

# Technological Entrepreneurship

## 2 –Characteristics of Entrepreneurs

Dr. Jack M. Wilson, Distinguished Professor  
of Higher Education, Emerging Technologies, and Innovation



# Who are the entrepreneurs?

---

In the last chapter, you got to know something about a wider range of entrepreneurs. Perhaps you found some of the stories surprising? Had you ever thought of Mother Teresa as an entrepreneur before?

My friend Jim O’Keefe certainly never had –until he went to visit her and work with her.

Jim grew up in Pittsfield Massachusetts. In his teen years, Jim caddied at the local golf course where Jack Welch, who was then an executive with GE Plastics, often played. Soon Jim became Jack Welch’s (UMass Amherst ‘57) favorite caddie. When Jim headed off to college, Jack told him to come back and see him after college and he would get him a job at the GE plant in Pittsfield.

After Jim finished his undergraduate degree and then did an MBA in Wharton, he decided to take Jack up on the offer. But, by now Jack was the CEO of General Electric - headquartered in Fairfield Connecticut. Undaunted, Jim went to the CEO’s office and told the receptionist that he had an appointment with Jack Welch. You will not be surprised that the receptionist was not buying the story –even when Jim told her the whole story. But she took his name and passed it on up the chain of command.

## Jim O’Keefe calls Jack Welch about Mother Teresa

---

A few days later, Jim O’Keefe got a call from someone who said that he was Jack Welch’s Chief of Staff.

*“So, Mr O’Keefe I guess I had better find out who you are and what you can do because Mr. Welch says I need to find you a job,”* he offered.

Over the years, Jim rose through the ranks to head all of GE’s Latin American holdings. At one point he took a short sabbatical to go to India and work with Mother Teresa. Jim was ready to be impressed to the point of awe by her charitable work, but something that he had never considered just blew him away.

He called Jack Welch to say something like: *“Jack, you have got to come over here and see the amazing thing that Mother Teresa is doing.”* *“I know all about her Charity work”* Jack replied. *“No! Not that,”* Jim retorted. *“She is running a world-wide enterprise with the smallest and most efficient management team I have ever met.*

In the last chapter we learned that she ran an enterprise, the Missionaries of Charity, with over 4,000 missionaries -- in addition to thousands more lay volunteers – and with 610 foundations in 123 countries.

# Social Entrepreneurship-Sustainability

---

- Jim learned what every leader of a charity or a non-profit organization quickly learns:
  - **No margin – no mission.**
- Being a non-profit does not mean non-expense and certainly cannot mean non-revenue.
- Mother Teresa was a very effective entrepreneur.
- The wealth that she created could be seen in the health and welfare of the people whose lives she helped –directly or indirectly.
- Her profit was the lives she saved, the diseases she cured, and the afflicted that she comforted.
- The technical term for what she did is “**Social Entrepreneurship,**” but even that seems so inadequate in her case.

# Social Entrepreneurship

---

- Although Mother Teresa organized her enterprise as a non-profit enterprise, most examples of Social Entrepreneurship are organized as for-profit enterprises.
- Muhammad Yunus, Harish Hande, and perhaps Teresa Mbagaya are all considered social entrepreneurs and they all have founded for-profit enterprises.
- The key aspect is whether the driving force is the profit or the social problem being addressed. One of the best expositions of this comes in a paper published by Stanford University entitled “*Social Entrepreneurship: The Case for Definition;*”
  - Roger L. Martin & Sally Osberg; Stanford Social Innovation Review Spring 2007
  - <http://www.ngobiz.org/picture/File/Social%20Enterpeuneur-The%20Case%20of%20Definition.pdf>
- The money quote here is “*This does not mean that social entrepreneurs as a hard-and-fast rule shun profitmaking value propositions. Ventures created by social entrepreneurs can certainly generate income, and they can be organized as either not for-profits or for-profits. What distinguishes social entrepreneurship is the primacy of social benefit, what Duke University professor Greg Dees-\** in his seminal work on the field characterizes as the pursuit of “mission-related impact.””
  - Their cover story on social entrepreneurship features Muhammad Yunus.
  - \*- <https://entrepreneurship.duke.edu/news-item/the-meaning-of-social-entrepreneurship/>

