

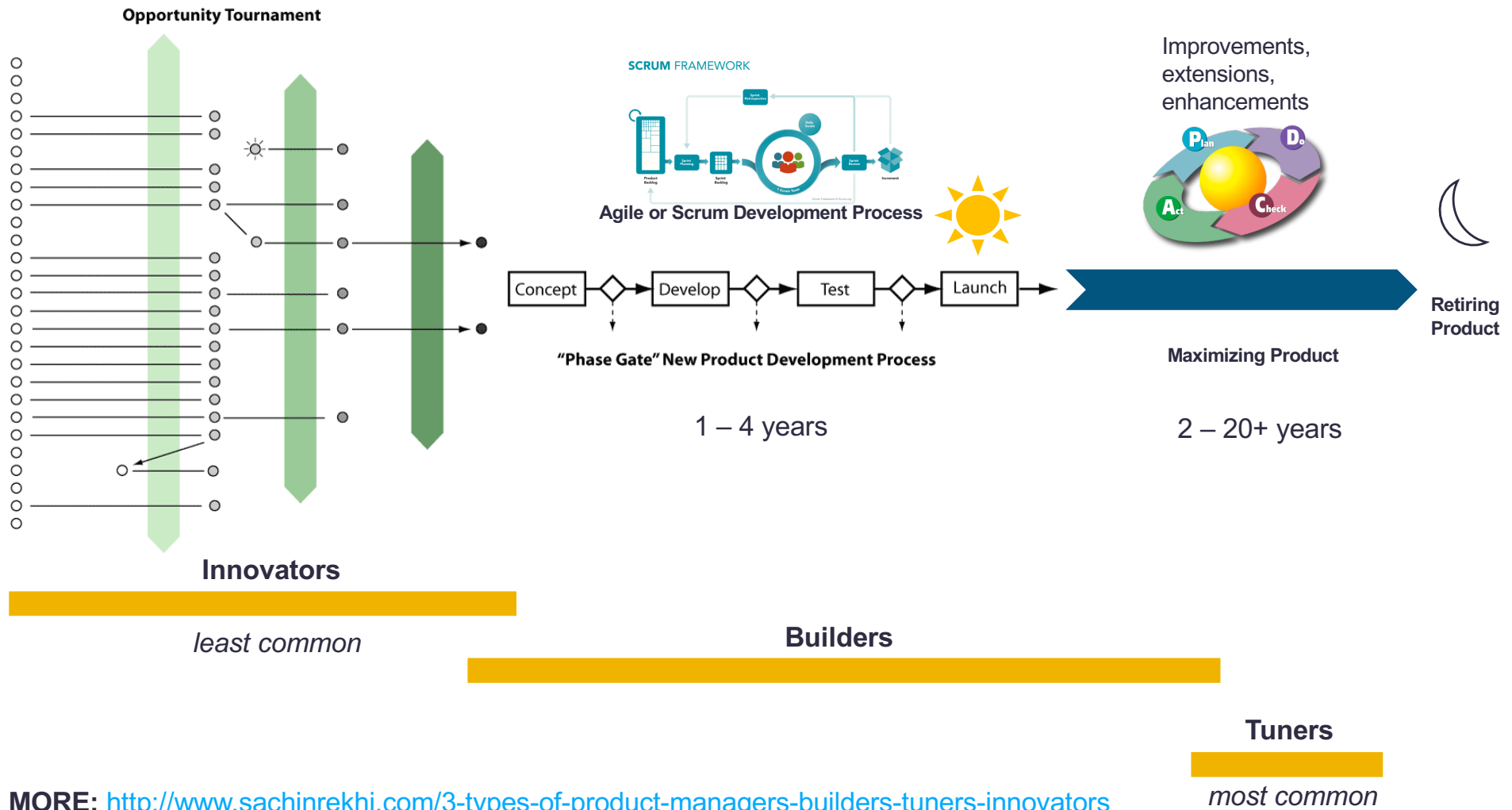


General Magic & H3 Product Innovation (+ Adventures in Personal Transportation)

Professor Karl T. Ulrich
Vice Dean of Entrepreneurship & Innovation

@ktulrich | ktulrich.com | ulrich@wharton.upenn.edu

Product Management Roles and the Product Lifecycle



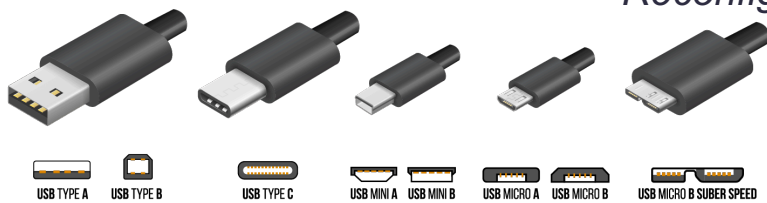
How to Categorize Product Innovation?



