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. 😊
- 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.
Nick D’Aloisio, an 18-year-old 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

Diagram:
- Internet+ (central hub)
  - Healthcare
  - Transportation
  - Entertainment
  - Commerce
  - Education
  - Finance

Why and who
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

Total no. of startups
1,558
46%
1,065
2014
2015

Total no. of staff (including founders) employed by the startups
3,721*
56%
2,381*
2014
2015

Total no. of workstations
4,535
60%
2,826
2014
2015

* Based on responses from those respondents who provided data for the question.

Source: Startmeup.hk (2015)

Why and who
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)

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Source: Startmeup.hk (2015)
"If we, people here at Alibaba can make it, most of the youth can make it too!"

– Jack Ma, Executive Chairman, Alibaba Group
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 (1st), Google (4th), Microsoft (5th), China Mobile (11th)
The most influential (and richest) people in the world

- **Top ones are from IT**
  - 2015: Bill Gates (1\textsuperscript{st}, Microsoft), Larry Ellison (5\textsuperscript{th}, Oracle), Jeff Bezos (15\textsuperscript{th}, Amazon), Mark Zuckerberg (16\textsuperscript{th}, Facebook), Larry Page (19\textsuperscript{th}, Google), Sergey Brin (20\textsuperscript{th}, Google), Jack Ma (33\textsuperscript{rd}, Alibaba), Steve Ballmer (35\textsuperscript{th}, Microsoft), Laurene Powell Jobs & family (45\textsuperscript{th}, 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?
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
Microsoft Bill Gates: From DOS to Windows
Bill Gates: “So, how’s heaven, Steve?”

Steve Jobs: “Great! It just doesn’t have any wall or fence.”

Bill Gates: “So…”

Steve Jobs: “So, we don’t need any Windows and Gates. I’m sorry, Bill, I didn’t mean to offend you.”

Bill Gates: “It’s ok Steve, but I heard a rumor.”

Steve Jobs: “Oh, what rumor?”

Bill Gates: “That nobody is allowed to touch Apple there, and there are no Jobs in heaven.”

Steve Jobs: “Oh no, definitely there are, but only no-pay Jobs. Therefore definitely no Bill in heaven.”
Google: Internet Search

Larry Page,
Co-founder and
CEO, google

Sergey Brin,
Co-founder, google

Why and who
Youtube: User Generated Contents (UGC)

- Google acquisition in 10/2006 for US$1.65 billion

User contribution (youtube, facebook, Wiki, etc.)

Steve Chen (CS, UIUC)

Chad Hurley (Design, Indiana University of Pennsylvania)

Jawed Karim (CS, UIUC)
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”…

![Image of frustration emoji]
Uber: Sharing Economy

Why and who
Netflix (and LeTV): Internet Streaming (“cord cutters” and “cord nevers”)

Reed Hastings (Stanford, MS CS)
馬雲身家暴漲
躍升亞洲第二
一夜增351億 僅次於李嘉誠

博富環球證券報告指出，馬雲的身家單日大升超過兩成（約331億港元）至265億美元（約2,067億港元），以馬雲持有阿里巴巴約8.9%的股份計算。現時馬雲的身家已達180億美元（約1,404億港元）。對於馬雲一貫的財富管理、「未來五年，我會投資中國的教育、科技和醫療，我也會把我的小金庫都投資到這些領域。」

馬雲昨日在微博上表示，未來五年，他將會把大部分的財富投資到中國的教育、科技和醫療領域。他指出，「未來五年，我會投資中國的教育、科技和醫療，我也會把我的小金庫都投資到這些領域。」

不斷收購 因為要跟壇美國人
他又再次提及與妻子王菲之間的恩愛往事，稱太只希望以自己的力量來幫助中國的企業家，而不是一個有錢的富豪。為此，他決定推出第二款手機，同時再推出一款電子書閱讀器，稱會在全球無限的技術和人才上投資，除了海外，吸引更多全球人才到中小企業從事，不會全拿回中國。

阿里之所以不斷收購，他解釋原因，是中國企業要學美國人，用人家的錢，請人家的人，買人家的企業；但以「我沒有想過」回答未來收購目標。他認為，核心思想是要對阿里巴巴系統有幫助，以及對未來戰略發展有好處。他指，阿里巴巴未來將會投資於全球和中國的企業和技術，同時投資於中國的教育、科技和醫療領域。他指出，「未來五年，我會投資中國的教育、科技和醫療，我也會把我的小金庫都投資到這些領域。」
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 2nd 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
Net job change over the years: Startups create job opportunities

Startups Create Most New Net Jobs in the United States

Source: Business Dynamics Statistics, Tim Kane

Kauffman Foundation
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

**Amazon**

- **Twitch**
  - Aug 2014
  - Gaming
  - $1 B

**Facebook:**

- **Instagram**
  - April 2012 (2011, sA $7M)
  - Photo Sharing
  - $1 B
- **Face.com**
  - June 2012 (2010, sA $1M, t $5M)
  - Face Recognition Program
  - $0.1 B
- **WhatsApp**
  - Feb 2014 (2008, t $50M)
  - Mobile Instant Messaging
  - $19 B
- **Oculus VR**
  - Mar 2014 (2012, KS, t $90M)
  - Virtual Reality technology
  - $2 B

**Google**

- **Dropcam**
  - Jun 2014 (2009, $50M)
  - Home Monitoring
  - $0.5 B
- **Nest Labs**
  - Jan 2014 (2010)
  - Home Automation
  - $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?
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 re-construct)
- 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

- **Passion**
  - Inspiration/Aspiration
  - Motivation
  - Personality
  - Persistence/Perseverance

- **Problem**
  - Market Gap
  - Unsolved Problem
  - Unsatisfied Demand

- **Technology and Innovation**
  - Engineering
  - Science
  - Management
  - Process and production
  - Supply chain
  - Sales & Marketing
  - Why and who
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
Forward-looking: From Horse Wagon to Car

Henry Ford: 1863 - 1947

“If I had asked my customers what they wanted, they’d have said a faster horse”

Henry Ford
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
Dare to Try

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

- 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

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

Is how many people

- 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

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