# Social Entrepreneurship in Wikipedia

---

- *“Social entrepreneurship is the attempt to draw upon business techniques to find solutions to social problems. This concept may be applied to a variety of organizations with different sizes, aims, and beliefs. Conventional entrepreneurs typically measure performance in profit and return, but social entrepreneurs also take into account a positive return to society. Social entrepreneurship typically attempts to further broad social, cultural, and environmental goals often associated with the voluntary sector. At times, profit also may be a consideration for certain companies or other social enterprises.”*
- Note that Wikipedia also says: *“Some have advocated restricting the term to founders of organizations that primarily rely on earned income—meaning income earned directly from paying consumers. Others have extended this to include contracted work for public authorities, while still others include grants and donations.”*
  - In other words, some scholars feel that to be an example of a social entrepreneurship the organization essentially must be a for-profit organization or at least a non-profit that operates like a for-profit with revenues and expenses and net margins. (But may not distribute those profits to owners)
  - I side with most scholars who take the definition more inclusively as defined by the previous page.
- Thus Muhammad Yunus is considered a social entrepreneur even though his enterprises are often for-profit.
- I am sure that you can think of many others including -Harish Hande and Teresa Mbagaya.

# Corporate Entrepreneurship

---

- We also met Rob Manning who is credited with introducing new ideas into the oldest mutual fund company in the world and saving it from extinction.
- He demonstrates that it is possible to be entrepreneurial in even the largest and oldest firms.
- We refer to that as “**Corporate Entrepreneurship.**”
- Recent business history is replete with companies who have either gone to the corporate graveyard (e.g., **Digital Equipment** Corporation; **Wang**; Siemens-Nixdorf) or are now sadly diminished (e.g., **Polaroid**; Kodak) because of the reluctance of senior management to embrace necessary change (a classical yet apocalyptic example was the collapse of the Swiss watch industry in the 1970s and early 1980s where companies refused to accept the digital threat to their analog dominance).
  - Philip Dover, Babson College and Udo Dierk, Paderborn
- Corporate Entrepreneurship is the key to long term success in any corporation.

# What does research tell us about entrepreneurs?

---

- Common **Myths** About Entrepreneurs
  - they are born -not made
  - they are gamblers
  - they are motivated primarily by money.
  - they should be young and energetic
  - they love the spotlight
  
  - **NOT TRUE!**
  
- It is simply not accurate to stereotype entrepreneurs.
  - Some may love the spotlight and some may hate the spotlight.
  - Some are young and some are old.
  - Some are men and some are women.
  - Some are motivated by money and others find their profit in changing the world for the better.
  - Entrepreneurs take risks, but they tend to be well calculated risks
    - not the kind of crazy long odds risk that so many take by buying a lottery ticket!



