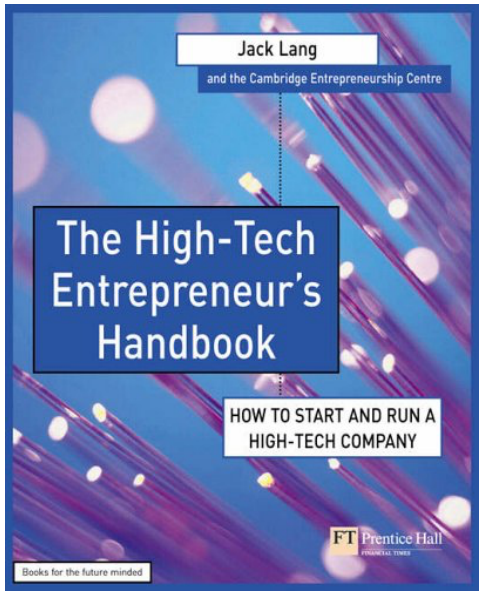
Business Studies
L1 - so you've got an idea

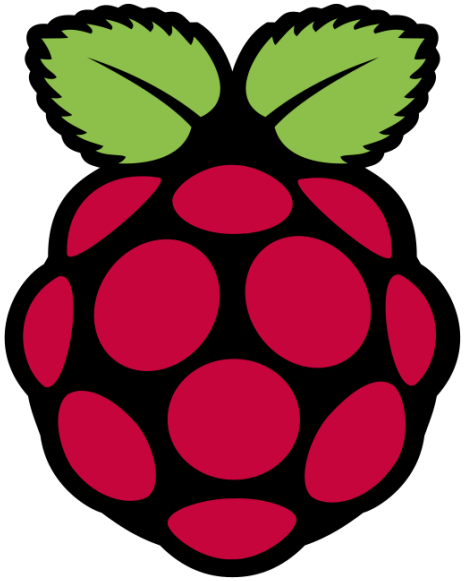
Jack Lang and Stewart McTavish
jal1 sam56

What do you want to learn?

Up to three questions email
sam56@cam.ac.uk

41,890,320


Jack Lang
and the Cambridge Entrepreneurship Centre
The High-Tech Entrepreneur's Handbook
HOW TO START AND RUN A HIGH-TECH COMPANY
FT Prentice Hall
Books for the future minded




ideaSpace















280 ventures
90 member - 190 alumni

raised >£20m

raised >£5m

raised >$5m

raised >$10m

raised >$19m

raised >$7.5m

raised >$7m

raised >$2.5m

raised >$2m

raised >$2.5m

acquired undisclosed

acquired undisclosed

acquired undisclosed

acquired reported $150m

IPO Nov 2016
market cap ~£55m

why we do this

Try to encourage you to realise that you can change the world in big or small way
(and make money doing it)

Expose you to people that have been in your position and are doing it

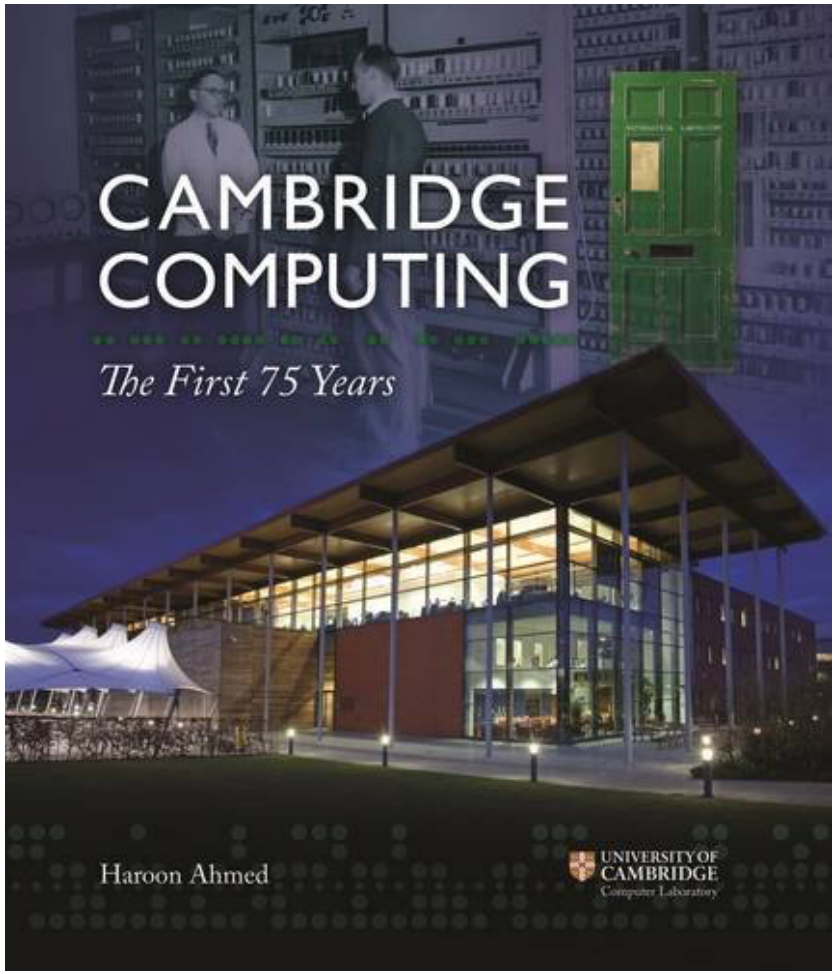
Highlight some of the key concepts and pieces of knowledge to help you do that

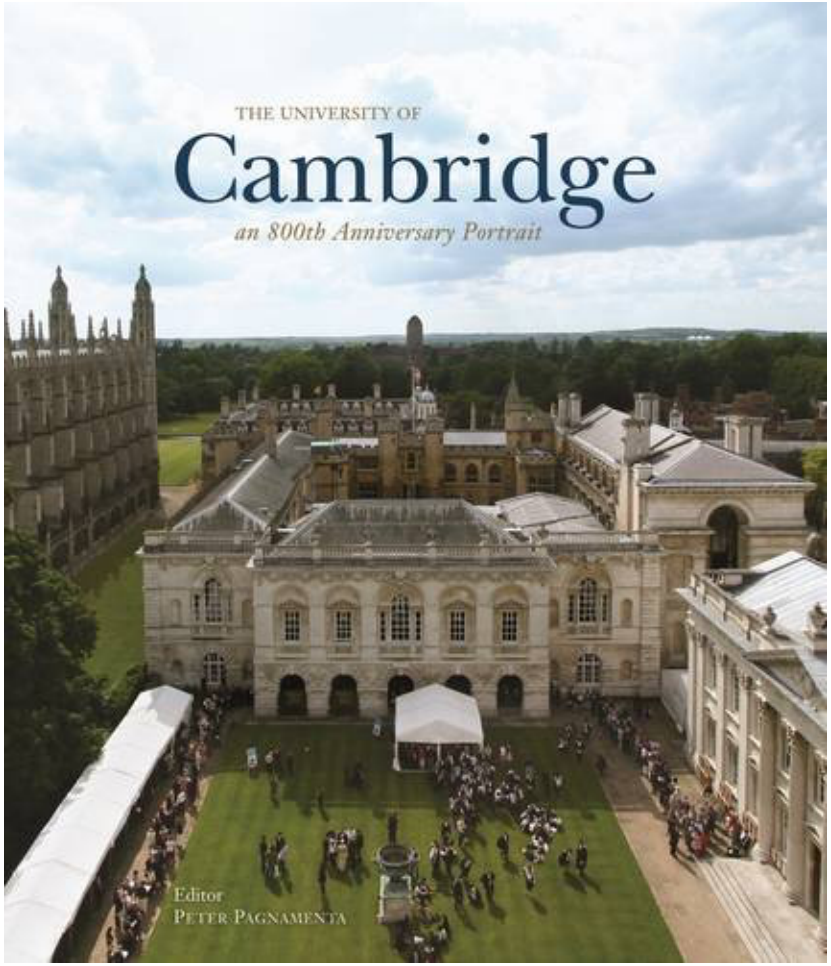
ideas to take to heart

Business is about the people

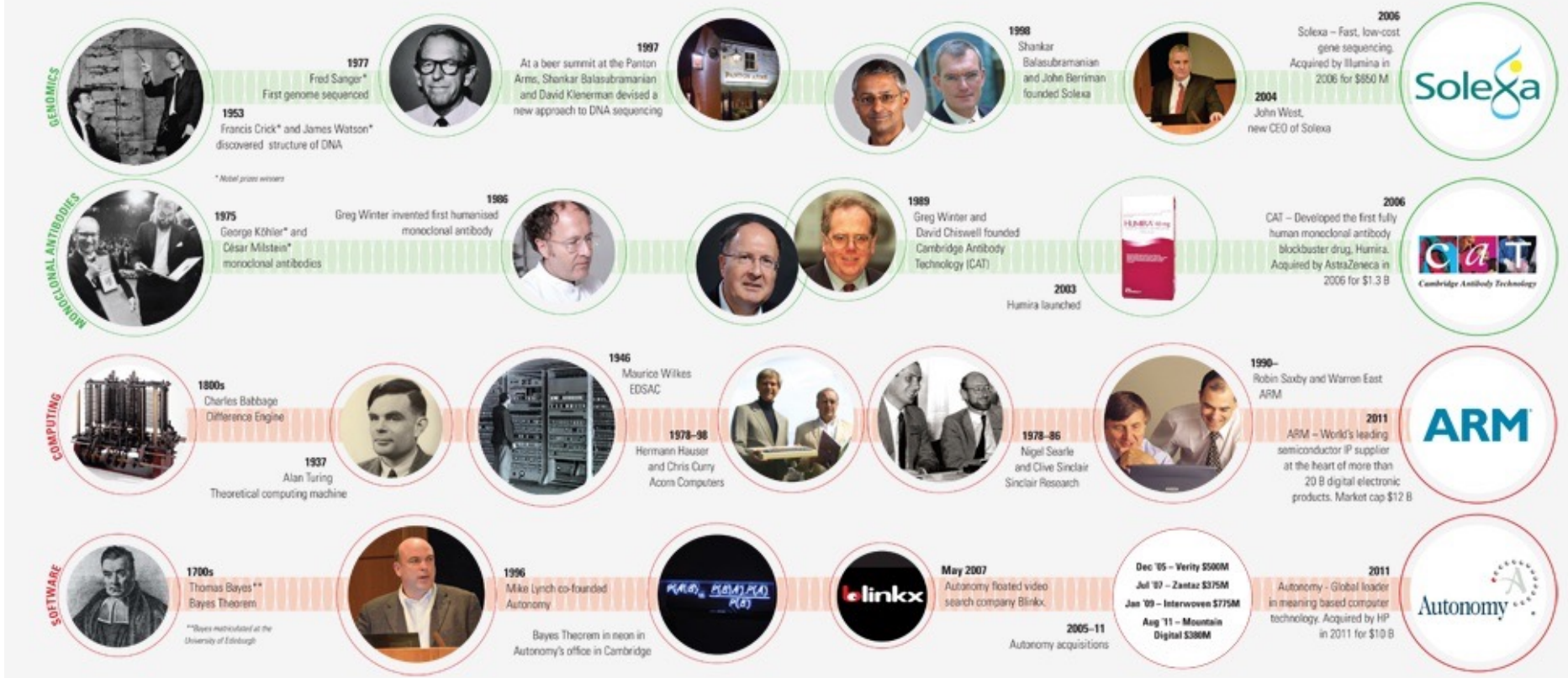
Trust networks are real and important

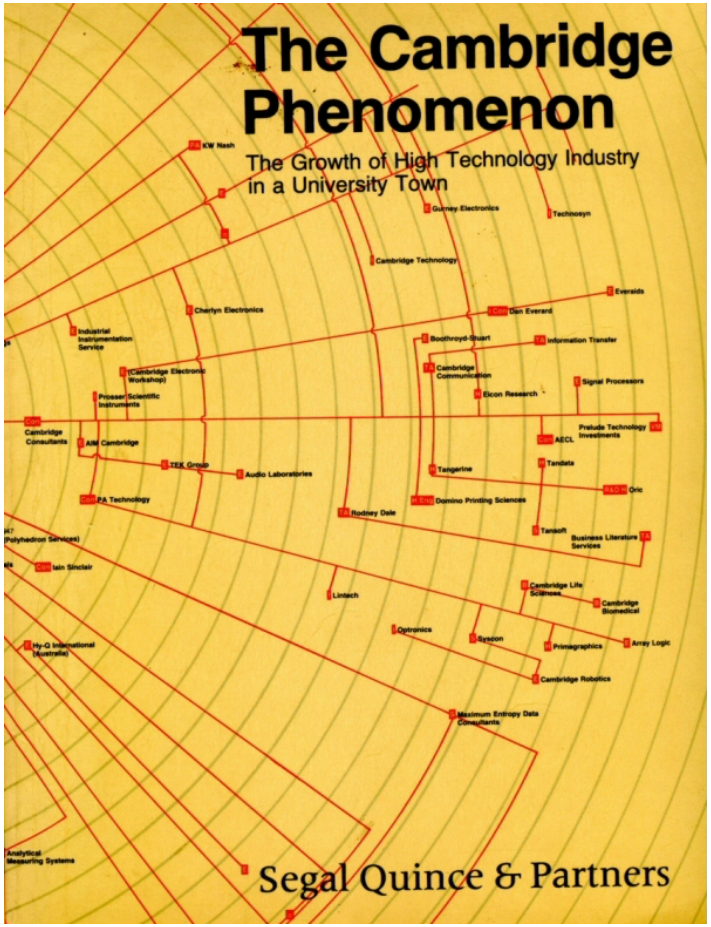
The job of an entrepreneur is to reduce risk by reducing uncertainty in a business proposition

