H.O.#2 COMP 4911 Fall 2016

#### Entrepreneurship: Why and who?

# Outline

#### Why

- Why am I interested in entrepreneurship?
- Why should you be interested in entrepreneurship?
- Why is it the right time?
- Why does IT entrepreneurship matter?
- Who can be entrepreneurs?
  - Personality and character traits

## Why Entrepreneurship?

# Why am I Interested in Entrepreneurship?

- For money? Not so. I know money cannot buy me happiness.
- I have too much time? Not so. I have a wife, kids and enough white hair. <sup>(i)</sup>
- Because of my Berkeley PhD and Kellogg-HKUST EMBA? Probably.
- Show to others what impact technology can bring.
- Show to the younger generation that IT is a feasible career choice in Hong Kong
- Show to society that technology can lead to something economically big (hopefully)
- Show to myself that the above dreams are not nightmares they can come true, some day...

# Why Should you Become a Technology Entrepreneur?

- Earn money?
- Because you are told to do so?
- You simply like it or want to do it

Highly successful engineers not only are academically astute, but also possess entrepreneurial skills

(from a survey of business executives and managers)

# Take-away Message

#### Entrepreneurship is not for everyone; but its mindset is!

- Strength + humility
- Passion for learning
- Open, welcoming all feedback
- Resourceful
- Taking initiative
- Being accountable
- Delivering practical outcomes
- Etc.

# Personality Development

#### Cultivating a risk-taking value-creation mindset

- Through creative thinking, design thinking, technology development, and business innovations
- Discovery of pathways from ideas to impacts

#### Hands-on experience and team-work

- Learning by doing: Group-based inter-disciplinary collaboration
- Design thinking: understand, observe, ideate, prototype, test and adapt (and iterate the process relentlessly)
- Knowledge integration and applications

#### Character building

- Interpersonal, social and communication skills
- Following passions persistently by embracing uncertainties and setbacks
- Business skills
- Self-driven learning, time management, etc.

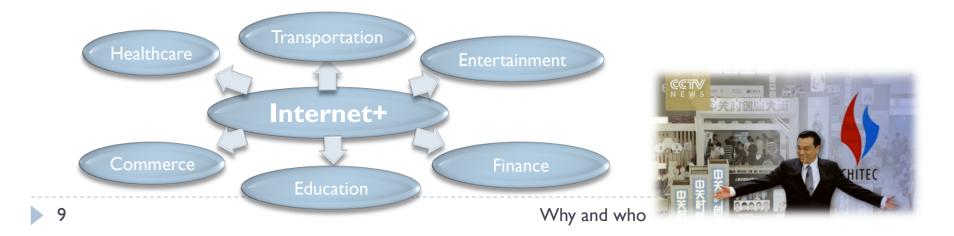
# An Opportune Time (August 13, 14)

- Nick D'Aloisio, an 18-yearold from England in 2014, earned HK\$230 millions from writing app
  - Summly provides fast summaries of online articles based on AI technology
  - Sold to yahoo for US\$30 millions
  - Founded the company at the age 15
- Studying at Oxford Computer Science and Philosophy



# Strong Push from Mainland Government

- 大众创业、万众创新 (Public entrepreneurship and innovation), 2015
  - Encourage people to start their own businesses and to make innovation
- Internet + is everywhere in China
  - Premier Li Keqiang unveiled the Internet Plus Action Plan during parliamentary sessions in March 2015
  - China will develop the Internet Plus action plan to integrate mobile Internet, cloud computing, big data and the Internet of Things with modern manufacturing



# The Right Time in the Right Place

#### Prime age for entrepreneurship

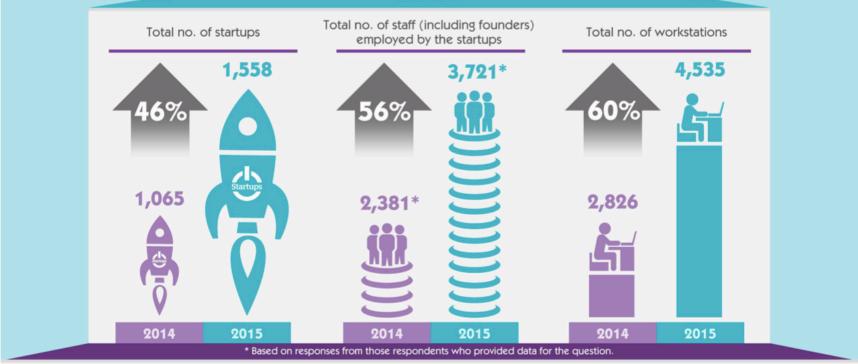
- Nothing to lose, energetic, creative, inquisitive, receptive to new technologies...
- Young, willing to take risk, ambitious, imaginative/creative...
- No family baggage
- Experience early: start early, fail early, learn lessons early, get to know the business environment early, form team early, etc.
  - Identify critical stages and activities from 0 to 1 (creating something new), and then from 1 to n (or infinity)
- Know programming, a powerful problem-solving tool
  - With Internet apps, all users in the world can be your customers!
- Programming takes little investment (no expensive capital infrastructure, no office, etc.)
- HKUST is a great place for engineering, science and business
- Hong Kong is the gateway to the world