Google Glass

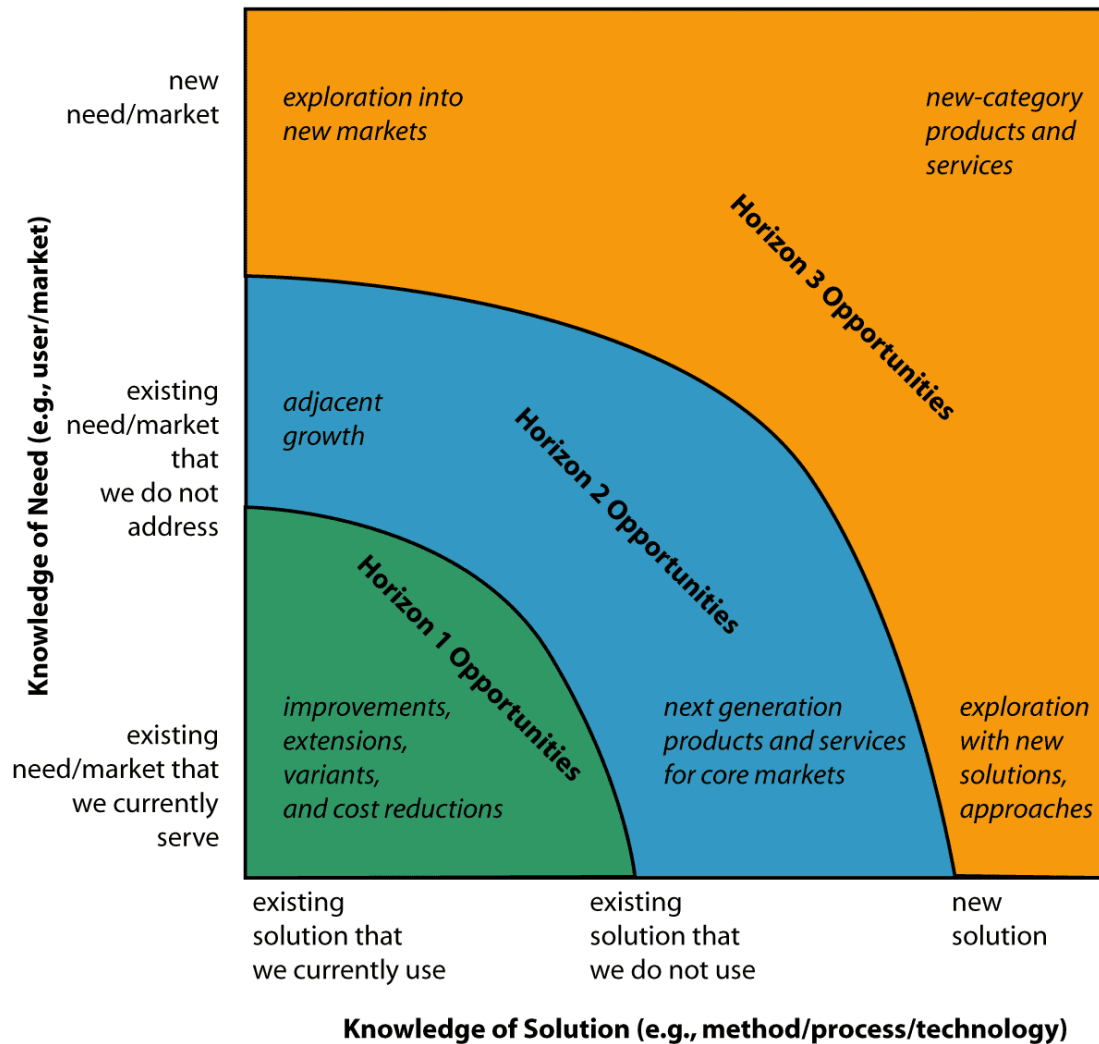


Reconfigurable, modular mobile device



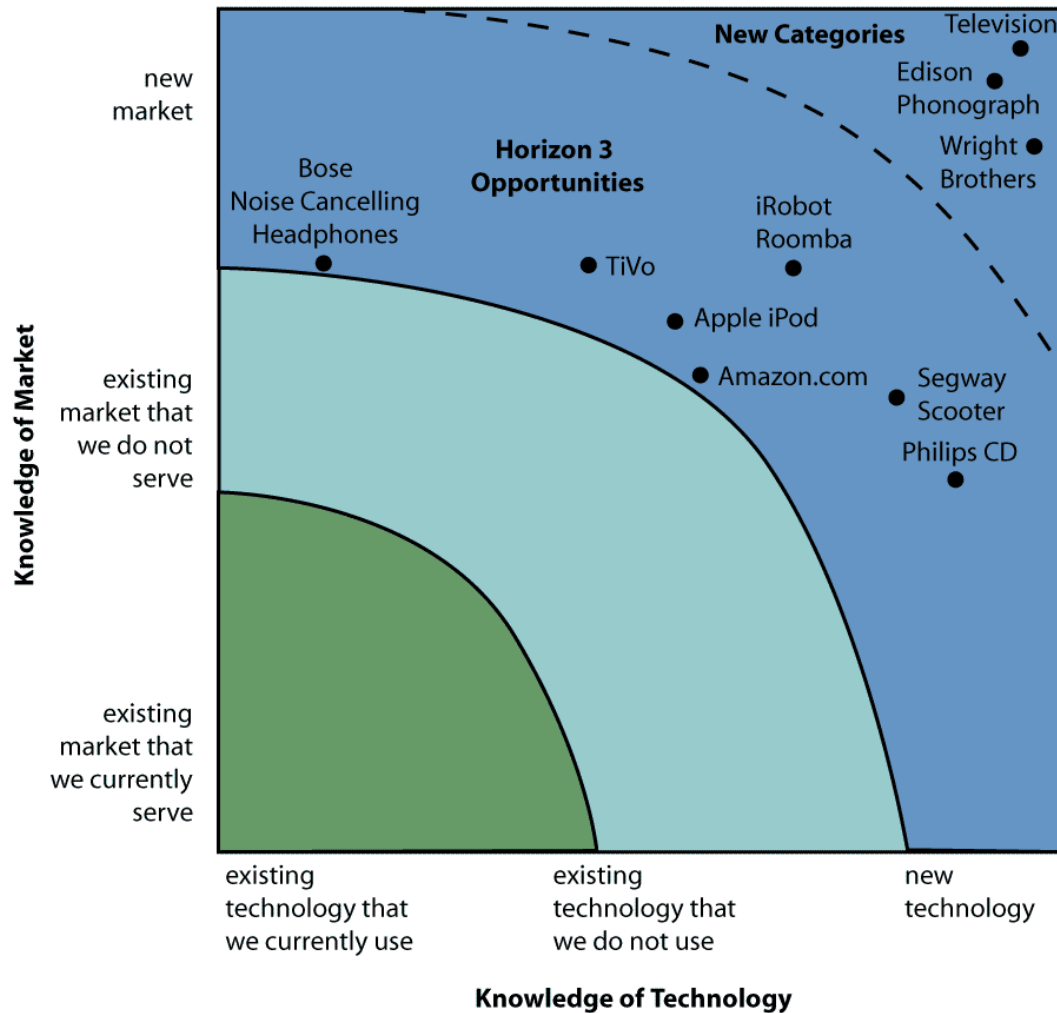
USB A → USB C

Three Categories (From Perspective of Established Firm)



Source:
Terwiesch and Ulrich,
Innovation Tournaments.

New Categories are Usually Established by New Entrants



Playing out now:

Transportation services (Uber)
 Quantified self (Fitbit)
 3D Printing (3D Systems)
 Personal robots (iRobot)
 Personal transport (Lime)
 Flying cars (Terrafugia)
 Cryptocurrency...tbd
 Autonomous vehicles...tbd
 Wearable computing...tbd
 AR/VR...tbd

Source:
 Terwiesch and Ulrich,
Innovation Tournaments.

General Magic Case – Discussion Questions

1. What are lessons learned from General Magic for *any* project?
2. Retrospectively, what might General Magic have done to increase its chances of success?
3. What are lessons learned from General Magic for H3 product innovation?
4. Or...your own more interesting question...

<https://en.wikipedia.org/wiki/Smartphone>



Xootr kick scooter
1999 - present



c2000-2001



\$80 mm investment by Kleiner-Perkins, CSFB

Specifications:

- 12.5 mph
- 80 lbs
- 11 miles range
- \$9000
(consumer version \$4950)

Original volume projections:
40,000 units/month by end of 2002.