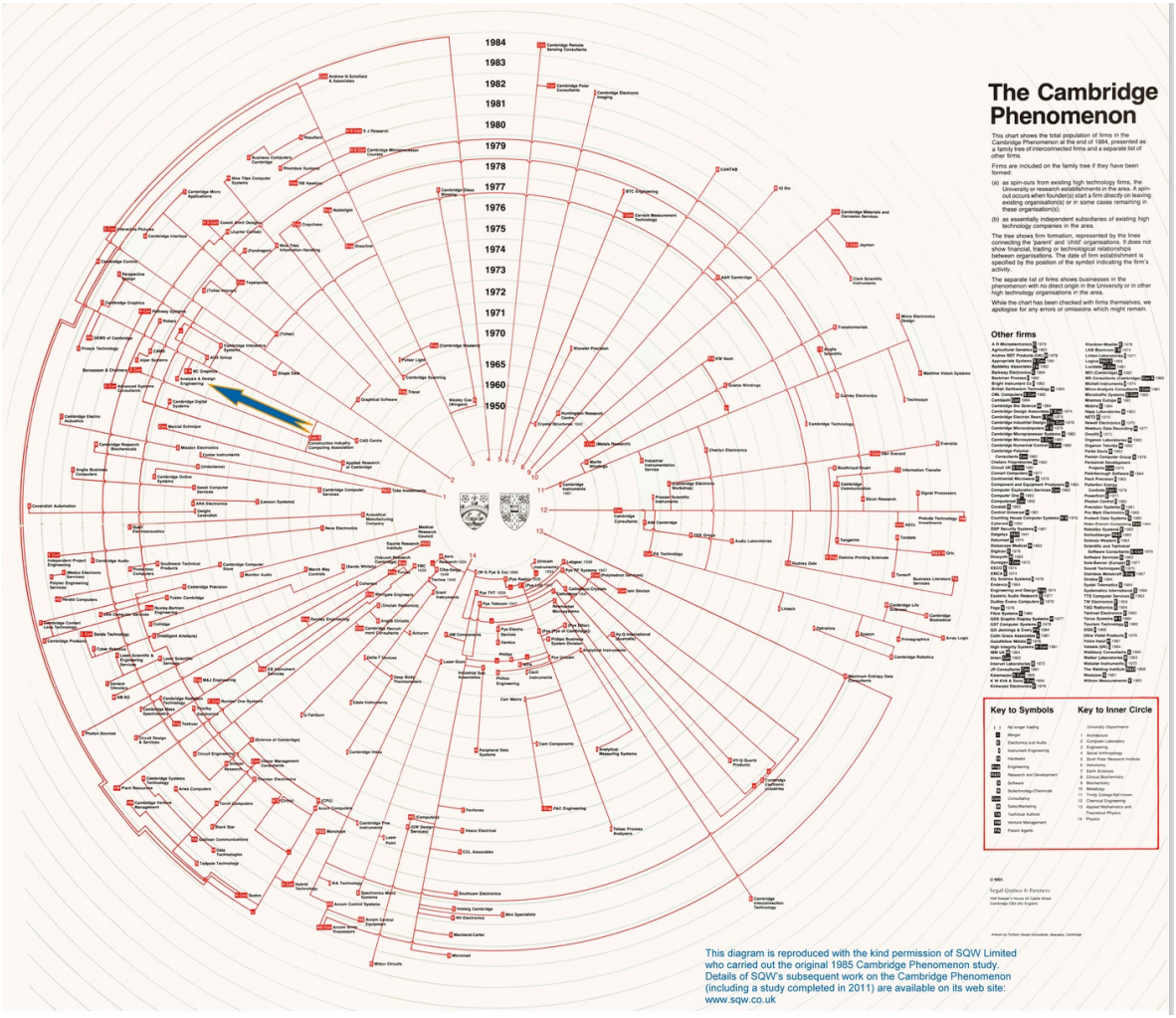

CAMBRIDGE
COMPUTING
The First 75 Years
Haroon Ahmed
UNIVERSITY OF
CAMBRIDGE
Computer Laboratory


THE UNIVERSITY OF
Cambridge
an 800th Anniversary Portrait
Editor
PETER PAGNAMENTA

CAMBRIDGE IDEAS CHANGE THE WORLD




The Cambridge Phenomenon
The Growth of High Technology Industry in a University Town
Segal Quince & Partners


The Cambridge Phenomenon
1984
1983
1982
1981
1980
1979
1978
1977
1976
1975
1974
1973
1972
1971
1970
1965
1960
1950
Other firms
Key to Symbols
Key to Inner Circle
This diagram is reproduced with the kind permission of SQW Limited who carried out the original 1985 Cambridge Phenomenon study. Details of SQW's subsequent work on the Cambridge Phenomenon (including a study completed in 2011) are available on its web site: www.sqw.co.uk

CAMBRIDGE CLUSTER

EUROPE'S MOST SUCCESSFUL TECHNOLOGY CENTRE

50 years since inception, Cambridge is the oldest and most powerful cluster in Europe. Set against the backdrop of the University of Cambridge, the cluster has evolved into one of the world's most enterprising networks of people and companies, with an explosion of technology, life sciences and service companies that has occurred in the city since 1960.

① Cambridge has over

1,525 TECH COMPANIES

② Employing more than

53,000 PEOPLE

That's enough to stretch hand-in-hand from Silicon Roundabout to Cambridge

Cambridge — London

③ These companies had combined turnover of

£11.8bn in 2011

④ Gross Valued Added per job is :

45k Cambridge — £ — 35k London

⑤ 6% of all SMEs produced 54% of jobs in the UK over the past 7 years

6% — 54%

Source: NESTA

⑥ Market capitalisation generated is:

£50bn

⑦ Unemployment status is:

2.1% Cambridge — 7.8% London

⑧ Scaling up companies generate:

Jobs

Top 50 companies hired 5901 people in the past year

UP 23.2%

UP 17.6%

Wealth

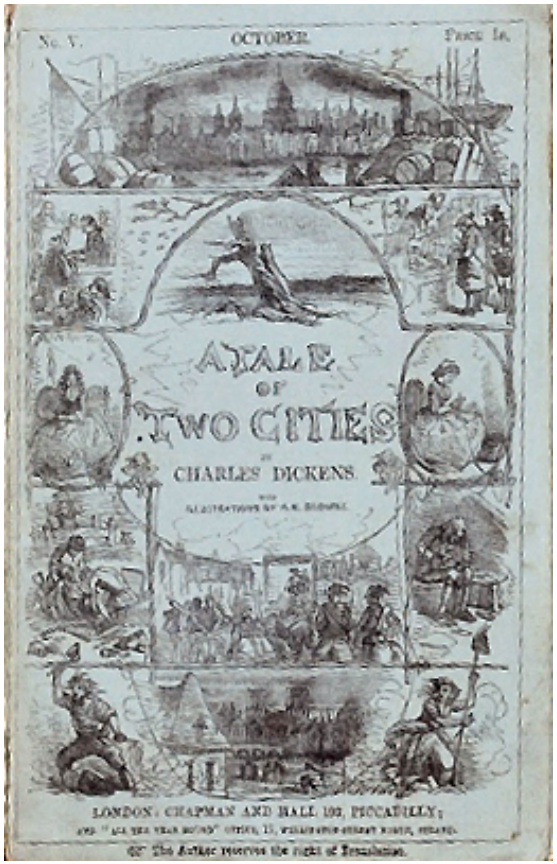
Top 50 companies increased their revenue by £1.3bn

⑨ 12 companies in Cambridge have achieved $1 billion valuations in the last 15 years:

Abcam, ARM, Autonomy, AVEVA, CAT, Chiroscience, CSR, Domino, Ionica, Marshall, Solexa, Virata.

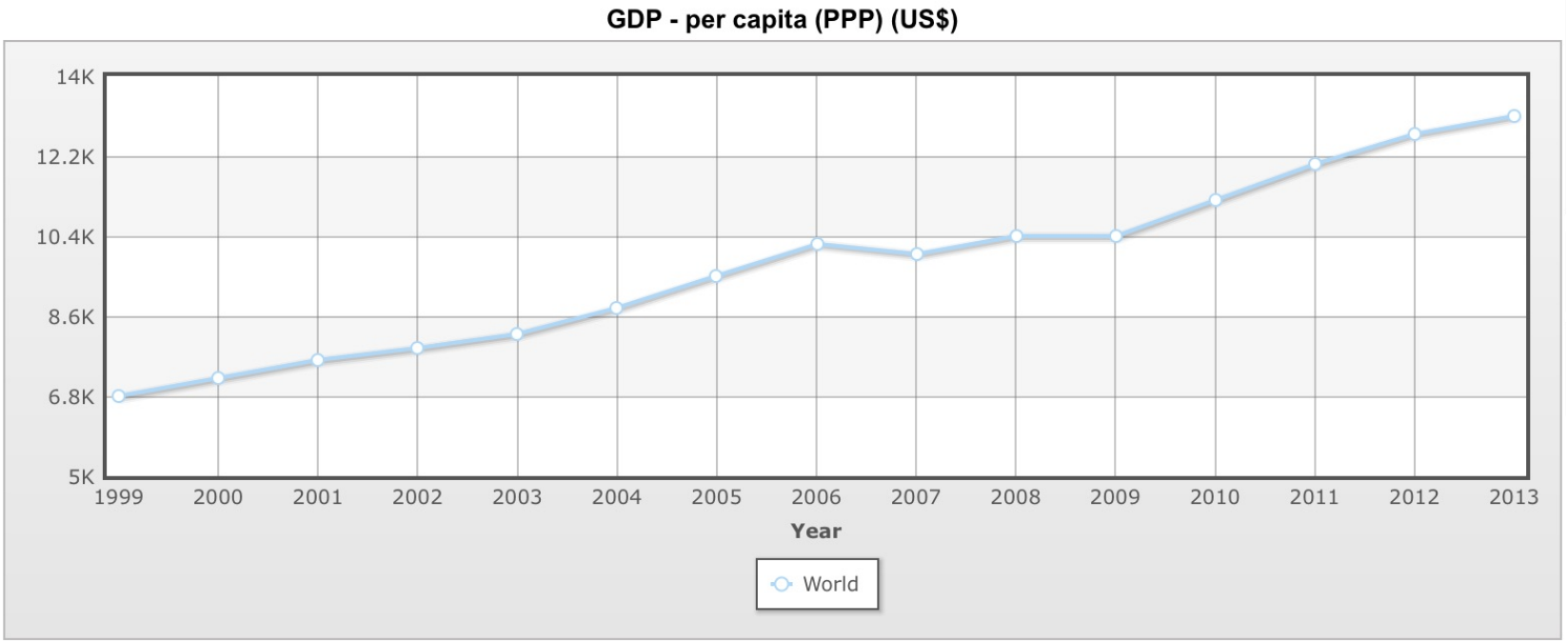
DUEDIL — SILICON VALLEY COMES TO THE UK

www.cambridge2you.com | duedil.com



“Chapter I - The Period

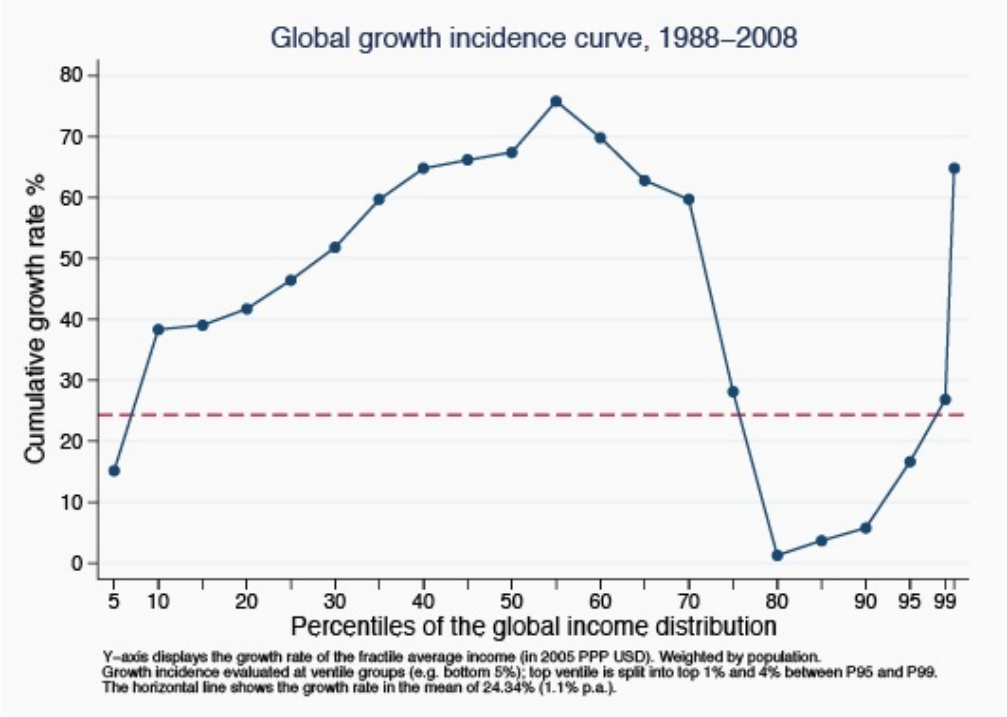
It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way--in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only.”



Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
World	6,800	7,200	7,600	7,900	8,200	8,800	9,500	10,200	10,000	10,400	10,400	11,200	12,000	12,700	13,100

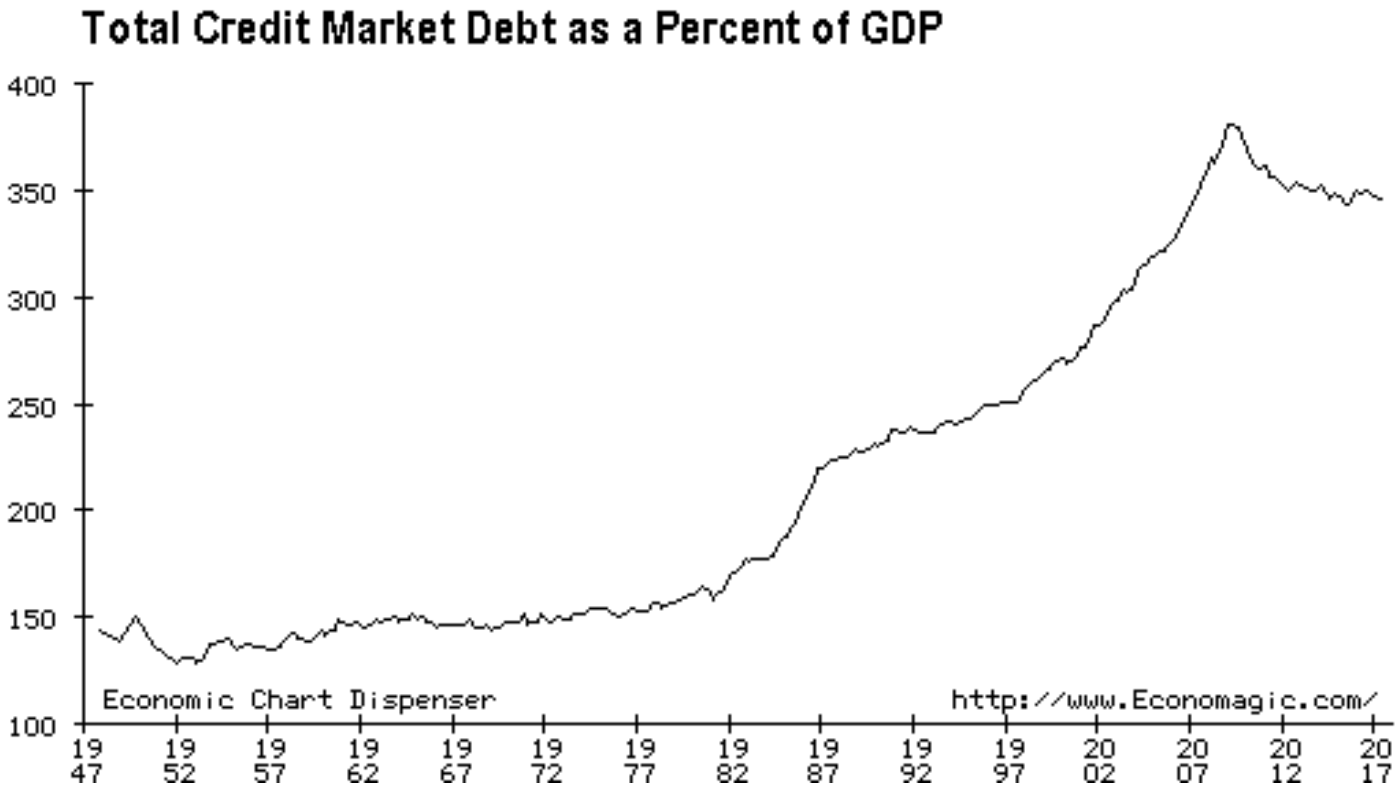
Definition of GDP - per capita (PPP): This entry shows GDP on a purchasing power parity basis divided by population as of 1 July for the same year.

Source: CIA World Factbook - Unless otherwise noted, information in this page is accurate as of June 30, 2015

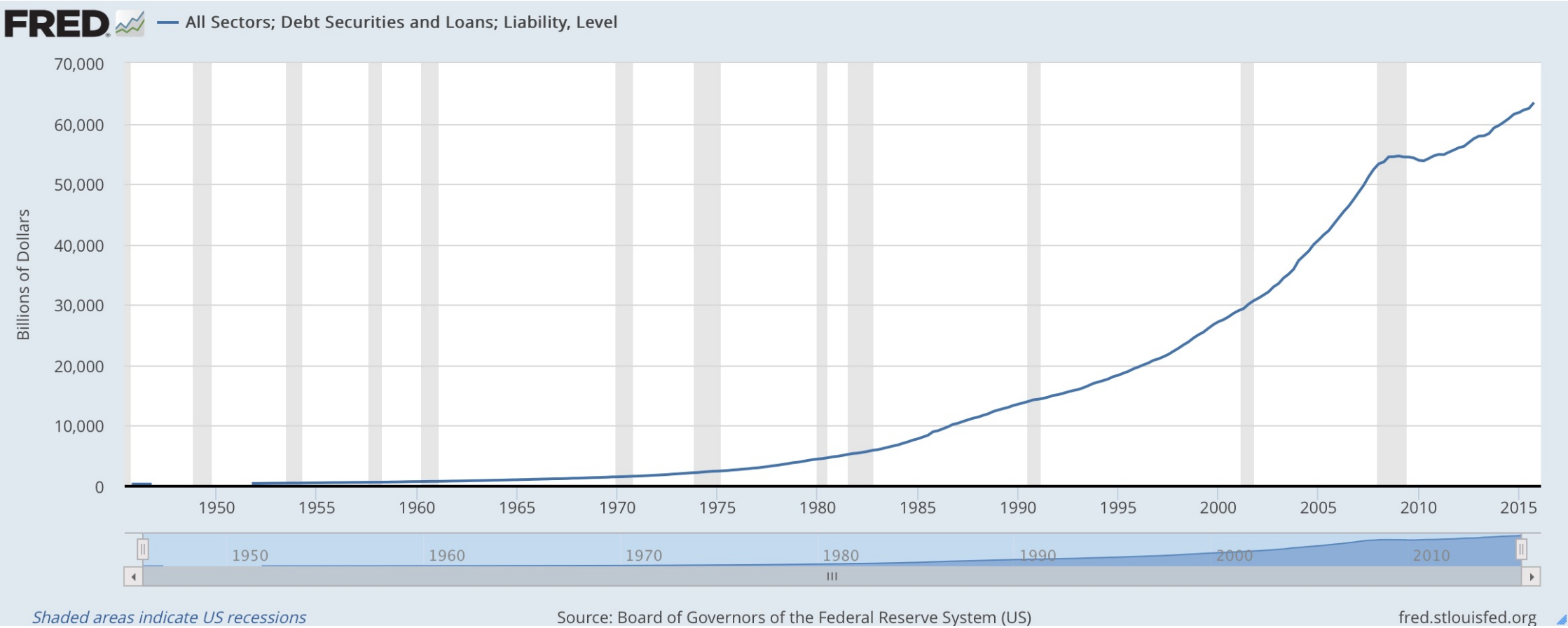


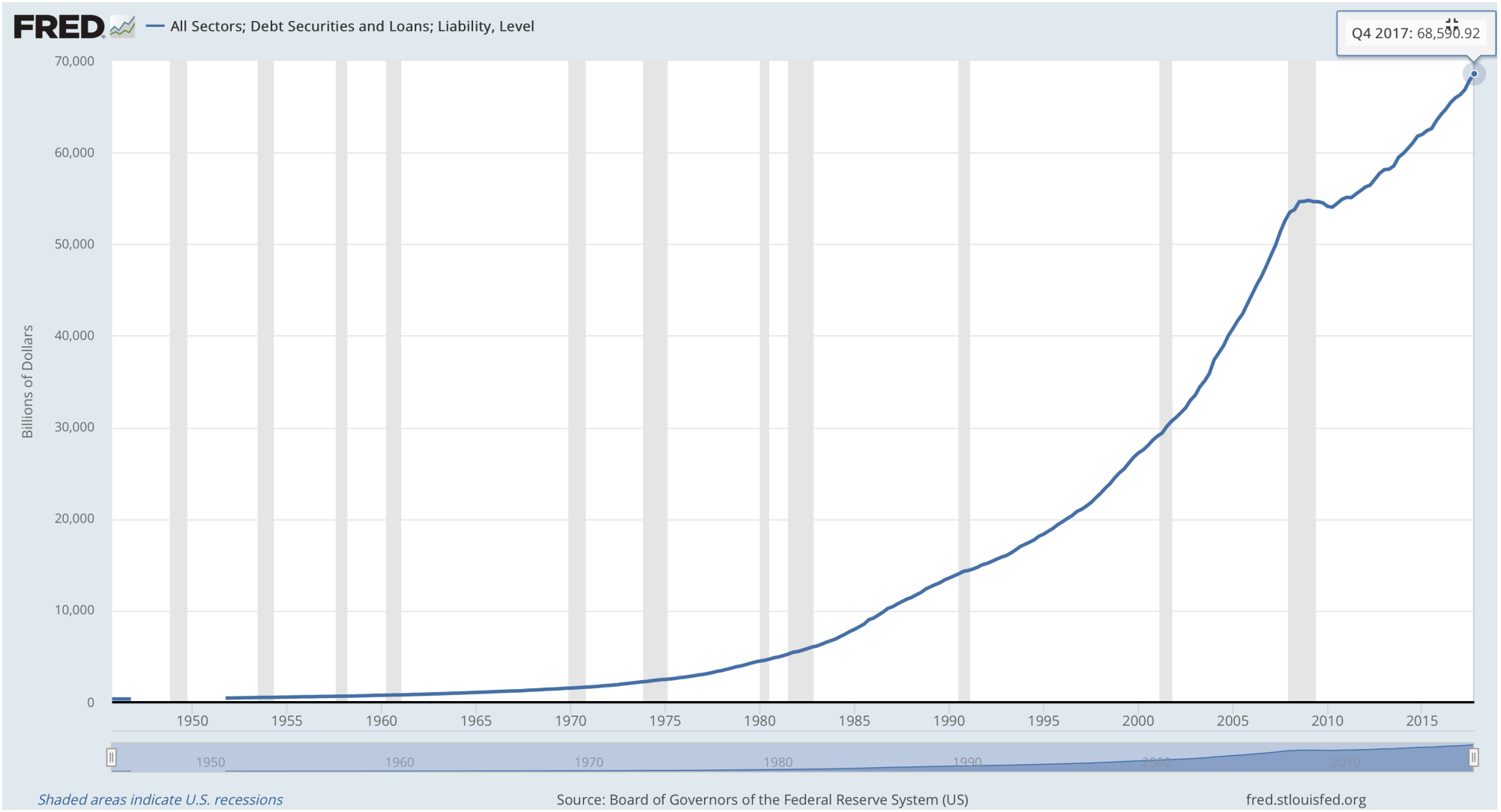
http://blogs.worldbank.org/developmenttalk/global-income-distribution-fall-berlin-wall-great-recession

US Credit Market Debt



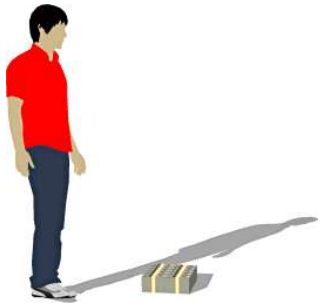
http://www.economagic.com/em-cgi/charter.exe/var/togdp-totalcreditdebt+1947+2017+0+0+0+290+545++0

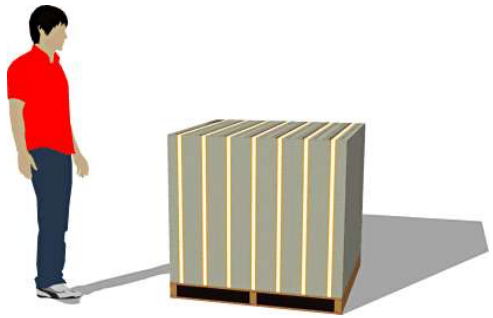

FRED
All Sectors; Debt Securities and Loans; Liability, Level
Billions of Dollars
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Shaded areas indicate US recessions
Source: Board of Governors of the Federal Reserve System (US)
fred.stlouisfed.org

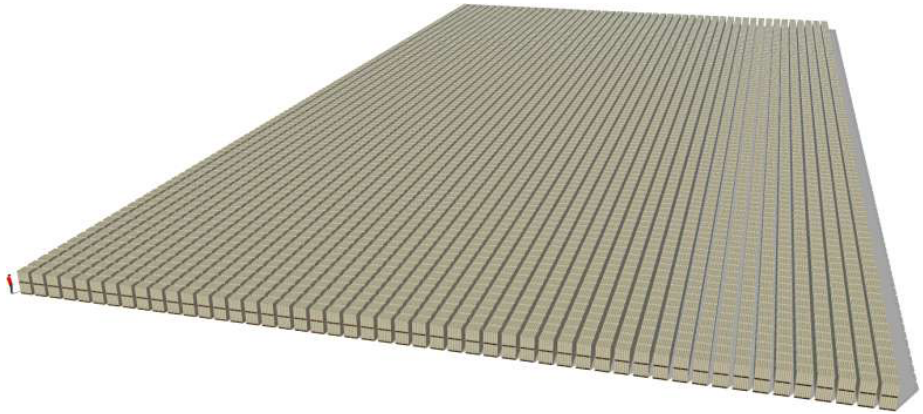

FRED
All Sectors; Debt Securities and Loans; Liability, Level
Q4 2017: 68,590.92
Billions of Dollars
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Shaded areas indicate U.S. recessions
Source: Board of Governors of the Federal Reserve System (US)
fred.stlouisfed.org