# Hong Kong Startup Ecosystem

2015



Source: Startmeup.hk (2015)

# Hong Kong Advantages (2015)

- Excellent infrastructure
  - the world's 2nd fastest internet and more than 17000 free WIFI hotspots across the city
  - 83.4% household broadband penetration (96% active daily, 30 min on average)
  - > 240% mobile penetration (1st in Asia)
  - ▶ 54% Facebook penetration (4.4M users, 3.1M active daily)
- Social East meets West
- Close access to the Guangdong where the manufacture hub in China and the world is
- Newly established "Innovation and Technology Bureau" (2015)
- Government policy support (CEO Policy address declared HK\$4,700M to support innovation and entrepreneurial development)
- Well established legal system
- Lots of talents and professionals as well as creative artists
- Creative culture
- Capital availability and financial systems (e.g. HK\$1B, Alibaba Entrepreneurs Fund)

天時 Best Timing 地利 Best Policy 人和 Best Talent

### Hong Kong Alibaba Entrepreneurs Fund



# Technology Entrepreneurs Shape the World and Our Lives

- Drive economy and value through technology
  - Our world has been defined and driven by technology entrepreneurs
- An entrepreneur introduces technological breakthrough, or delivers new value with added features or lower cost
- Technology contributes to major value creation process for our economy
- The top market value in the world are often technology companies
  - As of March 21, 2015: Apple (1<sup>st</sup>), Google (4<sup>th</sup>), Microsoft (5<sup>th</sup>), China Mobile (11<sup>th</sup>)

# The most influential (and richest) people in the world

#### Top ones are from IT

2015: Bill Gates (1<sup>st</sup>, Microsoft), Larry Ellison (5<sup>th</sup>, Oracle), Jeff Bezos (15<sup>th</sup>, Amazon), Mark Zuckerberg (16<sup>th</sup>, Facebook), Larry Page (19<sup>th</sup>, Google), Sergey Brin (20<sup>th</sup>, Google), Jack Ma (33<sup>rd</sup>, Alibaba), Steve Ballmer (35<sup>th</sup>, Microsoft), Laurene Powell Jobs & family (45<sup>th</sup>, Apple and Disney), etc.

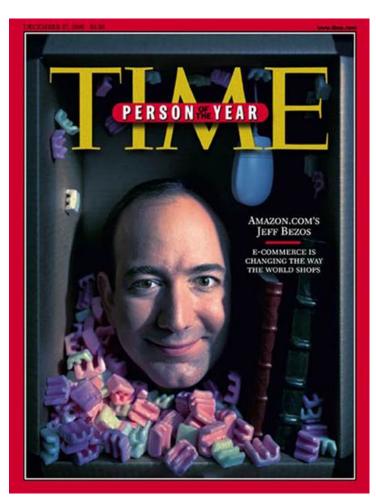
#### Revolutionize our world and transform our living

- Defining and ushering in new ages
- New tides and ages surge ahead, pushed by these people

#### China market is large

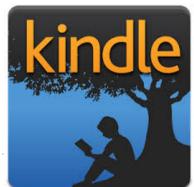
- A special market composing of about 20% of world population (1.3B/ 7B)
- Don't just focus on USA
- Can you name some technology entrepreneurs who have defined our computing history and changed our lives?

Amazon's Jeff Bezos: E-Commerce, e-book and replacement of physical shops (No. 1, The World's Greatest Leaders, Fortune 2016)





PROLOGUE



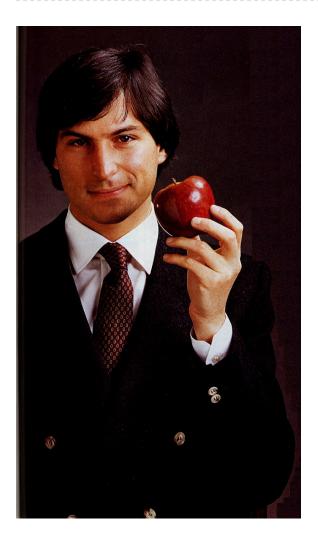




# The amazon.com story

- Founded by Jeff Bezos in Seattle in 1994
  - BSE EECS (First class honors), Princeton University, 1986
- Began service in 1995 as e-commerce portal
  - Has lower cost than ordinary bookstores
- IPO on May 15 1997 as the "Earth's largest bookstore"
  - A more efficient substitute for "brick-and-mortar" bookstores and catalog sales
  - Survived the dot-com bust
- Provides better service:
  - Larger stock
  - Customer guides (cookies)
  - On-line ratings and reviews (possible abuses)
- Chosen as "Person of the Year" in 1999 by Time Magazine
- Moves into e-books through custom hardware (Kindle in November 2007)