"I would stake my reputation, my money and my time on the fact that 10 years from now, this will be the way many people in many places get around. If all we end up with are a few billion-dollar niche markets, that would be a disappointment. It's not like our goal was just to put the golf-cart industry out of business"

– Dean Kamen



[Ninebot](#)

[Ninebot One](#)

[Online Store](#)

[Ninedroid APP](#)

[Choose Region](#) ▼

Personal Transportation Robot

[Watch the video](#) 



April 2015



c2013



**IF A City Has Many Cyclists
IT Must Be A Liveable City**

胡玮炜

January 2015 – Mobike founded in China

China's Biggest Food Delivery App Buys China's Biggest On-Demand Bike Service

Part of the daily SupChina newsletter. Subscribe for free

👤 LUCAS NIEWENHUIS 🕒 APRIL 4, 2018 💬 0



April 2018 ~\$2.7B USD

AARIAN MARSHALL TRANSPORTATION 04.09.18 09:30 AM

SHARE



UBER ACQUIRES THE BIKE-SHARE COMPANY JUMP



April 2018



Startups

Apps

Gadgets

Events

Videos

—

Crunchbase

Advertise

More

Search 🔍

[Gift Guide 2018](#)

[Fundings & Exits](#)

[Apple](#)

[Asia](#)

Lime partners with Segway to build electric scooters



Megan Rose Dickey @meganrosedickey / 7 months ago

Comment



Lime closes acquisition of Jump assets in Europe as Jump bikes and scooters disappear

Romain Dillet @romaindillet / 10:11 am PD

Uber is scrapping tens of thousands of Jump bikes during a nationwide bike shortage

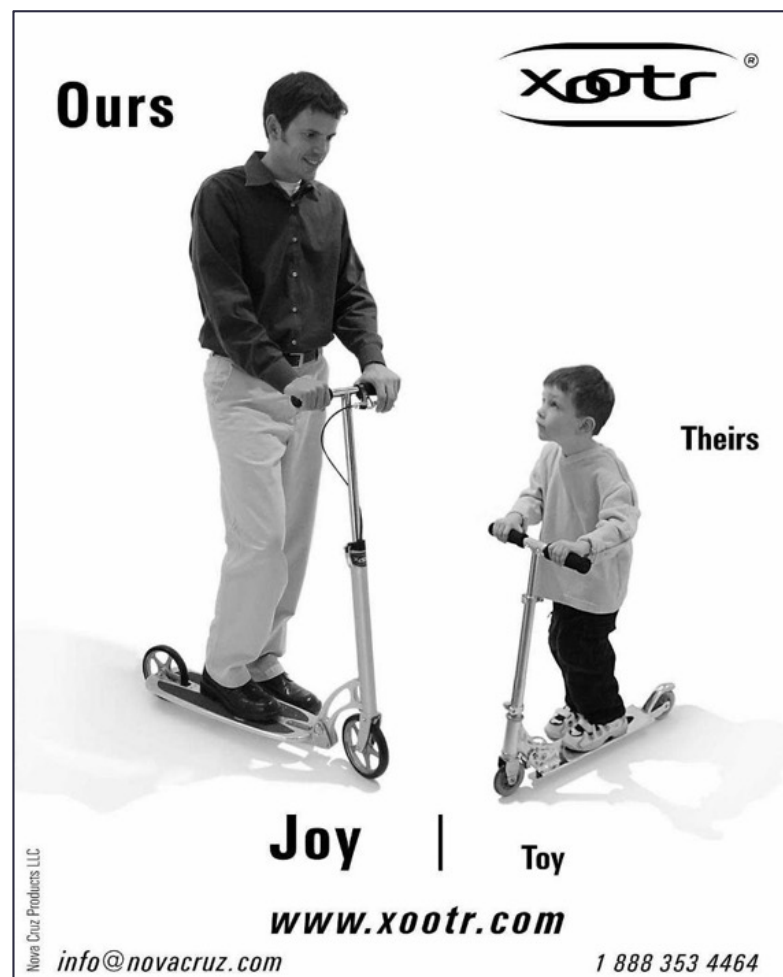
The scrap job comes at a time when many people are looking for alternate forms of transportation

By Andrew J. Hawkins | @andyjayhawk | May 27, 2020, 3:31pm EDT

f t SHARE



1. Luck (Exogenous Factors) is a Key Determinant of Success



2. Sometimes it's the Business Model and the Enabling Tech (not the core product tech)



3. Forecasts of New-Category Ventures Often Wildly Optimistic

Original volume projections:
40,000 units/month by end of 2002.

“I would stake my reputation, my money and my time on the fact that 10 years from now, this will be the way many people in many places get around. If all we end up with are a few billion-dollar niche markets, that would be a disappointment. It’s not like our goal was just to put the golf-cart industry out of business.”