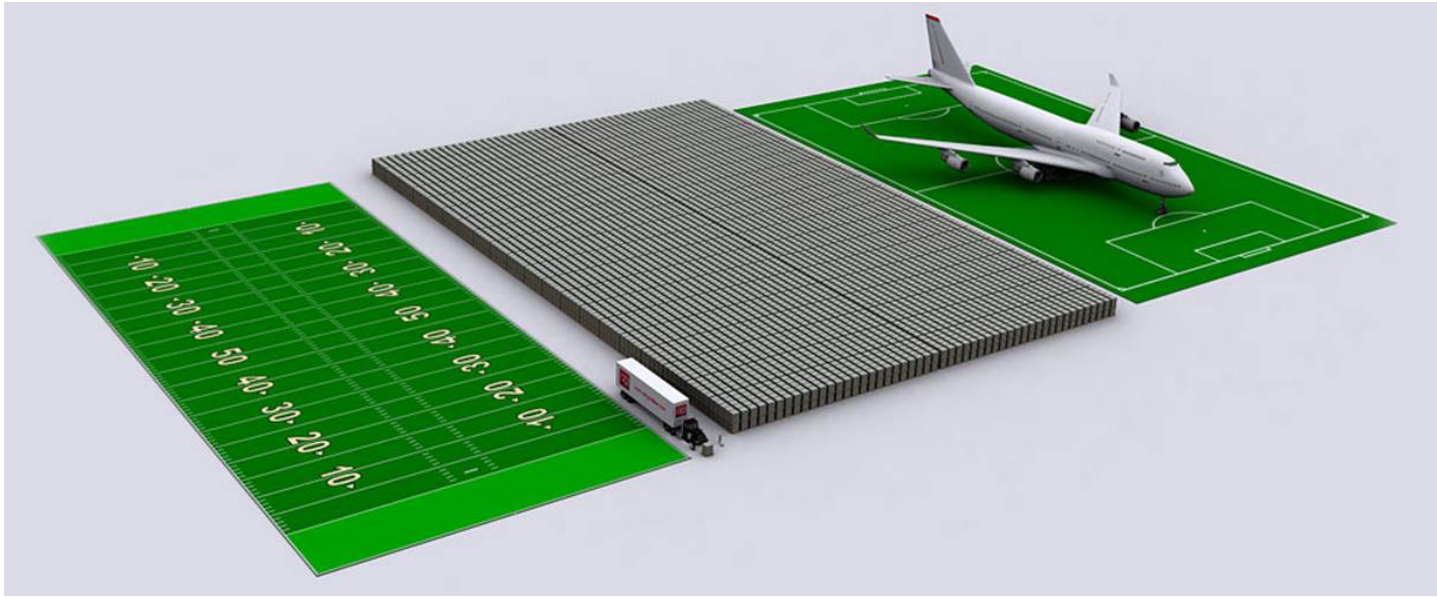

FEDERAL RESERVE NOTE
AE 77665544 B
E5
THE UNITED STATES OF AMERICA
AE 77665544 B
100
ONE HUNDRED DOLLARS

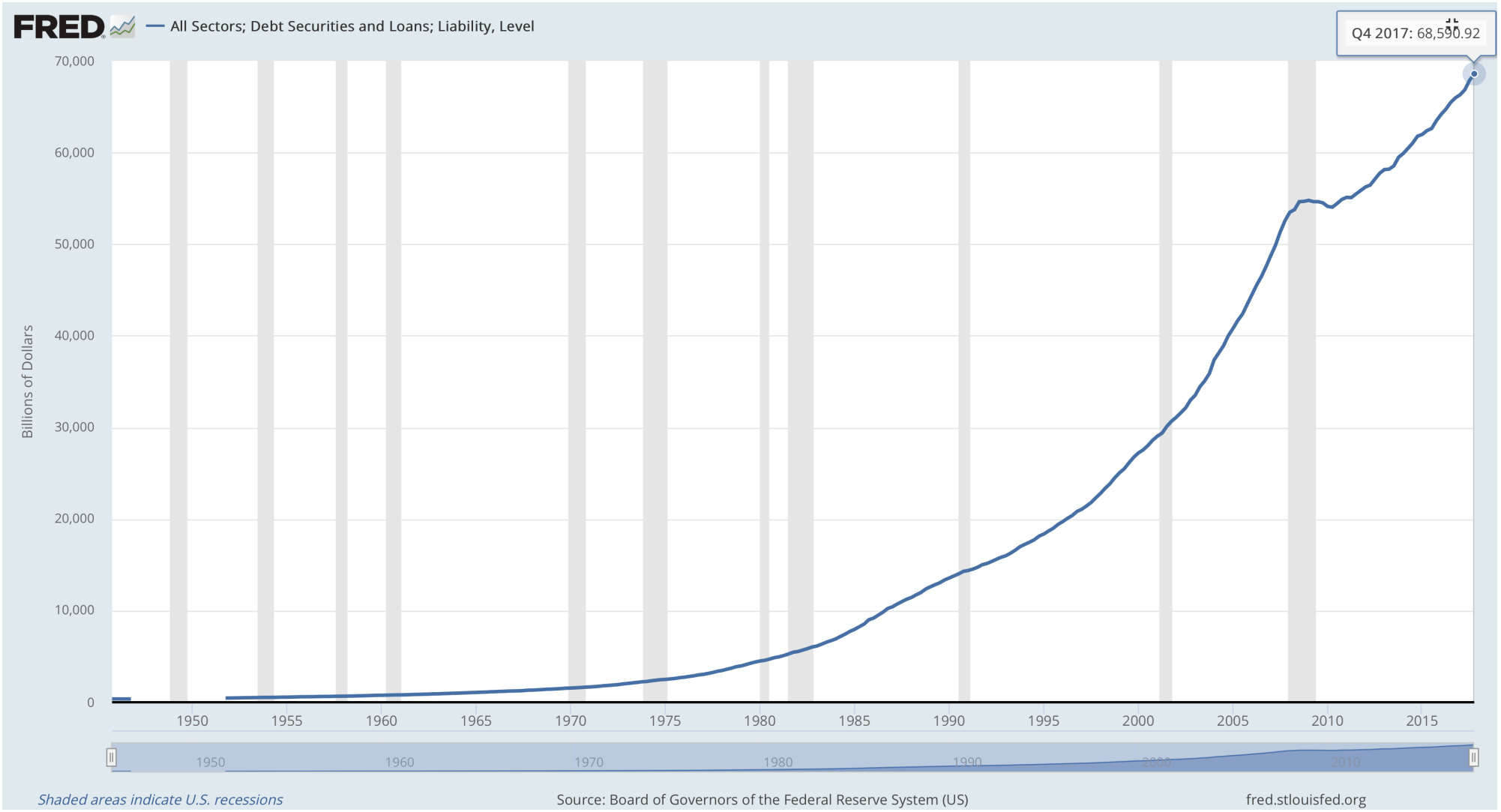

AE 77665544 B
$10,000
$10,000
AE 77665544 B
100
HUNDRED DOLLARS










FRED
All Sectors; Debt Securities and Loans; Liability, Level
Q4 2017: 68,590.92
Billions of Dollars
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Shaded areas indicate U.S. recessions
Source: Board of Governors of the Federal Reserve System (US)
fred.stlouisfed.org

USA = 9th Highest Public Debt / GDP Level Relative to Other Major Economies

Rank	Country	% of GDP	2015 Public Government Debt ($B)
1	Japan	248%	$10,083
2	Greece	177	347
3	Lebanon	138	68
4	Italy	133	2,342
5	Portugal	129	257
6	Jamaica	120	20
7	Cyprus	109	20
8	Belgium	106	478
9	United States	105	18,870
10	Singapore	105	302
11	Spain	99	1,124
12	France	96	2,236
13	Jordan	93	33
14	Canada	91	1,335
15	United Kingdom	89	2,458
16	Egypt	89	280
17	Croatia	87	40
18	Austria	86	302
19	Slovenia	83	30
20	Ukraine	80	37

KLEINER PERKINS

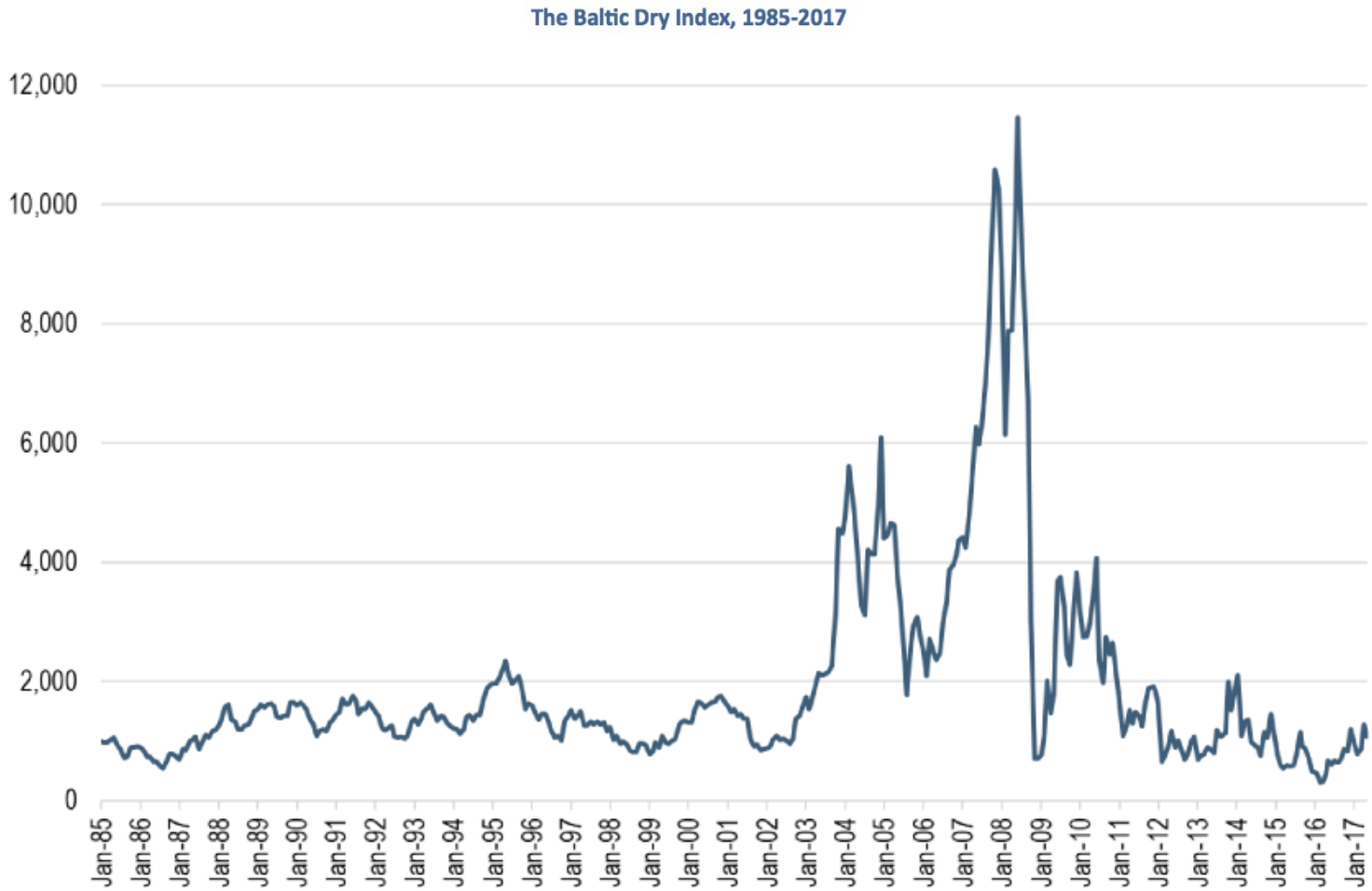
Source: IMF
Note: Ranking excludes countries with public debt less than $10B in 2015. Public debt includes federal, state and local government debt but exclude unfunded pension liabilities from government defined-benefit pension plans and debt from public enterprises and central banks.

USA Public Debt / GDP Level = 7th Highest vs. Major Economies

Country	Government Debt % of GDP	Government Debt 2017 ($B)
1) Japan	240%	$12,317
2) Greece	180	403
3) Lebanon	152	80
4) Italy	133	2,798
5) Portugal	126	301
6) Singapore	111	362
7) USA	**108**	**20,939**
8) Jamaica	107	16
9) Cyprus	106	24
10) Belgium	104	561
11) Egypt	101%	$199
12) Spain	99	1,412
13) France	97	2,730
14) Jordan	96	39
15) Bahrain	91	31
16) Canada	90	1,482
17) UK	89	2,532
18) Mozambique	88	12
19) Ukraine	86	92
20) Yemen	83	30

Source: IMF 2017 Estimates Note: Ranking excludes countries with public debt less than $10B in 2015. Public debt includes federal, state and local government debt but excludes unfunded pension liabilities from government defined-benefit pension plans and debt from public enterprises and central banks. FX rates as of 3/28/18.