## Common traits

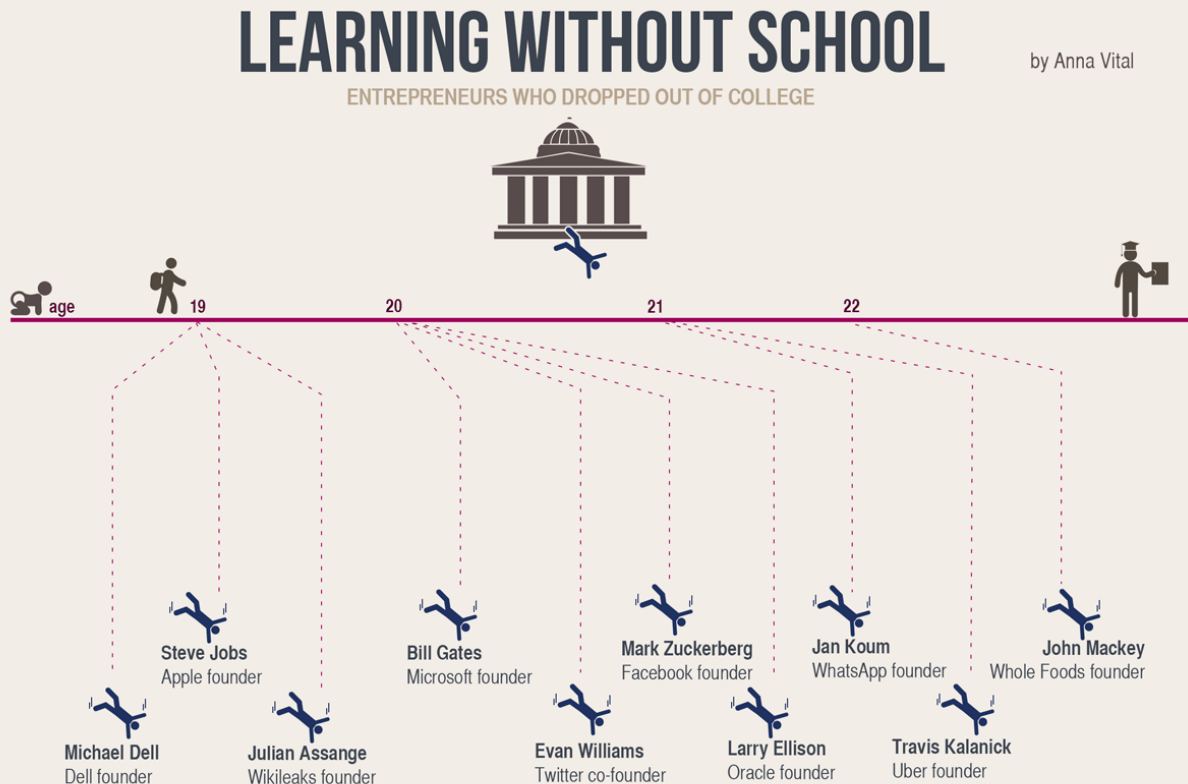
---

Here are some traits that many entrepreneurs seem to have in common. They correlate much better with entrepreneurial ability than the myths do.

- Moderate risk taker
- Networker
- Achievement motivated
- Alert to Opportunities
- Creative
- Decisive
- Energetic,
- Strong work ethic
- Long attention span
- Optimistic
- Persuasive
- Promoter
- Resource Assembler/leverager
- Self-confident
- Self-starter
- Tenacious
- Tolerant of Ambiguity
- Visionary

# Should prospective entrepreneurs drop out of college?

- After all some of the very best entrepreneurs were college drop-outs.



Michael Dell, Dell

Steve Jobs, Apple

Julian Assange, Wikileaks

Bill Gates, Microsoft

Evan Williams, Twitter

Mark Zuckerberg, Facebook

Larry Ellison Oracle

Jan Koum, WhatsApp

Travis Kalanick, Uber

John Mackey, Whole Foods

I HAVE  
NEVER LET SCHOOL  
INTERFERE WITH MY EDUCATION.  
Mark Twain

<http://fundersandfounders.com/entrepreneurs-who-dropped-out/>

F&F Funders and Founders

## Entrepreneurs who dropped out of college:

---

- **Michael Dell**, Dell founder, dropped out at 19
- **Steve Jobs**, Apple founder, dropped out at 19
- **Julian Assange**, Wikileaks founder, dropped out at 19
- **Bill Gates**, Microsoft founder, dropped out at 20
- **Evan Williams**, Twitter co-founder, dropped out at 20
- **Mark Zuckerberg**, Facebook founder, dropped out at 20
- **Larry Ellison**, Oracle founder, dropped out at 20
- **Jan Koum**, WhatsApp founder, dropped out at 21
- **Travis Kalanick**, Uber founder, dropped out at 21
- **John Mackey**, Whole Foods founder, dropped out at 22
  - <http://fundersandfounders.com/entrepreneurs-who-dropped-out/>

# Peter Thiel encourages dropouts

---

- Peter Thiel , Facebook investor and co-founder of PayPal and Palantir, was so convinced that college was unnecessary (and possibly an obstacle) that he offered to pay students NOT to go to college.
  - “It’s too expensive, it encourages conformity, and it teaches nothing about entrepreneurship.”
  - <http://www.nytimes.com/roomfordebate/2011/08/23/spending-too-much-time-and-money-on-education/college-doesnt-create-success?mtrref=undefined&gwh=96A8AA48BF8C22E99307C09C6D771C8C&gwt=pay&assetType=opinion>
  - <http://fortune.com/2014/09/04/peter-thiels-contrarian-strategy/>
  - <http://www.businessinsider.com/heres-how-peter-thiels-college-dropout-entrepreneurs-are-doing-2015-5>
  - He offered \$100, 000 to a few (about 20) of the 430 applicants in 2011.
  - In 2012 the applicant pool grew to 3,100.
  - Last year 2800 applied.
  - The total network is now 104;
  - <http://thielfellowship.org/>

# Thiel Fellows: Should you drop out to start your business?

---

- But the results have been mixed.
  - <http://chronicle.com/interactives/thiel>
- Many of the start-ups have failed.
- "I meet children all over the world who think they should drop out of college," Mr. Wadhwa says. "And if they drop out of college, they'll be flipping burgers."
- "Are there alternatives to college?," says Mr. Gu, whose 25-person company has secured more than \$6-million from investors but is still seeking profitability.
- "Yes, but you have to work pretty hard. It's pretty unrealistic that most people would find those things on their own. Most people would be better off going to college."
- In 2016, Grace Xiao dropped out of Harvard after receiving a Thiel Fellowship
  - <http://www.betaboston.com/news/2016/02/08/with-100k-from-the-thiel-foundation-harvard-junior-drops-out-to-launch-a-linkedin-for-science-labs/>
- After a fast start attracting some venture capital, it is now out of business.
- In fact, that is often what happens to new ventures founded by dropouts. It is just that we remember the successes, and no one notices the failures.

