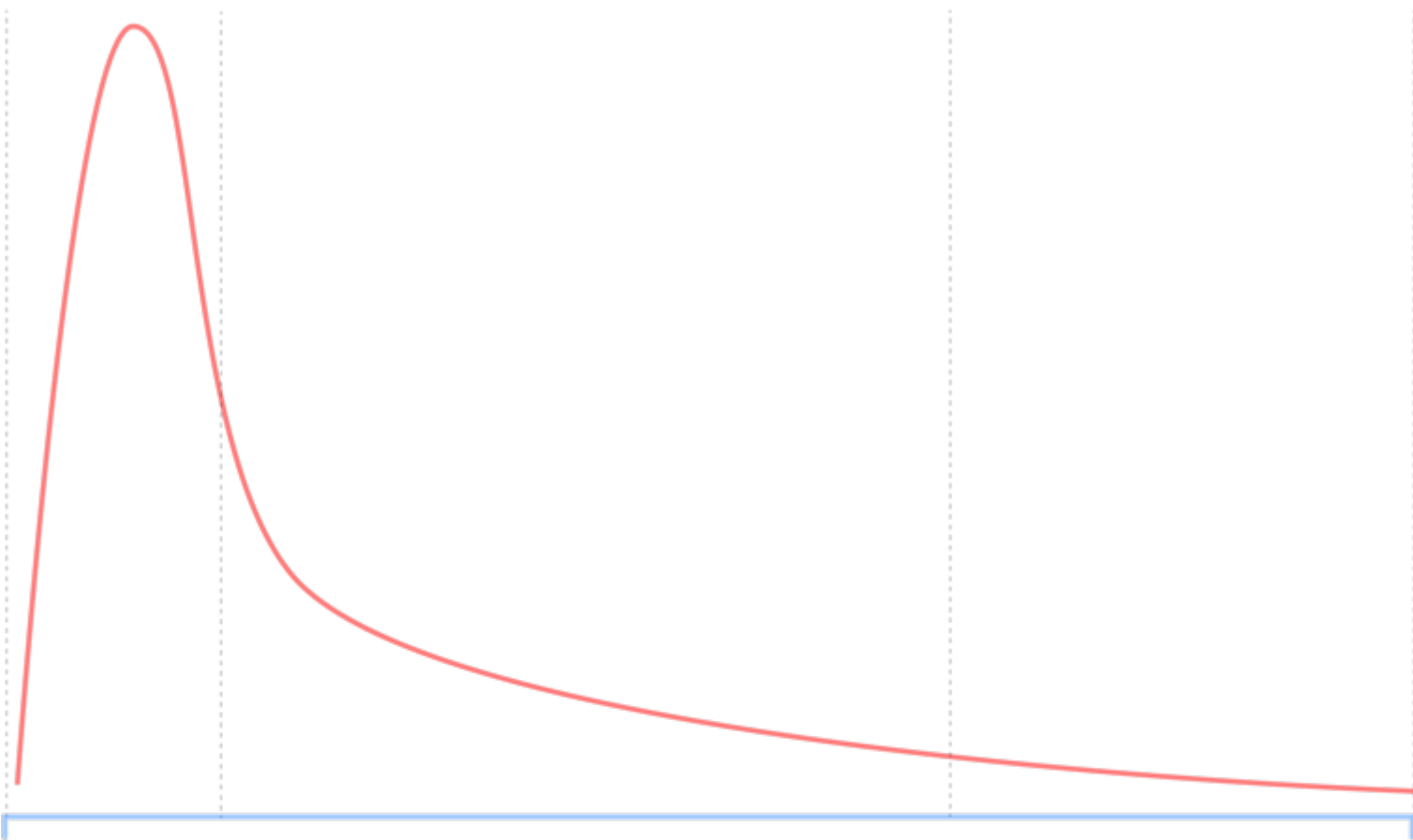


Strikeouts

Base Hits

Home Runs

Frequency



Outcome (ROI)

**Why do these charts
look this way...**

***and can we do
better?***

#1

**Building something
nobody wants**

Score: 300

#2

Hiring Poorly

Score: 153

18% of Tot.

#3

Lack of Focus


Score: 112

13% of Tot.