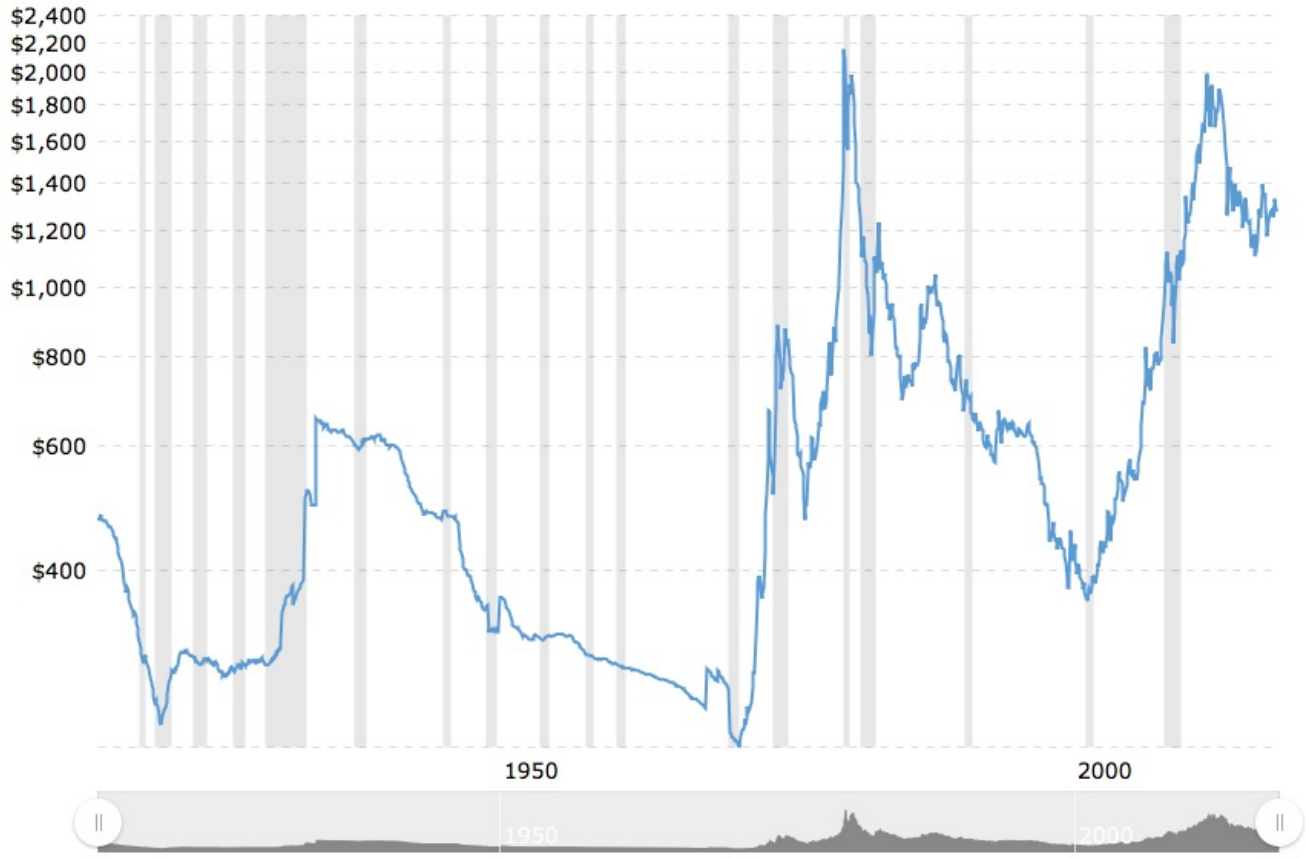

FRED
10-Year Treasury Constant Maturity Rate
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
Percent
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
September 2018, end of period: 3.05
Shaded areas indicate U.S. recessions
Source: Board of Governors of the Federal Reserve System (US)
fred.stlouisfed.org



https://people.hofstra.edu/geotrans/eng/ch7en/conc7en/bdi.html

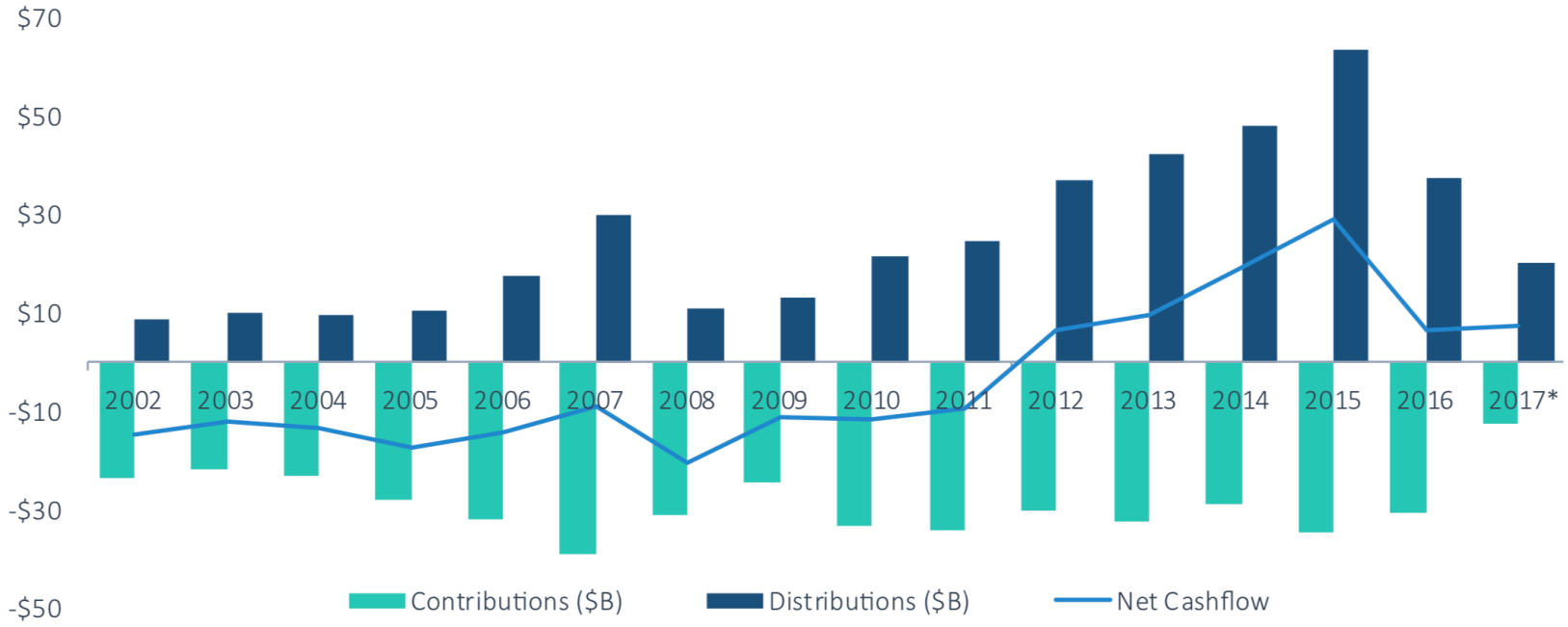
Gold Prices - 100 Year Historical Chart

Interactive chart of historical data for real (inflation-adjusted) gold prices per ounce back to 1915. The series is deflated using the headline Consumer Price Index (CPI) with the most recent month as the base. The current month is updated on an hourly basis with today's latest value. The current price of gold as of October 23, 2017 is **$1,276.20** per ounce.



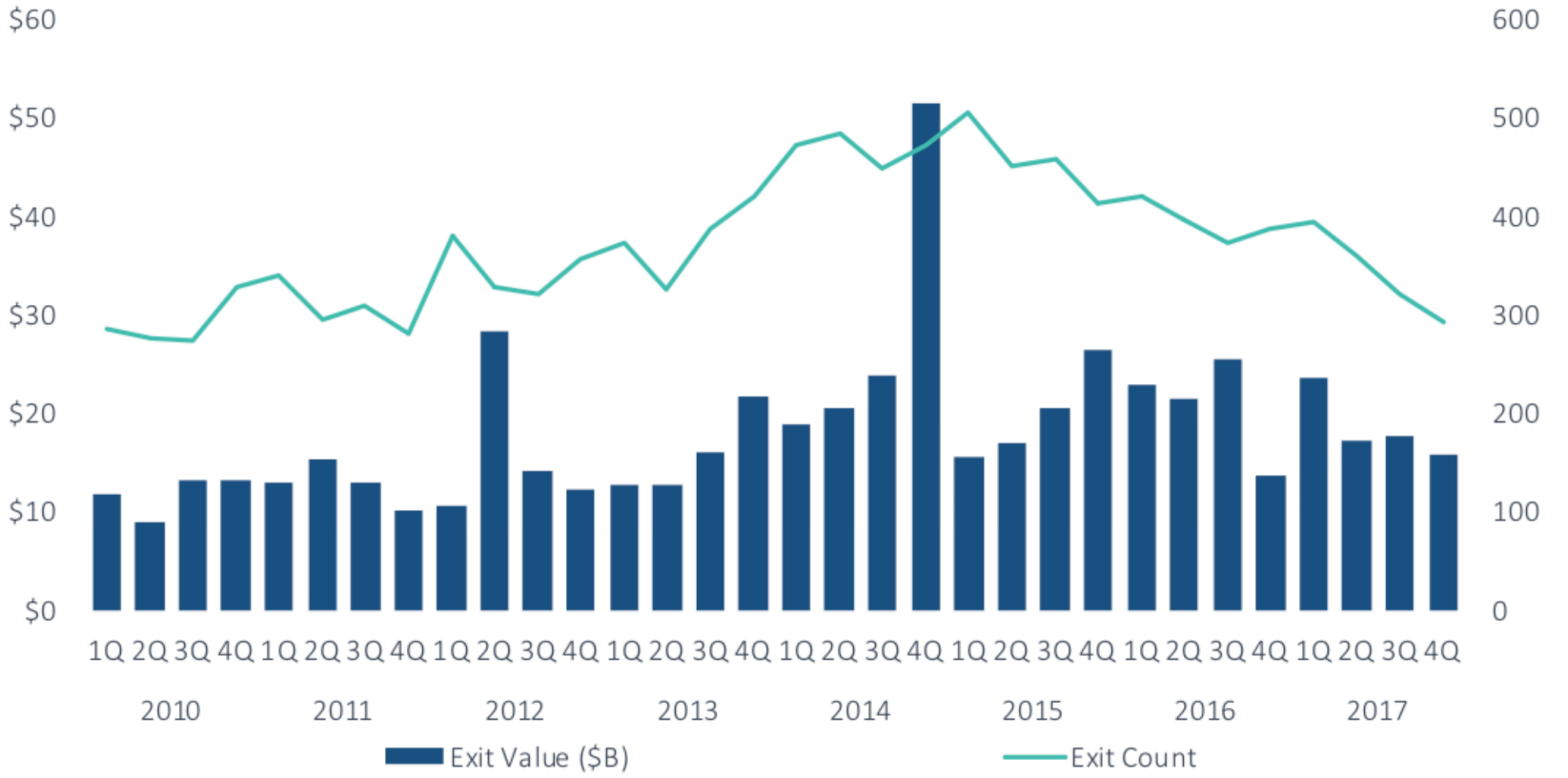
http://www.macrotrends.net/1333/historical-gold-prices-100-year-chart