– Dean Kamen



4. Diffusion in New Categories Takes a Really Long Time



5. If there is a benefit proposition, consumers will eventually get over “looks weird.”



and if not?



6. The Emperor Sometimes Has no Clothes (especially in Silicon Valley)

Key discipline:

- What is the job to be done?
- Does the solution do the job?
- Does the company possess the assets and capabilities to prevail competitively?

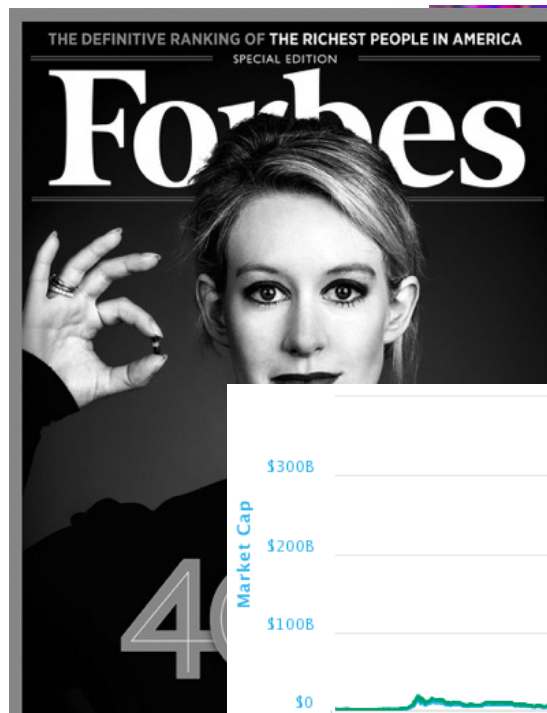
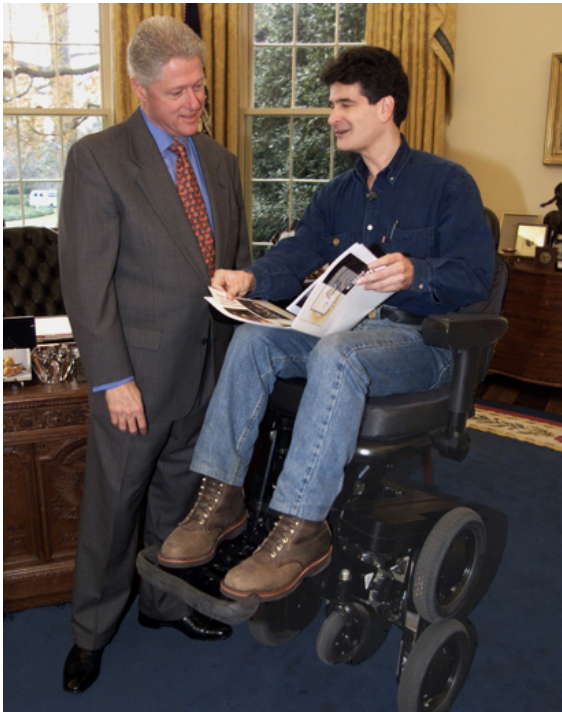
NO MERCY/NO MALICE

WeWTF

August 16, 2019




Scott Galloway @profgalloway



7. Sometimes new venture success is about staying alive long enough for something random and good to happen to you.



TECHNOLOGY | Uber to Buy Jump, Maker of Electric Bicycles, After Bike-Sharing Test



Uber to Buy Jump, Maker of Electric Bicycles, After Bike-Sharing Test

By DAISUKE WAKABAYASHI APRIL 9, 2018





RELATED COVERAGE



One Surprise Standout for Uber: Food Delivery SEPT. 23, 2017



Uber's New Training Wheels: Testing Bike Sharing in San Francisco JAN. 31, 2018



Southeast Asia's Ride-Hailing War Is Being Waged on Motorbikes DEC. 8, 2017

8. Your odds of success in H3 innovation are very low. Make sure you have intrinsic motivations.



If you must try H3

- a. (Remember, this is a bad idea unless intrinsically motivated.)
 - Odds of success almost certainly <25%
 - Many products you think of as H3 were really H2.
 - Tesla Model S
 - iPhone
- b. MVP
 - If possible, start with high-need, high-willingness-to-pay customer (e.g., Tesla Roadster 2008)
 - Avoid categories that require massive investment before first trial (e.g., Iridium)
- c. Iterative refinement over many product lifecycles
- d. Honest and hard-nosed analysis of feasibility (e.g., Boom Supersonic)
- e. Share financial risk with partners (e.g., SpaceX, Boom)



PalmPilot 1997