**Use a
systematic approach...**

***to identify
unmet needs.***

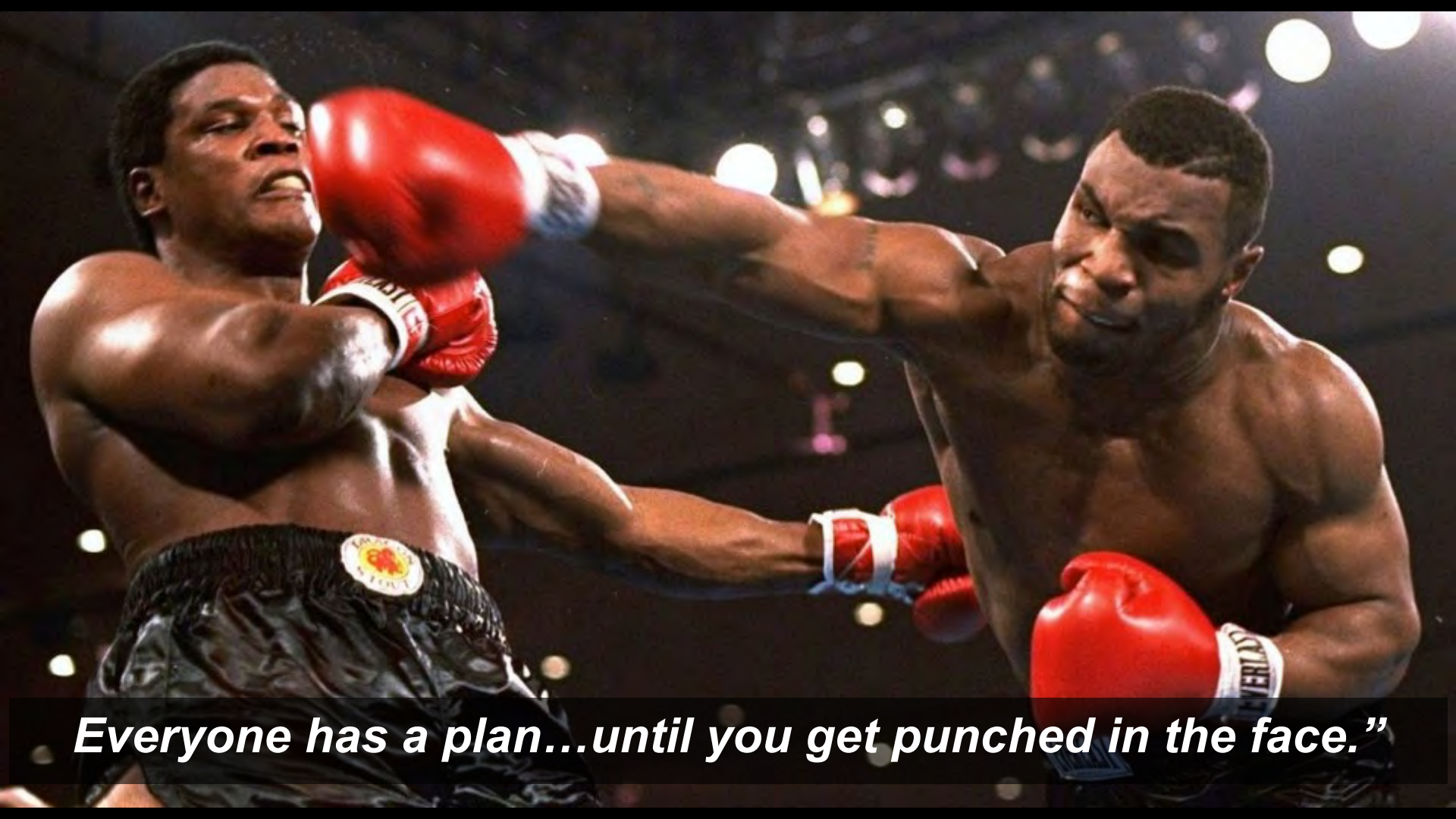


**Build,
Show, and
Hope!**

Get *out* of the
building!



Talk (listen)
to customers...



Everyone has a plan...until you get punched in the face."

**PRIMARY learning
comes from**

***Customer Discovery
interviews!***

Discovery

...what are some things you should try to discover?

Before this beach...*find a beachhead market!*



Does the customer have a compelling reason/need to buy?

How “accessible” to your expected sales force / channel?

Are there entrenched competitors that might try to block you?

Is the target customer well-funded / able to pay?

Can you deliver a full solution or will you need partners?

Are there related/adjacent segments that you could go after after the beachhead?