Global VC funds' annualized cashflows by year



Source: PitchBook
*As of 3/31/2017

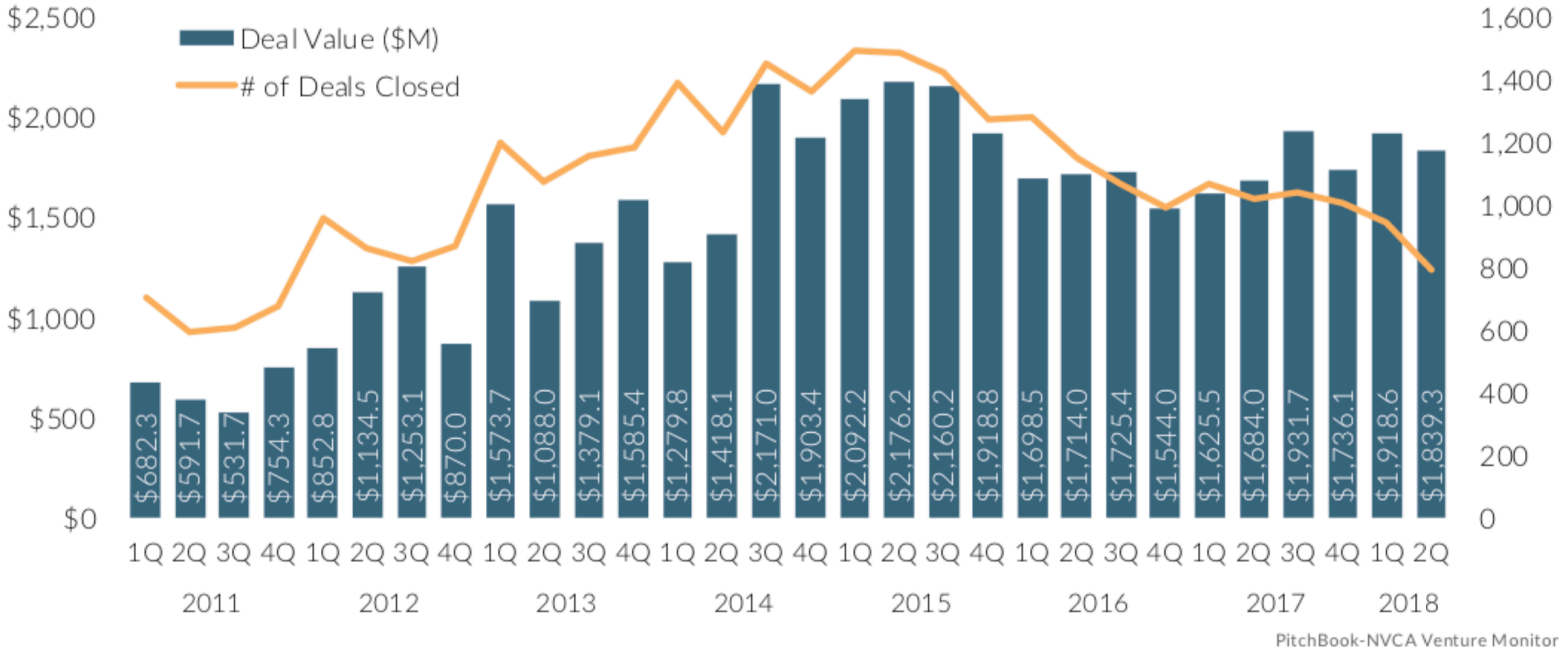
Global venture-backed exit activity



Source: PitchBook

Angel & seed deal value has slowly crept back toward highs of 2015

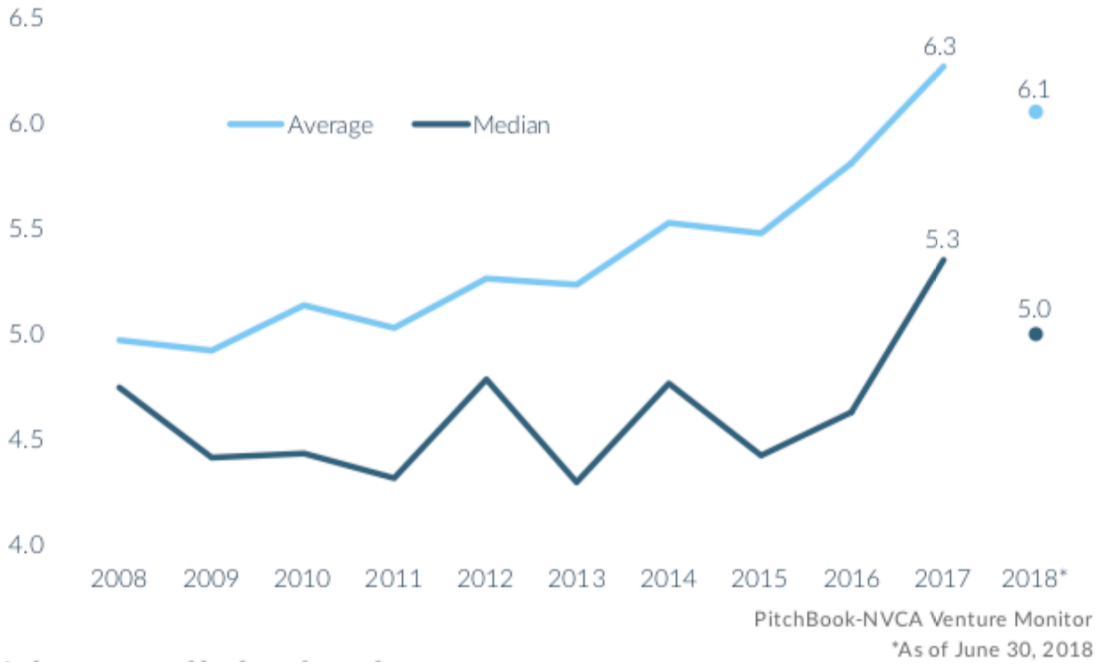
US angel & seed activity



PitchBook-NVCA Venture Monitor

Exit times lower slightly in 2018

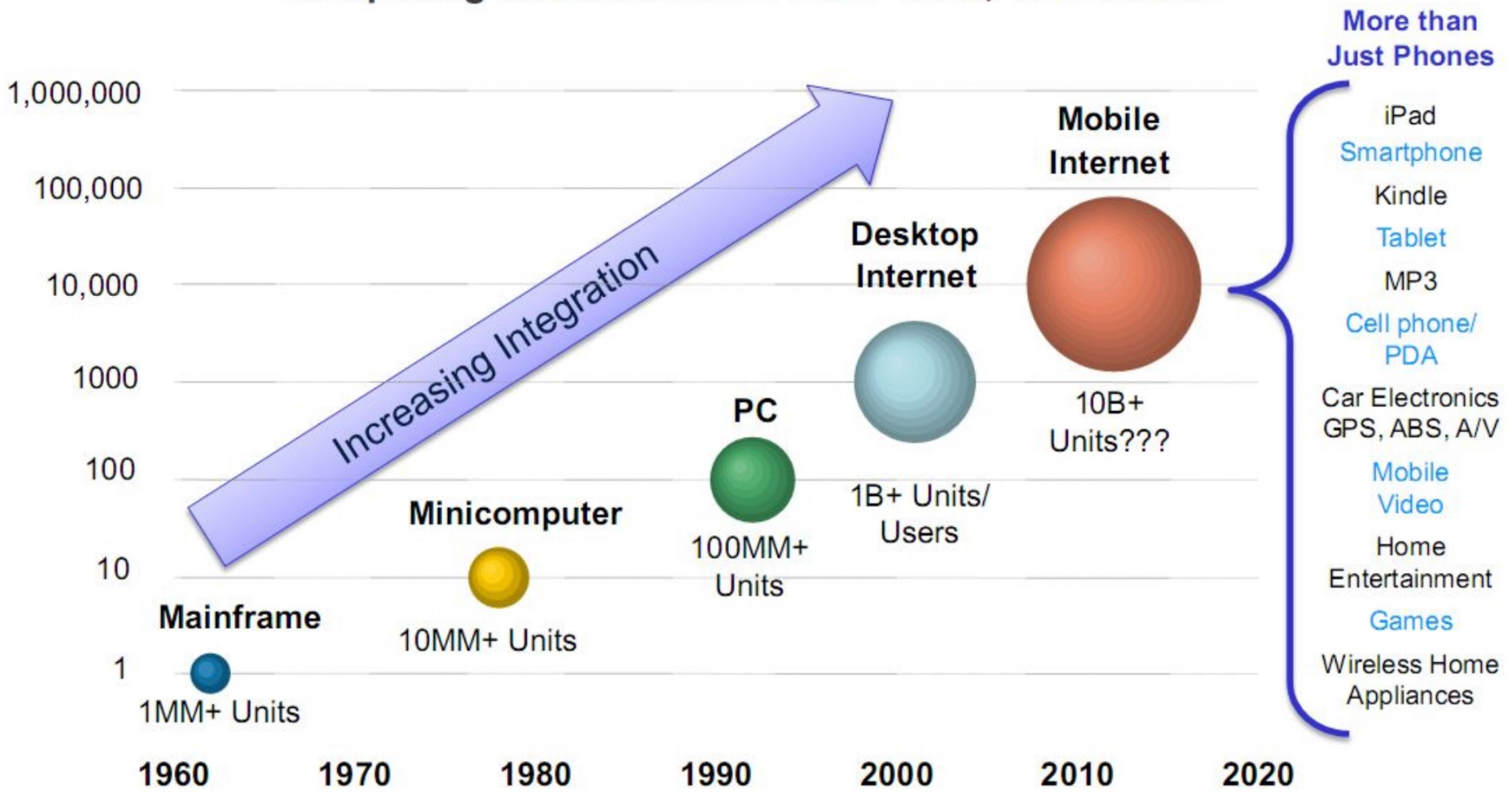
Median and average time (years) to exit



PitchBook-NVCA Venture Monitor

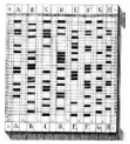
*As of June 30, 2018

Computing Growth Drivers Over Time, 1960-2020E

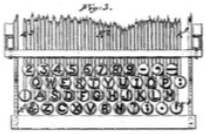


Note: PC installed base reached 100MM in 1993, cellphone/Internet users reached 1B in 2002/2005 respectively;
Source: ITU, Mark Lipacis, Morgan Stanley Research.

Human-Computer Interaction (1830s – 2015), USA = Touch 1.0 → Touch 2.0 → Touch 3.0 → Voice



Punch Cards for Informatics
1832



QWERTY Keyboard
1872

Electromechanical Computer (Z3)
1941

Electronic Computer (ENIAC)
1943

Paper Tape Reader (Harvard Mark I)
1944

Mainframe Computers (IBM SSEC)
1948

Trackball
1952

Joystick
1967

Microcomputers (IBM Mark-8)
1974

Portable Computer (IBM 5100)
1975

Commercial Use of Window-Based GUI (Xerox Star)
1981

Commercial Use of Mouse (Apple Lisa)
1983

Commercial Use of Mobile Computing (PalmPilot)
1996

Touch + Camera - based Mobile Computing (iPhone 2G)
2007

Voice on Mobile (Siri)
2011

Voice on Connected / Ambient Devices (Amazon Echo)
2014

@KPCB

Source: University of Calgary, "History of Computer Interfaces" (Saul Greenberg)

entropic speech technology

Microsoft

Evi

amazon.com

SPEECHMATICS

phoneticarts

Google

VOCALIQ











ENTREPRENEURS
ARE

but what’s next

Outline Synopsis

1. So you've got an idea…
2. Money and Tools for it's management
3. Legal aspects, contracts and copyright
4. People: How to organise a team
5. Project planning and management
6. Quality, maintenance and documentation
7. Marketing and Selling
8. Growth and Exit routes

Next term e-commerce, apps, electronic money, block chain, etc and 6 seminars in Easter term

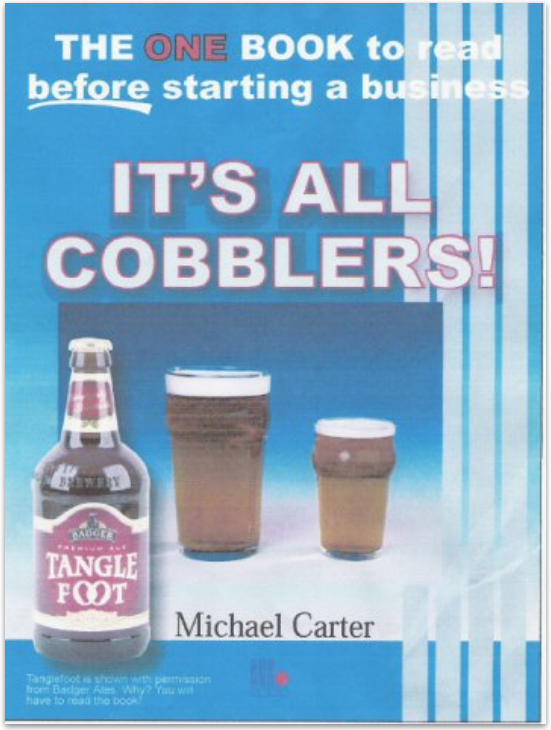
Reading list

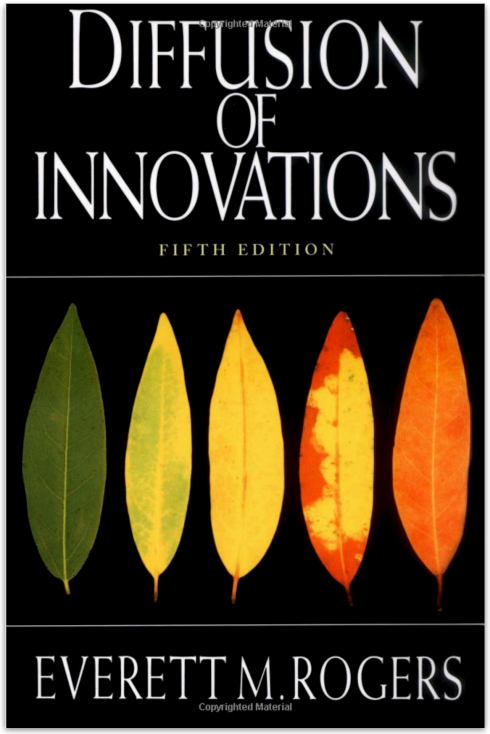
The High-tech Entrepreneur's Handbook
Jack Lang

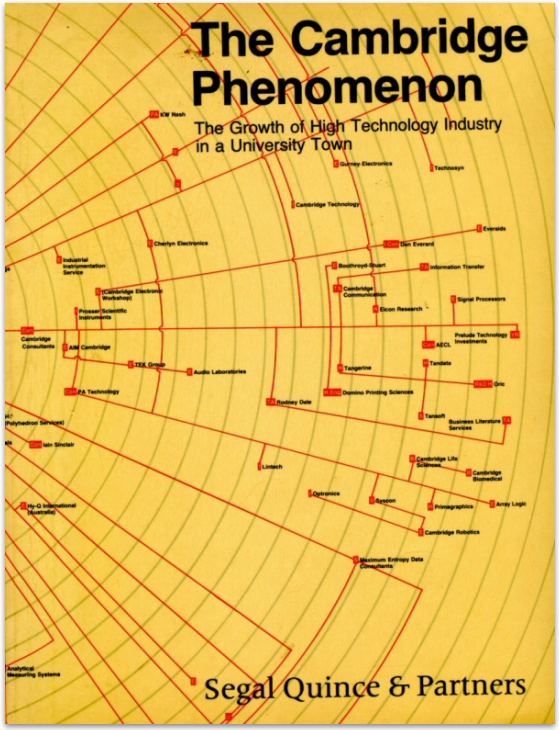
Paperback - 224 pages (2 November, 2001) FT.COM; ISBN: 0273656155