# Why be an Entrepreneur?

---

- Be their own boss
  - Entrepreneurs often find it difficult to accommodate to a hierarchical corporate setting. Many work in corporations quite successfully, but they often chafe at the restrictions and ache to go out on their own and be their own boss.
- Pursue their own ideas
  - Frequently an entrepreneur has a passion (more on that soon) for an idea. He or she may work in an environment in which that idea is not valued and where they cannot pursue something that they think is going to be very important.
- Realize financial (or other) rewards
  - Many entrepreneurs are motivated by financial rewards.
  - Some are not –they define their rewards in other ways.
  - Even those who are motivated by financial rewards are often motivated by some other kind of “change the world” motivation.

# Characteristics of Successful Entrepreneurs

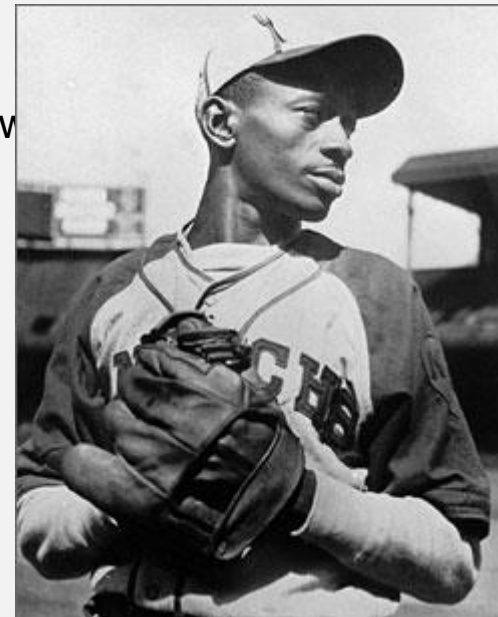
---

- Passion for the Business
  - Desire to change the World
- A Product/Customer Focus
  - Steve Jobs was perhaps the epitome –although he did say that “*A lot of times, people don't know what they want until you show it to them.*” -BusinessWeek (25 May 1998)
- Tenacity Despite Failure
  - In a speech during world war II, the British Prime Minister, Winston Churchill, demanded: “*never give in, never give in, never, never, never-in nothing, great or small, large or petty - never give in except to convictions of honour and good sense.*”
- Execution Intelligence
  - A great idea is nothing unless you can assemble the resources and demonstrate the ability to make it happen.
- Why does the World Care?
  - Innovation –Change the World
  - Job Creation

# Persistence –Keep On Smiling and Moving Forward

---

- “When I was young, I thought it was about being brilliant. Now I know that brilliance is good, but persistence wins the day!” -Jack Wilson
- *“Don’t look back, something might be gaining on you.”*
  - Satchel Paige
- Satchell’s quote, which has always been my own guide, should be the mantra of every aspiring entrepreneur. He is telling you not to look back at your failures and not to be overrun by your challenges. You should keep your eyes on the future and on what you wish to accomplish.
- He should know. He was unable to play in the major leagues until late in his career after a brilliant career in the Negro leagues as a pitcher. After the color barrier was broken and he was in the major leagues , he was still a great pitcher in his 40’s. He was asked how he could keep going and compete with the youngsters in the major leagues and this is how he answered. *“Don’t look back, something might be gaining on you.”*





# Diana Nyad

– Age 64 –Succeeds on fifth try from CUBA to Florida

- She cited three things:
  - Never give up
  - Never too old
  - Never alone
    - life is a team sport



## Passion drives Key actions:

---

- The ability to learn and iterate
- A willingness to work hard for an extended time
- Ability to overcome setbacks and “nos.”
- Ability to listen to feedback on the limitations of the organization and yourself.
- Perseverance and persistence when the going gets tough

# DNA of an Entrepreneur – from Ernst & Young

## The DNA of the entrepreneur model



# Types of New Ventures

---

- **Salary Substitute Firms**
  - Restaurants, convenience stores, dry cleaners, etc.
  - This is very rare for technology based entrepreneurship, but it is not unknown.
  - The founder likes running the company as essentially a day to day job that provides a salary, but does not create significant wealth.
- **Life Style Firms**
  - Indulge a persons passion, hobby or desire for a particular lifestyle
  - Marina owner I met in Tortola in the British Virgin Islands was a former Wall Street Executive
- **Entrepreneurial Firms**
  - Private Firms
  - Public firms
    - **Exit Strategies?**

If you plan to build and then leave a firm, how do you plan to get away?