Is market consistent with passion, interests, and goals of founders?

customer Jobs

*...why customers
adopt solutions.*

End User

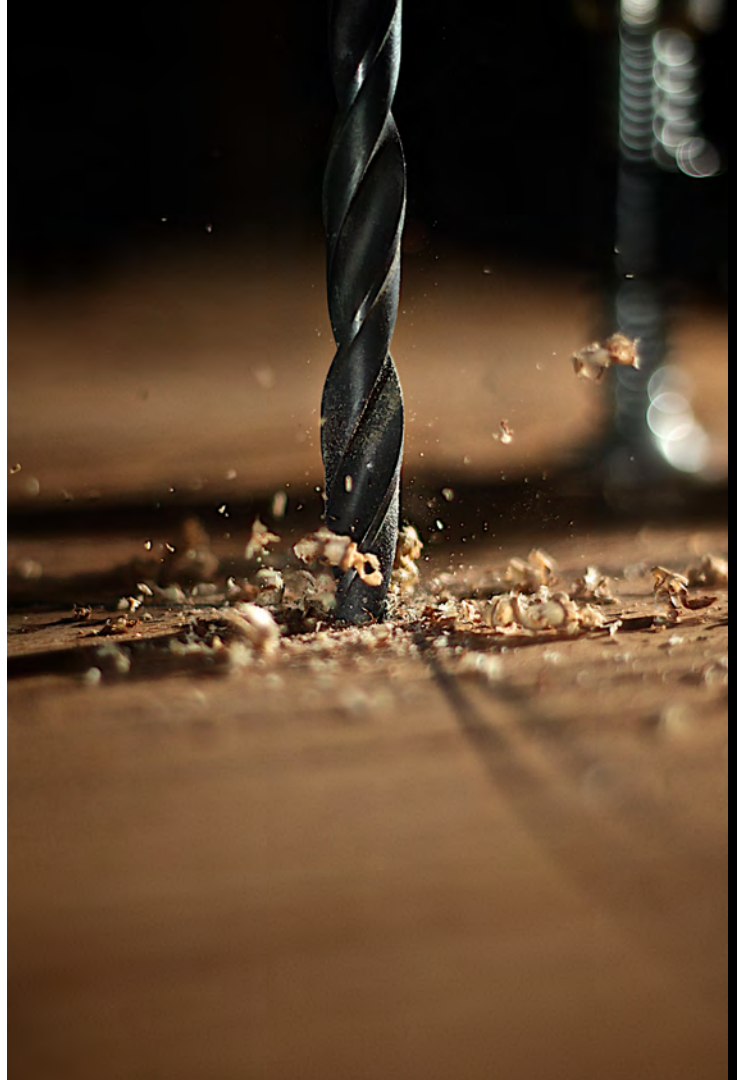


Job



**“PEOPLE DON’T
WANT A QUARTER
INCH DRILL, THEY
WANT A QUARTER
INCH HOLE.”**

—Theodore Levitt



competing Jobs

*...what other customer
jobs compete for
resources.*

End User



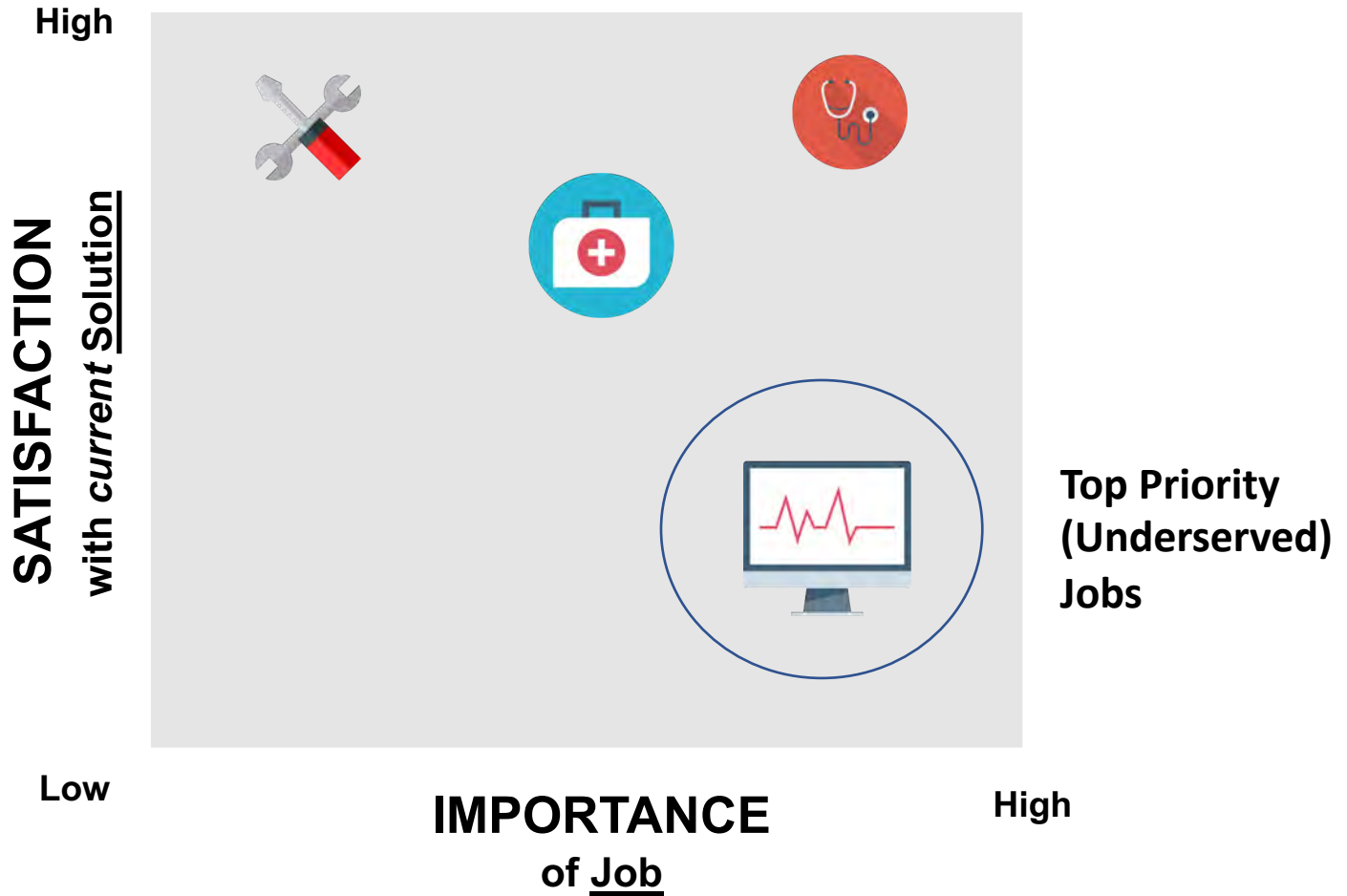
Jobs



job Priority

*...how do customers
prioritize their jobs.*

Customer Jobs



customer Needs

*...what criteria drive
solution choice.*

End User



Job



**Solution
Criteria**





WHEN A CUSTOMER “HIRES” A SOLUTION FOR THIS JOB

*What Decision Criteria
Are Used? (How do they
define better?)*



value Propositions

*...why and when will
customers adopt your
solution*



How much better do you need to be *to get adopted?*

Customers require X improvement prior to adoption.

*Are they willing to fire their existing
solution in order to hire yours?*

business Models

*...understanding the value
of a business*

Key Partners



Key Activities



Value Propositions



Customer Relationships



Customer Segments



**Does the customer
have a compelling
reason to buy?**

Channels



Cost Structure



Revenue Streams



Key Partners



Key Activities



Value Propositions



Customer Relationships



Customer Segments



Key Resources



Channels



Cost Structure



Revenue Streams



top **Takeaways**

*...three lessons from
3,000+ deep tech projects*

**#1. Lack of focus – specifically
around beachhead market
selection – is a “first order”
failure mode**

#2. Deep understanding of customer jobs, and decision criteria for solutions to the them, uncover real customer needs.

**#3. Competition comes from
in-kind solutions, out-of-
kind solutions, *and*
“competing jobs.”**

final Thoughts

*...some words of
inspiration*



THE *NEW YORK TIMES* BESTSELLER

THE CHECKLIST MANIFESTO

HOW TO GET THINGS RIGHT



PICADOR

ATUL GAWANDE

BESTSELLING AUTHOR OF *BETTER* AND *COMPLICATIONS*



LIVE BEYOND FEAR.

FREE SOLO

A FILM BY ELIZABETH CHAI VASARHELYI & JIMMY CHIN

***“Nobody achieves anything great in the world
by being happy and cozy.”***

- Alex Honnold