### Apple's Steve Jobs: Rethinking Computer as a Fun Art-piece and Defining New Ages

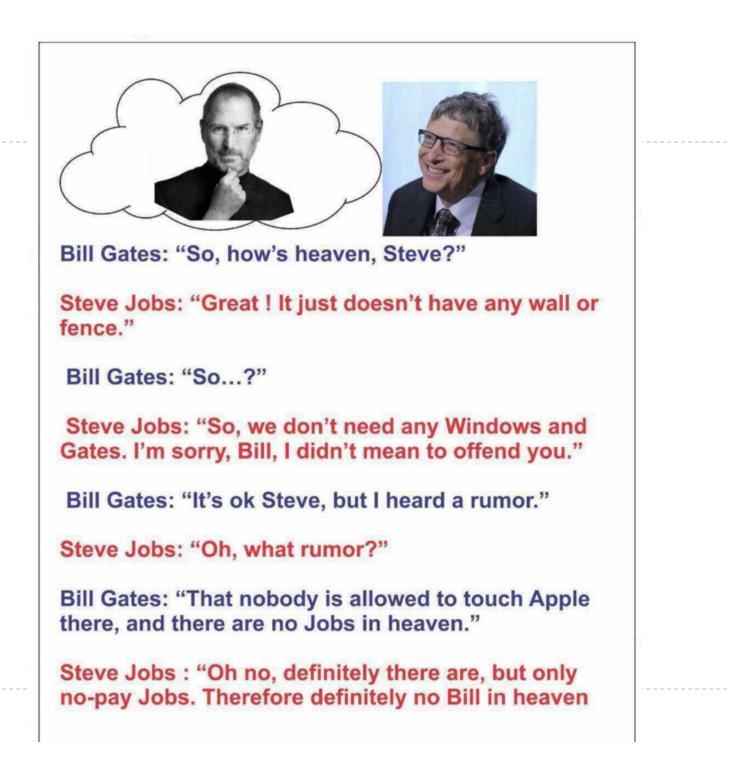




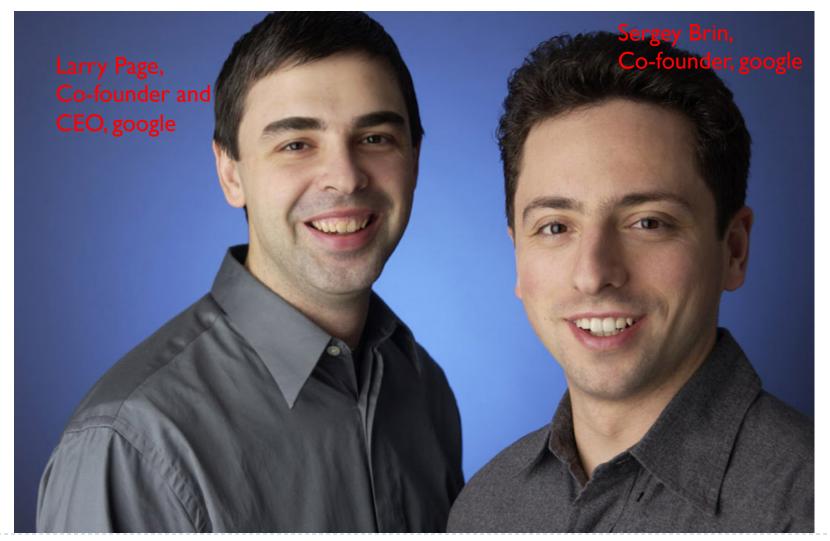
Why and who

# Microsoft Bill Gates: From DOS to Windows



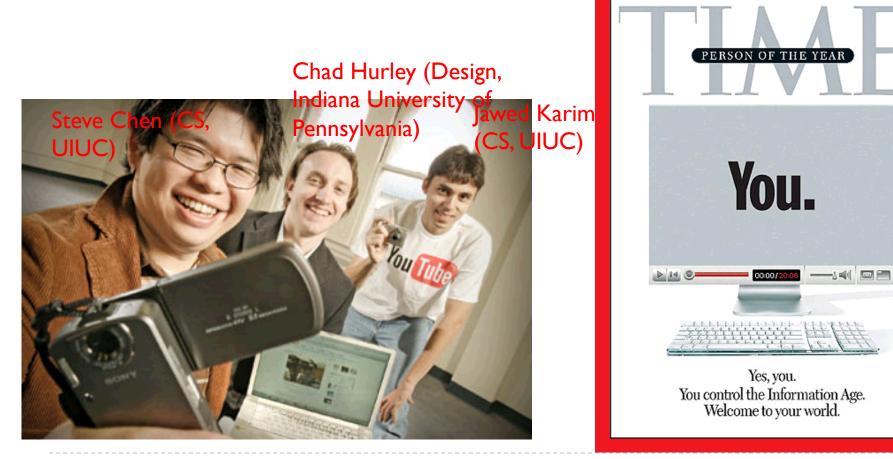


## Google: Internet Search



## Youtube: User Generated Contents (UGC)

 Google acquisition in 10/2006 for US\$1.65 billion User contribution (youtube, facebook, Wiki, etc.)