      - Will you sell the firm? (Be acquired)
      - Will you go public and then reduce your involvement in the public company?

# Different types of Entrepreneurship

---

- Technology Entrepreneurship



- Small Business Entrepreneurship



- Corporate Entrepreneurship



- Social Entrepreneurship



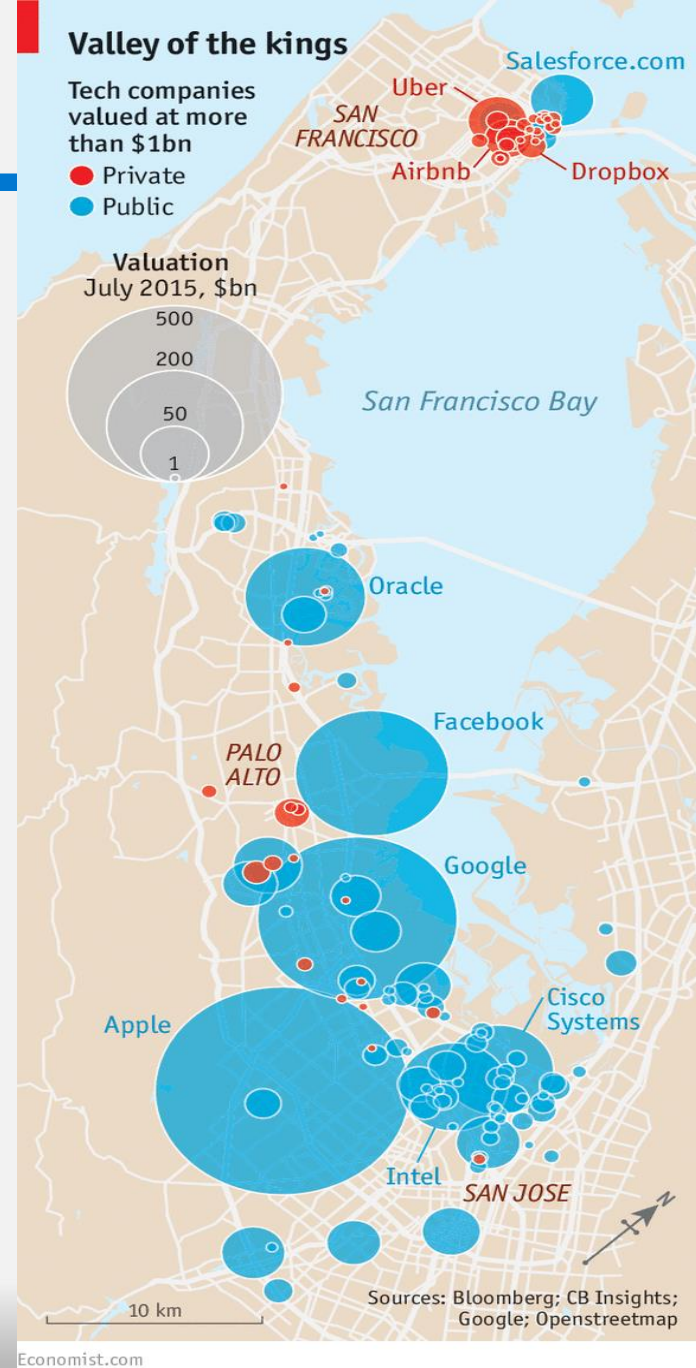
# Rate of Starting New Ventures

---

- Rate depends upon need, culture, and governmental environment.
  - Need: individuals in areas where good jobs are not plentiful often must create their own.  
Peru 27.2% or Brazil 17.5%
  - Culture: Some cultures are more supportive of new venture formation.
    - California is generally considered to be more supportive than Massachusetts –although that has improved a lot!
    - The US (7.6%) is more supportive than Russia (3.9%)
  - Governmental issues: entrepreneurship relies on certain economic freedoms as well as a well structured legal and financial infrastructure.
- Failure is overstated at 9 out of 10. According to SBA, after four years 50% are open, 17% are closed but considered successful, and 33% have failed.