Students will be expected to able to use Microsoft Excel and Microsoft Project

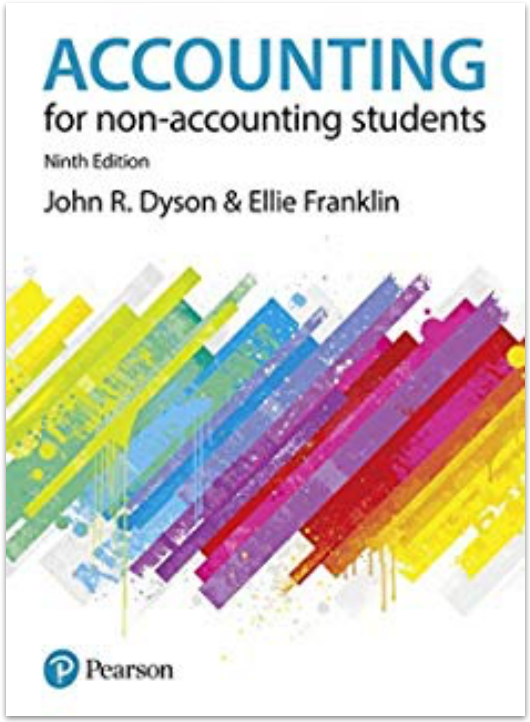
Lecture 1

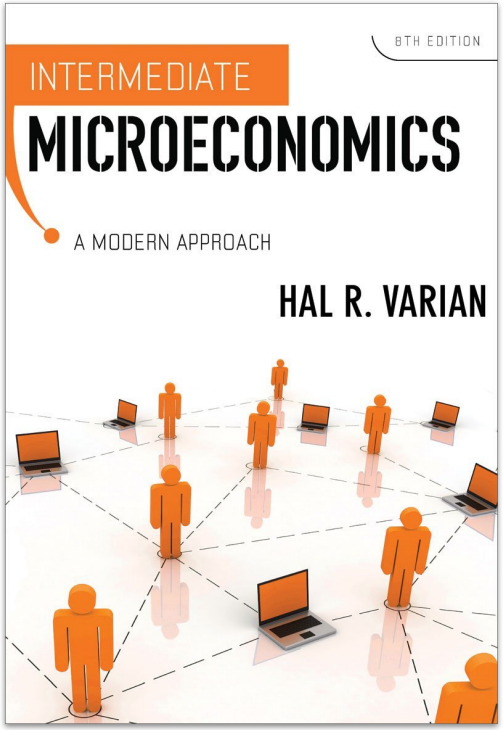

THE ONE BOOK to read
before starting a business
IT'S ALL
COBBLERS!
TANGLE FOOT
Michael Carter

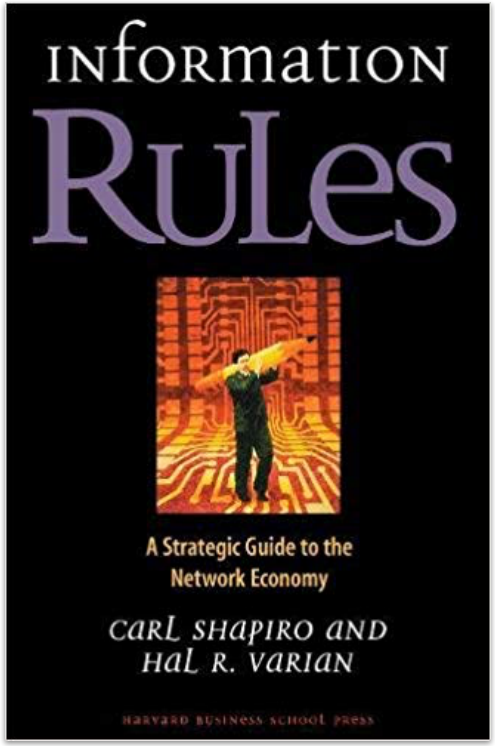

DIFFUSION
OF
INNOVATIONS
FIFTH EDITION
EVERETT M. ROGERS


The Cambridge
Phenomenon
The Growth of High Technology Industry
in a University Town
Segal Quince & Partners

Lecture 2

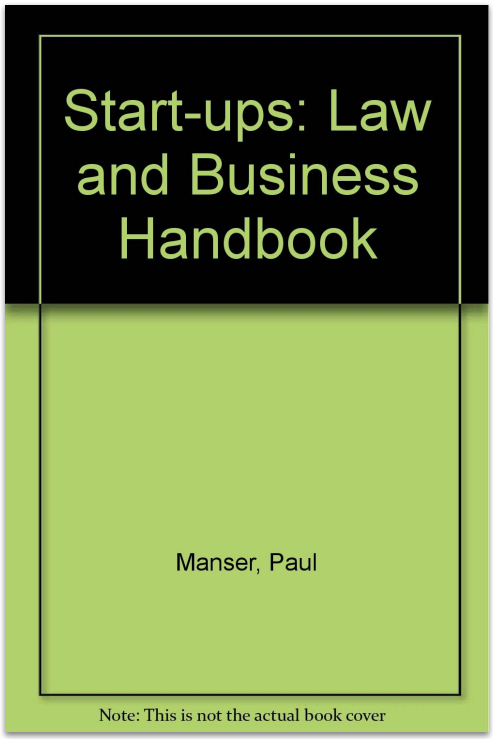


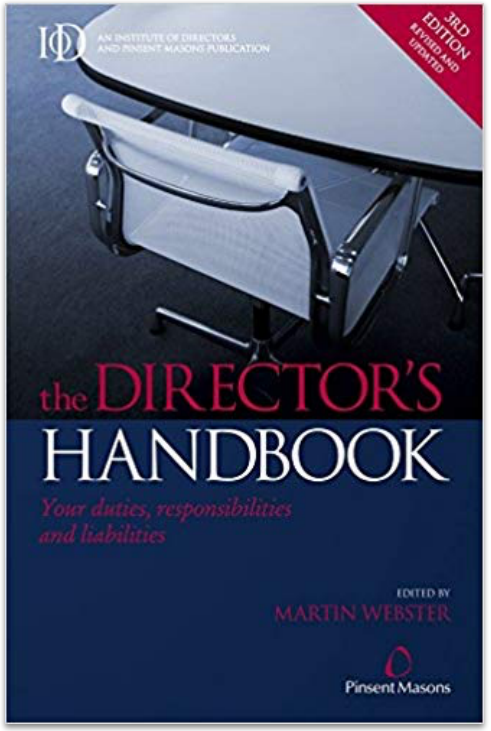




Useful websites
www.bvca.co.uk
www.etrade.co.uk
www.londonstockexchange.com

Lecture 3



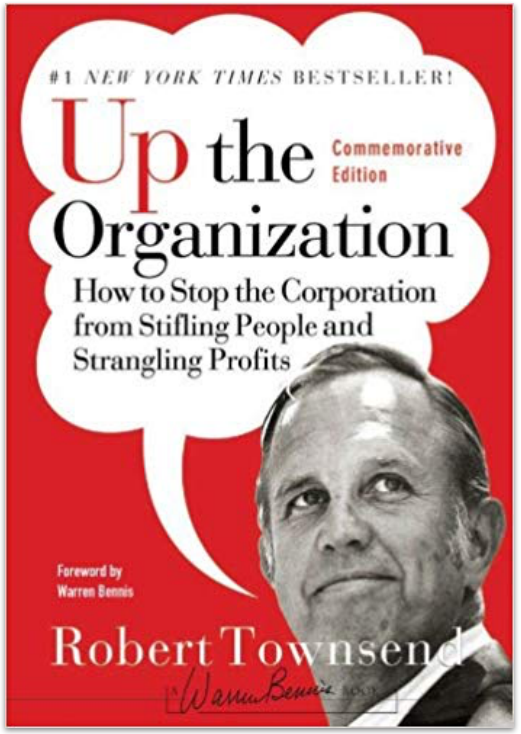


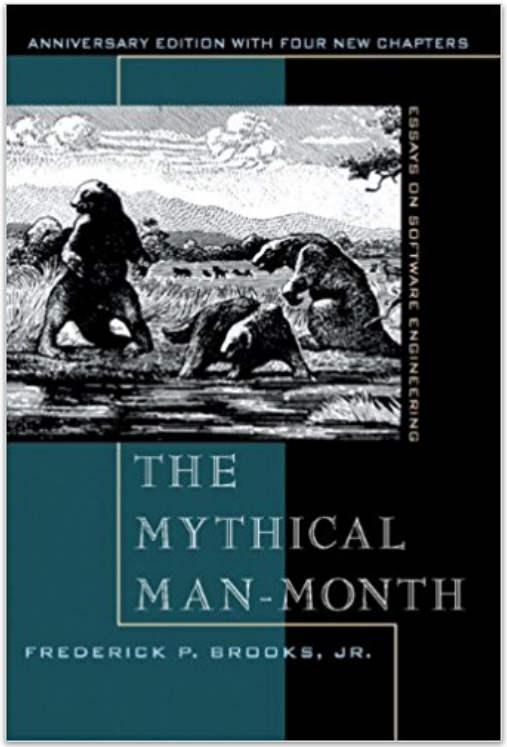
Useful websites

www.patent.gov.uk

www.jordans.co.uk

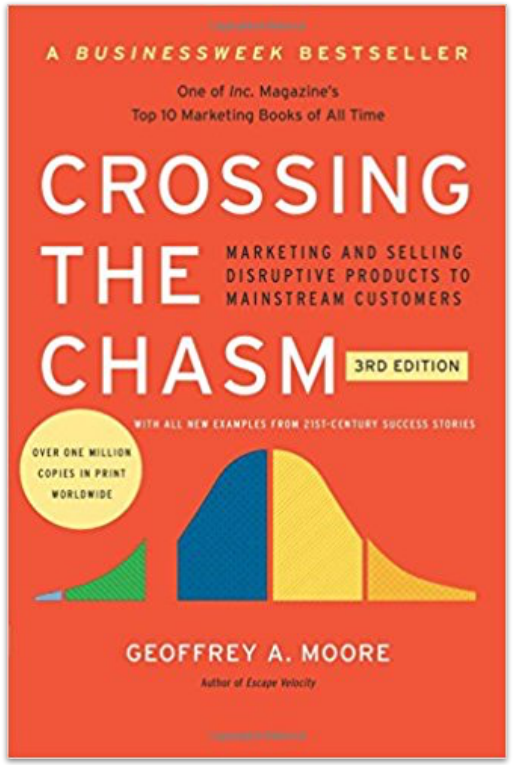
Lecture 4





Useful software
Microsoft Project

Lecture 5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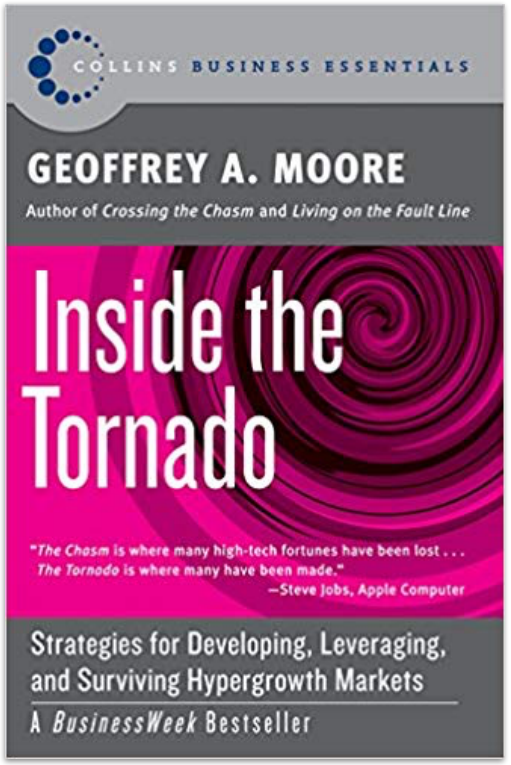
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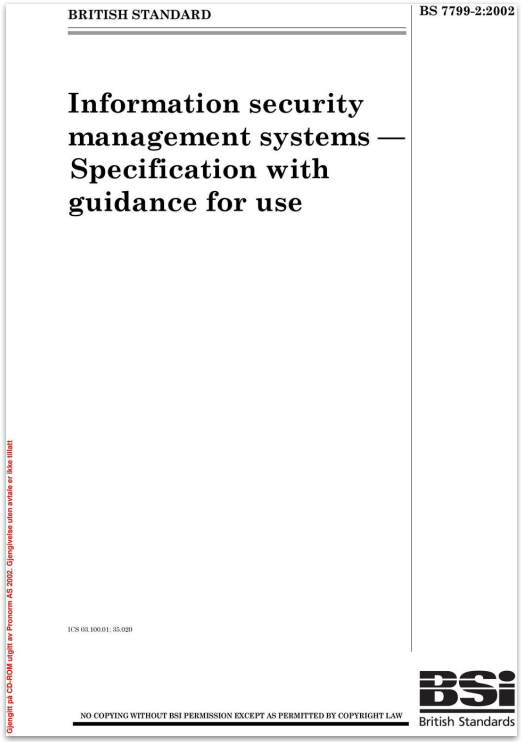
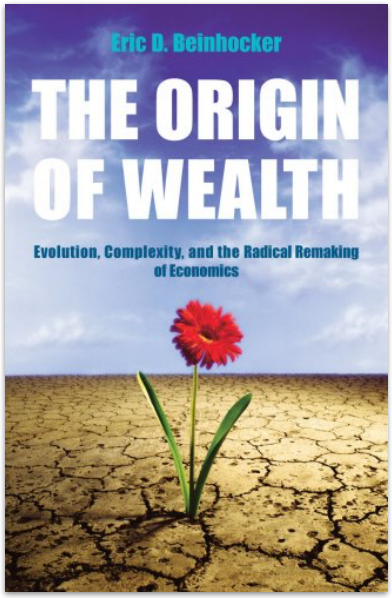
Inside the Tornado
"The Chasm is where many high-tech fortunes have been lost . . . The Tornado is where many have been made."
—Steve Jobs, Apple Computer
Strategies for Developing, Leveraging, and Surviving Hypergrowth Markets
A BusinessWeek Bestseller