Why and who

### Whatsapp: Instant Messaging

Facebook acquisition for US\$19 billion in Feb 2014



# Facebook Mark Zuckerberg: Social Network on the Internet

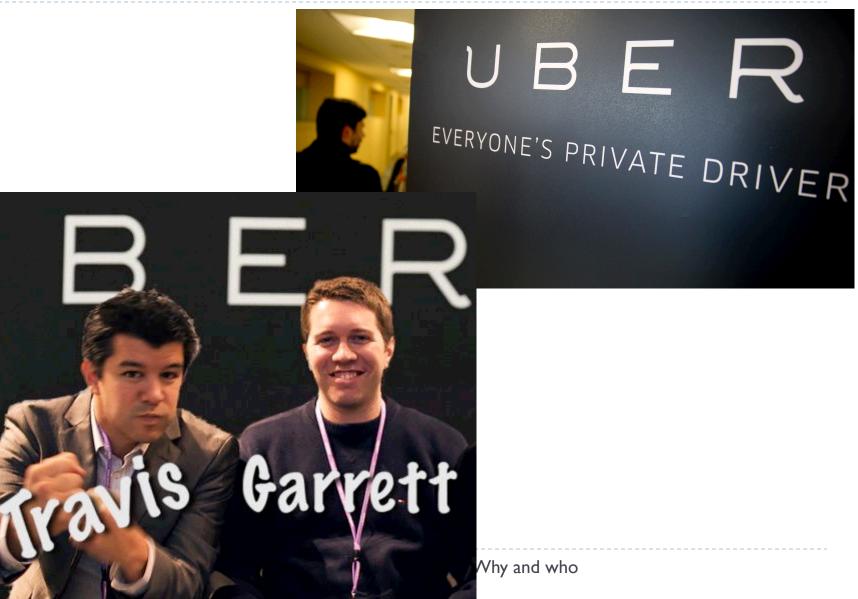


## The Impact of Social Networks

- Facebook and Instagram were down for nearly an hour at 1am Jan 27, 2015 (ET)
- Affected 1.35 billions of users worldwide
- "Facebook down for hour, eternity for some" (Business, Jan 28, 15), "The end of the world", "The most difficult hour in my life"...



# Uber: Sharing Economy



# Netflix (and LeTV): Internet Streaming ("cord cutters" and "cord nevers")





1 Questions? Call 0800 096 6379 24 hours a day



#### Reed Hastings (Stanford, MS CS)

#### Alibaba Jack Yun Ma: E-commerce (IPO in NY Exchange, 19 Sept, 2014)





值增至2,314 億美元· 創辦人馬雲身家亦暴增 至265億美元(約2,067 億港元),一躍成為中 國首富,亞洲計亦排第 二,僅次於長實(001)

【本報訊】阿里巴巴

首日掛牌大升38%,市

主席李嘉誠,但他坦言「一點感覺也沒 有,我跟大家講真話。」 記者:馮健鏗

阿里市值全球第16位								
全球 排名	企業	市值 (美元)	全球 排名	企業	市值 (美元)			
1	蘋果	6,045億	4	微軟	3,916億			
2	埃克森美孚	4,142億	12	沃爾瑪	2,476 创			
3	Google	4,061億	16	阿里巴巴	2,314 创			
註:數據截至上周五								

元),以馬雲持有阿里7.8%股權計算,單計上市資產 80億美元 (約1,404億港元)。對此,馬 過當浙江杭州首富,我連我的小區首富都不想做。」 自己最快樂的日子,但現在卻承擔更多別人的信任, 「因為(今天)這些錢不是你的,你有100萬,這是你 的錢,但擁有1,000萬的時候,你開始頭痛,你開始

#### 不斷收購 因為要學美國人

擔心要投資……等你超過一個億的時候,這是別人給

太太只希望自己成為一個受尊重的企業人,而非一個 有錢的富豪,「我覺得後面我要做的工作,就是把錢 多全球人才為中小企服務,不會全拿回中國。

企業應該學美國人,用人家的錢、請人家的人、買人 到的是信任

豪榜顯示,馬雲的身家單日大升超過兩成 家的企業;但就以「我沒有想過」回答未來收購目標 約351億港元)至265億美元(約2,067億港 核心思想是要對阿里生態系統有幫助,以及對未來戰 略發展有好處