# Silicon Valley –Empire of the Geeks\*

- When thinking of technological entrepreneurship, one must think first about silicon valley!
- There is no doubt that the region has spawned the lion's share of new tech startups over the past three decades.
- It has a high concentration of entrepreneurs surrounded by a host of world class universities doing relevant research, and access to an educated and locally mobile workforce that is unequalled anywhere else in the world.
- Boston and New York are often viewed as next in line, but they lag Silicon Valley on most metrics. Boston, of course can equal Silicon Valley for its access to world class research universities, but it lags them in both venture capital and the large mobile workforce.
- <http://www.economist.com/news/briefing/21659722-tech-boom-may-get-bumpy-it-will-not-end-repeat-dotcom-crash-fly>



# Changing Demographics

---

- Entrepreneurship has often been viewed as a male dominated profession and data does tend to lend support to the point of view.
- However, things are changing
- *From 1997 to 2007 the number of minority owned small businesses, defined as any business with fewer than 500 employees and in which the majority of owners do not identify as white non-Hispanic, increased by more than 25 percent. Specifically, Asian-, American Indian-, and Pacific Islander-owned small businesses collectively increased by approximately 35 percent, while African American- and Hispanic-owned small businesses grew by 14 and 17 percent, respectively. The number of white-owned businesses, meanwhile, grew by only 6 percent. In addition, there was a near-perfect switch in the composition of firm ownership by gender, with the number of women-owned businesses increasing by 7 percent while male-owned businesses fell by 7 percent (U.S. Census Bureau 2001, 2007, n.d.).*
  - [https://www.brookings.edu/wp-content/uploads/2016/07/minority\\_women\\_entrepreneurs\\_building\\_skills\\_barr.pdf](https://www.brookings.edu/wp-content/uploads/2016/07/minority_women_entrepreneurs_building_skills_barr.pdf)



# Two Key Concepts

---

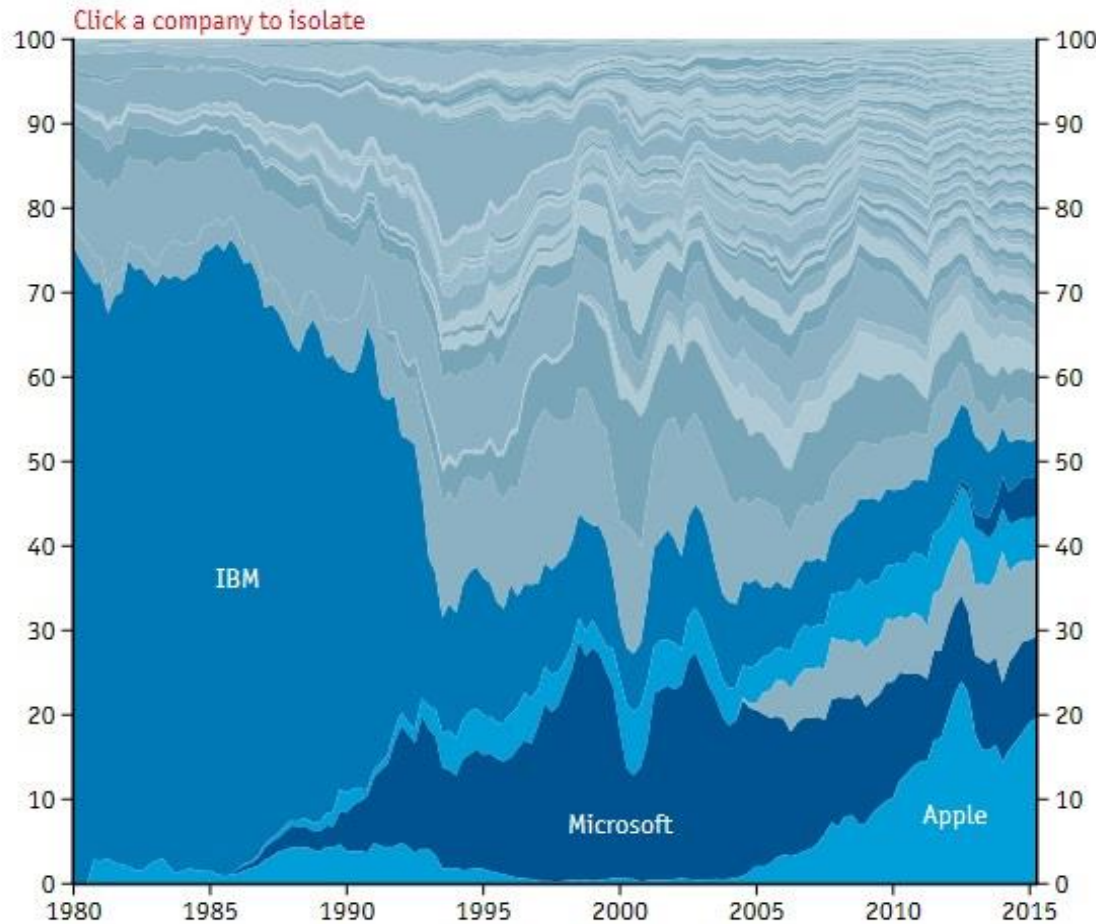
- Joseph Schumpeter –Harvard University economist from Austria
  - **Creative Destruction** – 1934- new products and technologies make old products and technologies obsolete
- Clayton Christensen –Harvard University Management
  - **Disruptive Innovation**-1997 – new products begin in new, unexplored markets but grow in quality and capability to displace older markets.
    - Mini-computer disrupted mainframes and were in turn disrupted by PC's.
    - Steel mini-mills created poor quality steel at low prices to take the least profitable part of the steel market. They then grew to displace the old-line steel companies.
- I cannot over-emphasize how important these two topics are in understanding entrepreneurship. Creative destruction and disruptive innovation are indeed closely related, disruptive innovation is a very special case when a company enters into a very low end of a market at a place where the dominant players are not so interested because it is not profitable or not able to satisfy their largest customers. But, the company doing the disruption gets a foothold in the market, establishes itself, and then learns how to do the things it needs to do to enter the more profitable and sophisticated portions of the market.
- Often the established companies never see it coming.
  - <http://www.claytonchristensen.com/key-concepts/>
  - [http://en.wikipedia.org/wiki/Clayton M. Christensen](http://en.wikipedia.org/wiki/Clayton_M._Christensen)
  - [http://en.wikipedia.org/wiki/Disruptive innovation](http://en.wikipedia.org/wiki/Disruptive_innovation)

# The Fortunes of Companies Rise and Fall with Time

## The changing US technology sector

Market value, top 100 firms\*, % of total

% of total   Nominal   Real



Sources: Thomson Reuters; *The Economist*

\*As of Q2 2015

<http://www.economist.com/news/briefing/21659722-tech-boom-may-get-bumpy-it-will-not-end-repeat-dotcom-crash-fly>

# Entrepreneurship Process

---

- Develop successful business ideas
  - Recognition of an opportunity
  - Feasibility study
- Move from an idea to an entrepreneurial firm
  - Deciding to proceed and assembling resources
  - Launching a new venture
- Manage and grow an entrepreneurial firm
- Harvesting the rewards which can be monetary or social good.











# Entrepreneurs are constantly creating new companies

## Legendary startups

Biggest American "unicorns"

(Date founded)

Unicorn (noun): Any startup worth more than \$1bn

		Company valuation, \$bn*, July 2015	Funds raised, \$bn	Revenue, \$m, 2014†	Employees, '000‡
 <b>UBER</b> (2009)	Taxi hailing	41	6	800	7.5‡
 <b>airbnb</b> (2008)	Accommodation for tourists and millennials	26	2.3	450	3.0
 <b>Snapchat</b> § (2011)	Ephemeral messaging app	16	1.2	nil	0.4
 <b>Palantir</b> (2004)	Big data	15	1.1	600	1.5
 <b>SPACE X</b> § (2002)	It is rocket science	12	1.1	825	3.0
 <b>Pinterest</b> (2009)	Photo sharing	11	1.3	15	0.7
 <b>Dropbox</b> (2007)	Cloud-based file sharing	10	1.1	400	1.5
 <b>wework</b> § (2010)	Office space provision	10	1.0	145	0.4
 <b>theranos</b> (2003)	Diagnostics through blood sampling	9	0.1	45	0.2
 <b>Square</b> (2009)	Mobile-payments system	6	0.6	900	1.3

Sources: CB Insights; Mattermark; PrivCo; *The Economist* \*Latest post-money †Estimate ‡Drivers are not employees §Not in Silicon Valley

Economist.com

<http://www.economist.com/news/briefing/21659722-tech-boom-may-get-bumpy-it-will-not-end-repeat-dotcom-crash-fly>

# What are the Skills required to be a successful Entrepreneur?

---

- What kind of product/service will you offer and what value does it create for people?
- Idea generation/opportunity identification
- Product development
- Who will buy your product? Who is your target market?
- Marketing Skills
- Market Research
- How to fund your business and make money?
- Business Finance
- Networking
- How to manage and grow your business?
- HR management, operational management, strategic management, etc.