■隨着阿里股

漲船高。

他期望,阿里未來15年能改變全世界,會繼續做 雲一貫妙語連珠,「我從沒想過當中國首富,也沒想 大電商業務,同時佈局國際化戰略的落地,為無數中 國企業積累經驗,跟世界各地的企業打交道。馬雲又 這名昔日窮小子,提到當年每月賺90元,才是指,阿里不缺錢,上市是要把公司發展為具透明度的 國際化企業。

#### 「融到的不是錢 是信任」

馬雲風格一向反傳統,今次於紐交所掛牌,與其 你的信任,所以我現在的理解,是多人給了我信任。」他上市公司不同,一眾創辦人、合夥人、管理層沒有 上台敲鐘,反而委託八名客戶代勞見證這歷史時刻, 「沒有半點遺憾,而且我是非常興奮……如果上去敲 他又再次提及與妻子張瑛之間14年前的往事,稱一個鐘,對我意義不是很大,但是對這八個人來講是 一輩子的意義。|

被問到美國上市與當年在香港上市感受的分別 給花出去」,他在上市當日第二次接受中港訪問時再補 馬雲笑稱,「我不知道有甚麼區別,只是2007年上 充,會將今次集資所得,投放多一點於海外,吸納更 市,沒想到馬上金融危機來了」,而他又相信,後面的 日子會越來越艱難,原因是「全世界在關注我們是不 阿里之所以收購不斷,他解釋背後原因,稱中國 是堅守我們的信諾,今天我們融致的有強人自己的人類

五十百会喜世夕	No.
亞太區富豪排名	
新 <b>1</b> 李嘉誠	
長實主席	
身家: <b>312</b> 億美元	
2 馬雲	
<b>阿里巴巴創辦人</b> 身家: <b>265</b> 億	美元
③ 李兆基	
恒地主席	
身家:251 億美元 🛛 🗾 💟	
· ⑦鄭裕彤	
新世界創辦人 身家:174億	美元
9柳井正	
迅銷董事長    身家: <b>171</b> 億	美元
● ③孫正義	
軟庫創辦人兼主席 身家: <b>165</b> 億美元	
12 李彦宏	
百度創辦人	
身家:163億美元	
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嘉里集團主席 身家:163億	美元
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# Alibaba (2014)

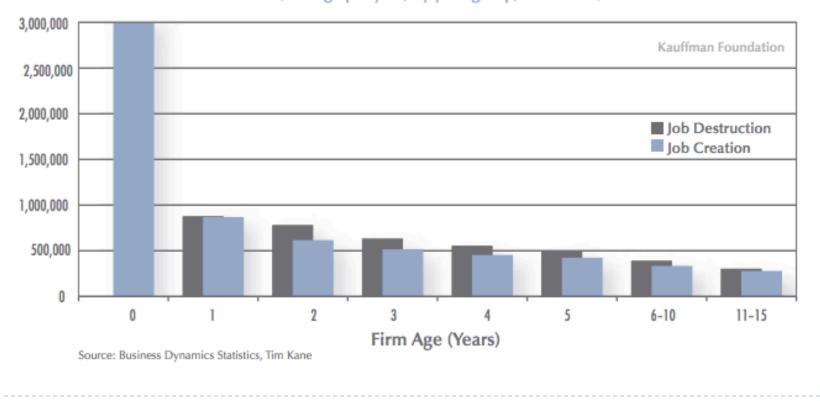
- The Chinese technology firm with the largest market value
- The largest e-commerce company in the world (larger than Amazon) as of January 9, 2015
- The 2<sup>nd</sup> largest Internet company in the world (next to Google), as of 31 December 2014
- Quotes from Jack Ma:
  - "You should learn from your competitor, but never copy. Copy and you die."
  - "We believe one thing, today is cruel (difficult), tomorrow is crueler (more difficult), but the day after tomorrow is beautiful."

### Our World Has Been Shaped by Technopreneurs (Sept 4, 2014)

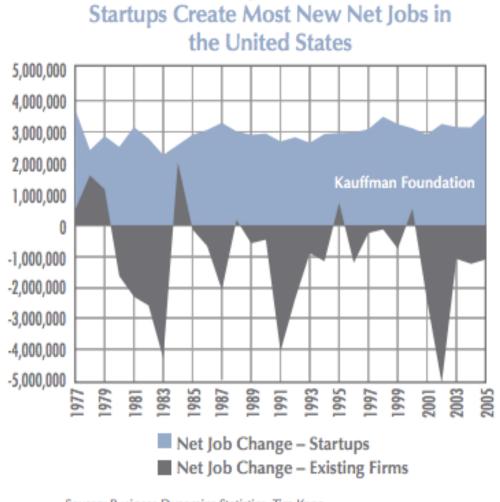


# Startups are one of the most important sources of employment

Figure 4: Job Creation and Loss by Firm Age (Average per year, by year-group, 1992–2006)