# The money flowing into new companies continues to accelerate



<http://www.economist.com/news/briefing/21659722-tech-boom-may-get-bumpy-it-will-not-end-repeat-dotcom-crash-fly>

# Who are you -1? - -Gifford Pinchot III, Intrapreneuring

<i>Characteristic</i>	<i>Traditional Manager</i>	<i>Entrepreneur</i>	<i>Corporate Entrepreneur</i>
Primary motives	Wants promotion and other traditional corporate rewards; power motivated	Wants freedom; goal-oriented, self-reliant, and self-motivated	Wants freedom, access to corporate resources; goal-oriented and self-motivated, but also responds to corporate rewards and recognition
Time orientation	Responds to quotes and budgets; to weekly, monthly, quarterly, and annual planning horizons; and to the next promotion or transfer	Uses end goals of 5- to 10-year growth of the business as guides; takes action now to move to next step along the way	End goal of 3 to 15 years, depending on the type of venture; urgency to meet self-imposed and corporate timetables
Tendency to action	Delegates action; supervising and reporting take most energy	Get hands dirty; may upset employees by suddenly doing their work	Gets hands dirty; may know how to delegate but, when necessary, does what needs to be done
Skills	Professional management; often business-school trained; uses abstract analytical, people-management, and political skills	Knows business intimately; more business acumen than managerial or political skill; often technically trained if in technical business; may have had formal profit-and-loss responsibility in the company	Very much like the entrepreneur, but usually professional or business-school trained. Ability to prosper within the corporation is always a challenge.
Attitude toward courage and destiny	Sees others being in charge of his or her destiny; can be forceful and ambitious but may be fearful of others' ability to do him or her in	Self-confident, optimistic, and courageous	Self-confident and courageous; many are cynical about the system but optimistic about their ability to outwit it

## Who are you -2? -Gifford Pinchot III, Intrapreneuring

<i>Characteristic</i>	<i>Traditional Manager</i>	<i>Entrepreneur</i>	<i>Corporate Entrepreneur</i>
Focus of Attention	Primarily on events inside corporation	Primarily on technology and marketplace	Both inside and outside; sells insiders on needs of venture and marketplace but also focuses on customers
Attitude toward risk	Cautious	Likes moderate risk; invests heavily but expects to succeed	Likes moderate risk; generally not afraid of being fired, so sees little personal risk
Use of market research	Has market studies done to discover needs and guide product conceptualization	Creates needs; creates products that often cannot be tested with market research; potential customers do not yet understand them; talks to customers and forms own opinions	Does own market research and intuitive market evaluation, like the entrepreneur
Attitude toward status	Cares about status symbols (corner office, and so on)	Happy sitting on an orange crate if job is getting done	Considers traditional status symbols a joke; treasures symbols of freedom
Attitude toward failure and mistakes	Strives to avoid mistakes and surprises; postpones recognizing failure	Deals with mistakes and failures as learning experiences	Sensitive to need to appear orderly; attempts to hide risky projects from view so as to learn from mistakes without political cost of public failure
Decision-Making style	Agrees with those in power; delays making decisions until a feel of what bosses want is obtained	Follows private vision; decisive, action-oriented	Adept at getting others to agree with private vision; somewhat more patient and willing to compromise than the entrepreneur but still a doer
Who serves	Pleases others	Pleases self and customers	Pleases self, customers, and sponsors



## Who are you -3? -Gifford Pinchot III, Intrapreneuring

Attitude toward the system	Sees system as nurturing and protective; seeks position within it	May rapidly advance in a system; then, when frustrated, may reject the system and form own company	Dislikes the system but learns to manipulate it
Problem-solving style	Works out problems within the system	Escapes problems in large and formal structures by leaving and starting over alone	Works out problems within the system or bypasses them without leaving
Socioeconomic background	Middle class	Lower class in some early studies; middle class in more recent ones	Middle class
Educational level	Highly educated	Less well educated in earlier studies; some graduate work but not Ph.D. in later ones	Often highly educated, particular in technical fields, but sometimes not ones
Relationship with others	Perceives hierarchy as basic relationship	Perceives transactions and deal making as basic relationship	Perceives transactions within hierarchy as basic relationship

SOURCE: Adapted from Gifford Pinchot III, *Intrapreneuring*, 1985: 54–56. Copyright ©1985 by Gifford Pinchot III. Adapted by permission of Harper Collins Publisher.