### Net job change over the years: Startups create job opportunities



Source: Business Dynamics Statistics, Tim Kane

# Increasing Market Size

- Entrepreneurship introduces new products and processes that help making the market bigger
  - With more users
  - More interest and excitement
  - E.g., without WhatsApp, we'd still be stuck with cellular SMS
- It also makes the market more diversified and helps create more opportunities
- It also helps advance society through phases of improvements

# Giving life to our economy

- Many startups get acquired by big companies
- Startups can add to the life span of large companies that eventually otherwise start losing momentum
  - Because they offer new solutions and products
- Google acquisitions:
  - Motorola mobility (US\$12.5 billion, 2011)
  - youtube (US\$1.65 billion, 2006)
  - Android (US\$50 million, 2005)
- Apple
  - Beats (US\$3 billion, 2014)
  - WiFiSlam (US\$20 million, 2013)
  - NeXT (US\$404 million, 1997)
- Facebook
  - Instagram (US\$1 billion, 2012, with only 13 employees at that time and established in 10/2010)
  - FriendFeed (US\$47.5 million, 2009)

# Some Other Recent Acquisitions

#### <u>Amazon</u>

	Twitch	Aug 2014	Gaming	\$1 B			
Facebook:							
AA	WhatsApp	April 2012 (2011, sA \$7M) June 2012 (2010, sA\$1M, t\$5M) Feb 2014 (2008, t\$50M) Mar 2014 (2012, KS, t\$90M)	Photo Sharing Face Recognition Program Mobile Instant Messaging Virtual Reality technology	\$ 1B \$ 0.1B \$ 19B \$ 2 B			
<u>Google</u>							
AA	Dropcam Nest Labs	Jun 2014 (2009, \$50M) Jan 2014 (2010)	Home Monitoring Home Automation	\$ 0.5 B \$ 3.2 B			

sA: Series A, t: Total, KS: Kickstarter (crowdfunded)

### An IT company is often a much better investment: Some Apple Statistics (Nov 27,14)

- Apple, the company with the highest market value in the world (> US\$700 trillions)
  - Even higher than the total market value of all the stocks in Russian!
- In 3/2000 (IT peak), Microsoft's market is 26 times of Apple. Now Apple is 1.78 times that of Microsoft
- Since Dec 1980 (IPO price), its value has been increased by 50,000%! (better than virtually all the other investment)
- Its market value is higher than the SUM of the following companies
  - Google, Samsung, HTC, blackberry, Lenovo, HP, SanDisk, Sony, Cirrus Logic, Broadcom and Pandora Media
- Since Tim Cook assumed Apple CEO (Aug 24, 2011), its market value has been increased by more than 100% (US\$53.74/share → US\$119.35/share on Nov 27, 14)



# Economic Well-being

- Adequate levels of entrepreneurship may help increase levels of national happiness
- Unemployment is a great source of unhappiness.
  Entrepreneurship helps fight that by creating more jobs
- People who work in startups are happier and more productive in their jobs which greatly enhances the performance of the economy
  - They feel working for a goal and contributing to society
  - If they reap money, they will be happier

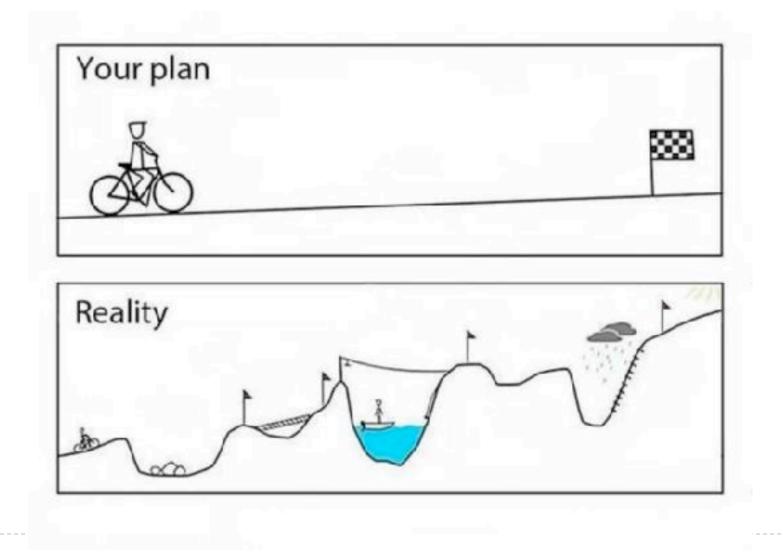
### Who can be entrepreneurs?

Why and who

Knowing the Game by Counting What it Takes (Luke 14:28)

Suppose one of you wants to build a tower. Won't you first sit down and estimate the cost to see if you have enough money to complete it?

### The Entrepreneurship Journey



## Journey

- Not everyone will have a successful outcome; nevertheless they will all be more than the cyclist
- Throughout the journey, those in the second route will mostly see difficulties, challenges and failures. Those who succeed are those who do not give up.
- It takes an unusual set of skills to get there (many have to be learnt on encounter along the way)
- Initially, many students are seduced by the end destination and will give up when they realize what it is like to be in the second route
- Full of unpredictability: All kinds of planning to get there become useless, continuous re-planning is needed
- Those who are team players will do better
- Never-ending journey: When they get to the top on the second route – few will accept that they have got there
  - They would like to keep going

# Personality Traits

- Startup is in your blood
  - You like to create/innovate, rather than follow
  - You are more willing to take some risk than basking in the sun
- You have passion on the technology you developed
- You have confidence and vision of your ideas
- You believe that you can do it
- You enjoy seeing things grow (and breaking things apart to reconstruct)
- You like ad-hoc and flexible lifestyle instead of regular hours
- You like to meet and build relationships with people (You are out-going)
- You think money is important, but can do without it (for at least a while)

# Other Traits

- Taking initiative
- Accepting responsibility for their own actions
- Like building company value
- Hardworking
- Team player
- Social and communicative

•

### Who can be an entrepreneur?

- Has a big idea
- Sees a gap/opportunity in the market
  - Can be Technology. Does not have to be Technology. Consider the user interface as in Apple in what sense(s) is that "Technology"?
- Is willing to learn the process despite hiccups in the path
  - Persistent and willing to learn from mistakes so as to improve
- Has passion to make idea work
- Is willing to share and listen
- Is not(!) in it for the money (but if the business is a success, benefits will come eventually)



### Characteristics of Technology Entrepreneurs

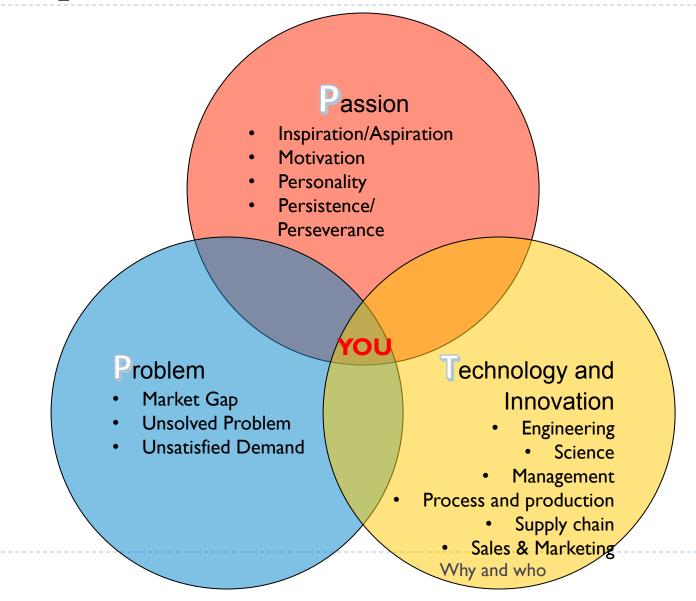
- Talented, and savvy and current on technology
- Creative with new ideas
- Positive self-confidence
- Self-disciplined
- Independent but work well in team
- Forward-looking
  - Know what the market needs even before time

### Equipped with Basic Entrepreneurship Skills

- Technical skills
- Financial and accounting know-how
- Self-motivation skills
- Time-management skills
- Strong social or interpersonal skills
  - Interacting with others effectively
  - Communicating effectively
  - Negotiating
  - Influencing, leading and motivating people
  - Demonstrating leadership
- Administrative or organizational skills
  - Ability to plan and organize
  - Ability to analyze, synthesize and evaluate
  - Ability to execute the plan

### Entrepreneur

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### Creative

- How do you decide where to focus your energies (place your big bets)?
- When there is so much uncertainty, how do you decide what direction to move?
- What kinds of small experiments/explorations can lead in useful directions (learning)?
- How patient are you to develop your "big idea"?

### Skills Needed

- Judgment skills
- Wisdom (decision-making)
- Balancing priorities
- Flexibility, adaptability, resourcefulness

# Entrepreneurship is **not** for you if...

- You enjoy working "normal" hours
  - You are very relaxed and proud of it!
- You want a clear separation between your life and your work
- You hate responsibility
  - You are responsible for the company
- You can't cope with uncertainties
- ► A "no" puts you off 😕

# An Entrepreneur Should Be Visionary and Forward-looking

### The Wisdom of Steve Jobs

You can't just ask customers what they want and then try to give that to them. By the time you get it built, they'll want something new.

1989

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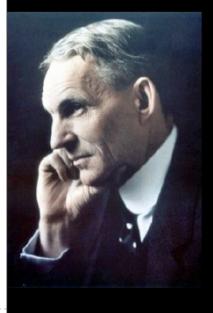
[ci] channelinsider Why and who

### Forward-looking: From Horse Wagon to Car



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#### Henry Ford: 1863 - 1947

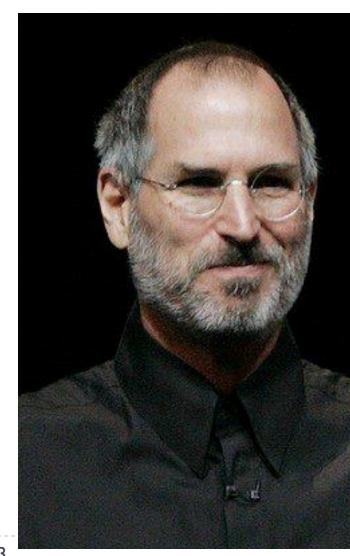


"If I had asked my customers what they wanted, they'd have said a faster horse"

Henry Ford

Friday, February 19, 2010

### Confident and Believe in Yourself; Persistent

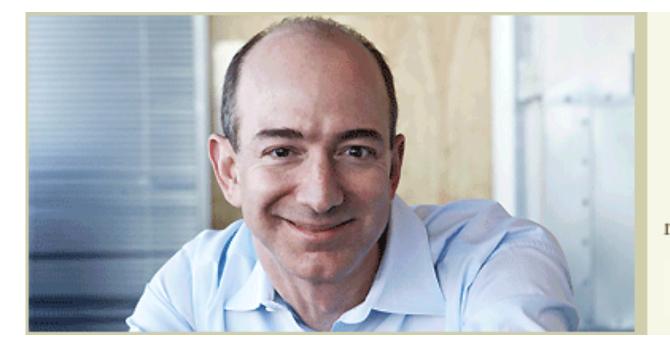


"Don't let the noise of other's opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary."

- 2005

Why and who

### Dare to Try



FOUNDER & CEO, AMAZON.COM

\$

"I KNEW that if I failed I wouldn't regret that, but I knew the one thing I might regret is not trying."

Why and who

# Advice from Jack Ma (2 Feb 2015)

#### Stop complaining.

- Be optimistic, persistent and positive.
- If you must whine, turn it your advantage. Complaints can be opportunities in disguise.

#### Don't be afraid to change.

- Adaptability is key to success in fast-changing markets.
- "When the wind is blowing even a pig can fly," Ma said, "but when wind is gone, it falls to die. The pig hasn't changed itself at all ... you change yourself, and then you change the world."

#### Have fun.

Jack had no problem if students mixed business with study--but only if enterprises are "just for fun," a way to test one's business acumen and gain experience.

#### Believe in yourself.

Bottom line: don't be intimidated, not even by Jack Ma."All you need is to be confident in yourself and your partners when others are against you," he said.



- Jack Ma

# Other Character Traits

- Passion
  - Undeterred by setbacks and difficulties
- Strategic foresights
  - Have a 2-3 years roadmap (with decreasing certainty)
  - Have an execution plan

### Dream team

Good team work and team spirit

# Negotiation Skill

- ▶ 你们我们 Don't say "you", "we"
- ▶ 摸清架构 Understand structure
- ▶ 上下打通 Know the superior
- ▶ 看准需求

Know their needs

- 创造双赢
  Create "win-win"
- 耐心等候 Be patient
- 一技之长

Social skills

• 说普通话 Fluent Putonghua

# Importance of networking人脈

- No one can survive individually
- Innovation is not a solo act
  - Shared knowledge
  - Shared resources
  - Shared risks

What Networking is About

Is **not** how many people **Is** how many people

- you know
- you have done business with
- have helped you
- praise you when you are successful

- know you
- enjoy doing business with you
- you have helped
- are willing to help you when you are struggling

### Every problem is an opportunity, grab it or lose it!

There are problems everywhere, every moment + creativity

= Opportunities are everywhere, every moment

# References

- http://www.kauffman.org/uploadedfiles/ firm\_formation\_importance\_of\_startups.pdf
- http://unu.edu/publications/articles/are-entrepreneurial-societiesalso-happier.html
- http://www.wider.unu.edu/publications/newsletter/articles-2011/ en\_GB/04-2011/
- http://www.specialchem.com/open-innovation/closedinnovation.aspx
- http://www.conferenceboard.ca/cbi/innovation.aspx
- http://www.1000ventures.com/business\_guide/ innovation\_radical\_vs\_incr.html
- http://highered.mcgraw-hill.com/sites/dl/free/ 0077108612/316020/Chapter02.pdf
- http://www.digitaltonto.com/2013/how-to-manage-innovation/