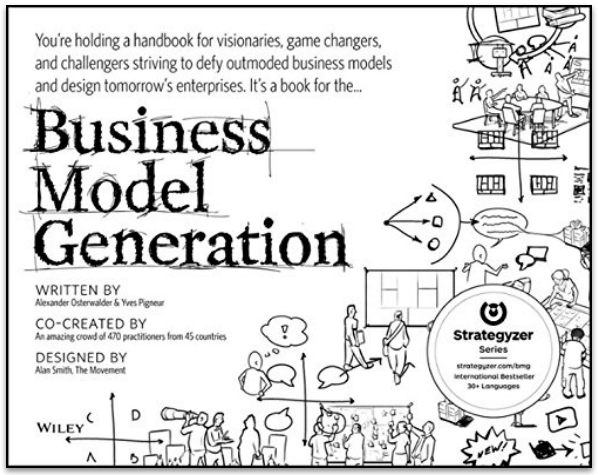
Lecture 6



Useful websites

www.standards.ieee.org


Eric D. Beinhocker
THE ORIGIN OF WEALTH
Evolution, Complexity, and the Radical Remaking of Economics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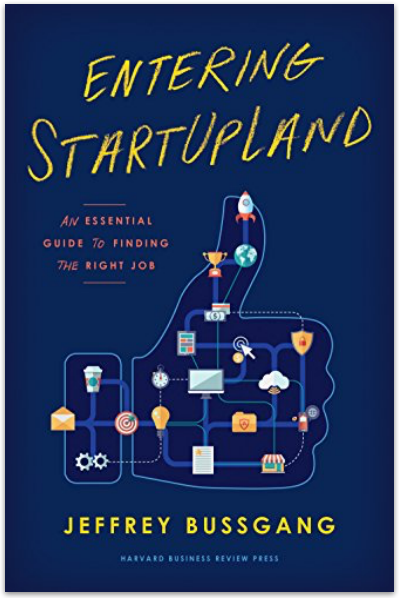
Alexander Osterwalder & Yves Pigneur
CO-CREATED BY
An amazing crowd of 470 practitioners from 45 countries
DESIGNED BY
Alan Smith, The Movement
Strategyzer Series
WILEY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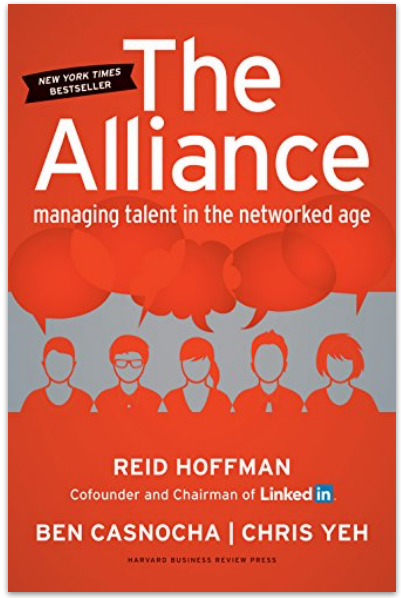
AN ESSENTIAL GUIDE TO FINDING THE RIGHT JOB
JEFFREY BUSSGANG
HARVARD BUSINESS REVIEW PRESS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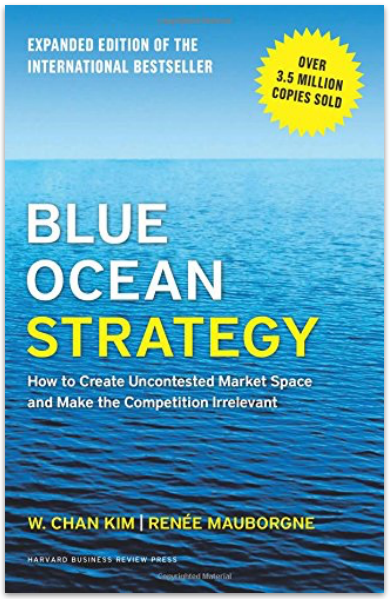
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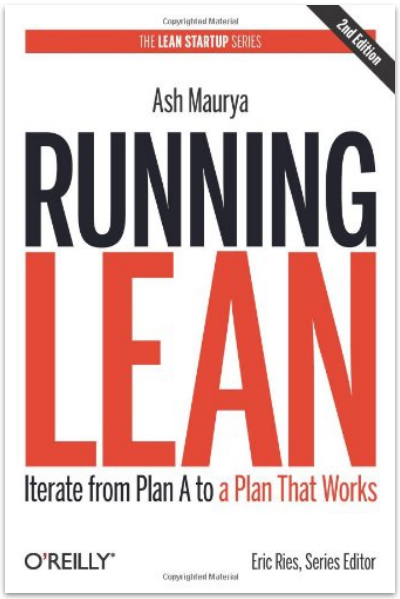
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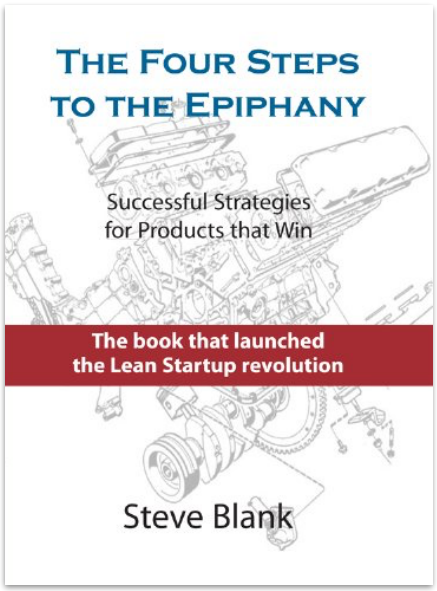
THE LEAN STARTUP
How Constant Innovation Creates Radically Successful Businesses
ERIC RIES
'Mandatory reading for entrepreneurs' Dan Heath


THE FOUR STEPS TO THE EPIPHANY
Successful Strategies for Products that Win
The book that launched the Lean Startup revolution
Steve Blank

How To Start A Startup (Stanford Course: CS183B)

Michael Babich • 20 videos • 97,620 views • Last updated on 9 Jun 2015

Sam Altman and the folks from Y Combinator offer up an amazing course in "How To Start A Startup" at Stanford. Course includes lectures from: Sam Altman, Dustin Moskovitz, Paul Graham, Adora Cheung, Peter Thiel, Alex Schultz, Kevin Hale,... more

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1	WATCHED	Lecture 1 - How to Start a Startup (Sam Altman, Dustin Moskovitz) by How to Start a Startup	43:53
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Technology-enabled Blitzscaling

Greylock Partners • 20 videos • 49,744 views • Last updated on 7 Dec 2015

Class recordings from Stanford CS183C: Technology-enabled Blitzscaling.

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1	WATCHED	Blitzscaling 01: Overview of the Five Stages of Blitzscaling by Greylock Partners	1:12:51
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4		Blitzscaling 04: Ann Miura-Ko on FLOODGATE's Thunder Lizard Theory and Achieving Product Market Fit by Greylock Partners	1:12:37
5		Blitzscaling 05: John Lilly on Leveraging Community to Scale Mozilla by Greylock Partners	1:14:36
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9		Blitzscaling 09: Reid Hoffman and Allen Blue on Why and How They Scaled LinkedIn by Greylock Partners	1:20:13
10		Blitzscaling 10: Selina Tobaccowala on Building a Global Business at SurveyMonkey by Greylock Partners	1:21:53
		Blitzscaling 11: Patrick Collison on Hiring at Stripe and the Role of a Product-Focused CEO	1:19:12

Course Syllabus

WEEK 1

Introduction to the Course

YC Partners Adora Cheung and Geoff Ralston introduce Startup School 2018.

Correction: The week turns over on Sunday 11:59pm Pacific. The first weekly progress update is due Sept 2 11:59pm Pacific. Weekly progress updates are due by Sunday 11:59pm Pacific every week.

1. So you've got an idea...

Introduction

Why are you doing it?

What is it? defining the product or service; types of company

Who needs it? an introduction to market analysis

How? Writing the business plan

Futures: some emerging areas for new computer businesses

One of you will become a Billionaire

- Most will be millionaires
  - And need to be
    - Pension issue
      - Say household income of £50K @ 4% -> £1.25M
      - Inflation for 40 year @ 3% -> x 3 -> £3.75M
      - House, etc say £250K -> 750K
      - Total £4.5M
- You won't save £4.5M from a salary
  - Trading
  - Starting an Enterprise

Why?

Why now?

- Because I can: available time and resource
- Just graduated, or made redundant and nothing else to do
- Brilliant idea or market opportunity

Why me?

- Barriers to market entry
  - What have you got to make it through?
    - Expertise, resource, relationships
- Barriers to competition
  - What stops others doing the same thing
    - IPR, network effect, niche
- Unique advantages

Know yourself

- Know your motivation so you can motivate others
  - What counts as success?

Never a better time to start than NOW

- Money
  - Cambridge Angels, Cambridge Capital….
- Support
  - St Johns, Cambridge Enterprise….
- Infrastructure
  - Banks, lawyers, accountants
  - Office space
- People
  - Cambridge Network, mentors…
- Government
  - EIS Tax relief, TSB Awards, SFLGS/ Enterprise Finance Guarantee….
  - Princes Trust
- Society attitude
  - OK to lose,
    - "Better to have loved and lost than never loved at all"

- "Dare to Begin" (Horace)
  - Nothing will be attempted if all possible objections must be overcome (Samuel Johnson)

Why are you doing it?

- Wealth generation
  - You need £5M by the time you retire, for a modest lifestyle
- Better toys
- Make a difference
  - Social consequences
    - Generation of employment
    - Death of the nation state
- Fun or profit?
  - Lifestyle or high growth?
    - Funding
    - Eventual size?

An Entrepreneur is…

- Someone who starts a project without having the full resources or knowledge
  - Estimate, guess and gut feel
  - Risk taking
    - Market risk
    - Technology risk
    - Financial risk
- Value accrues as risk lessens
  - Guesses replaced by justified facts
  - As development progresses and market established
  - Transition from intangible hopes to reality and cash-flow
  - Risk lessens, hence value increases

Example

- (Almost) Risk Free return, eg Bank:
  - say 5% or P/E 20
  - after 1 year 100 ->105
- Invest in companies, say 30% chance of failure:
  - After 1 year average return is 0.7*(100+x) where x is the IRR
  - For equivalent return 0.7(100+x) = 105
  - x=50%

Your job as an entrepreneur is to discover and build a business (& sell it)

The Business Model Canvas

Designed for:	Designed by:	Date:	Version:

Key Partners

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquairing from partners?
Which Key Activities do partners perform?

MOTIVATIONS FOR PARTNERSHIPS
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activities

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

CATERGORIES
Production
Problem Solving
Platform/Network

Key Resources

What Key Resources do our Value Propositions require?
Our Distribution Channels? Customer Relationships?
Revenue Streams?

TYPES OF RESOURCES
Physical
Intellectual (brand patents, copyrights, data)
Human
Financial

Value Propositions

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

CHARACTERISTICS
Newness
Performance
Customization
"Getting the Job Done"
Design
Brand/Status
Price
Cost Reduction
Risk Reduction
Accessibility
Convenience/Usability

Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of our business model?
How costly are they?

EXAMPLES
Personal assistance
Dedicated Personal Assistance
Self-Service
Automated Services
Communities
Co-creation

Channels

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

CHANNEL PHASES
1. *Awareness*
   How do we raise awareness about our company's products and services?
2. *Evaluation*
   How do we help customers evaluate our organization's Value Proposition?
3. *Purchase*
   How do we allow customers to purchase specific products and services?
4. *Delivery*
   How do we deliver a Value Proposition to customers?
5. *After sales*
   How do we provide post-purchase customer support?

Customer Segments

For whom are we creating value?
Who are our most important customers?

Mass Market
Niche Market
Segmented
Diversified
Multi-sided Platform

Cost Structure

What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

IS YOUR BUSINESS MORE
Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing)
Value Driven (focused on value creation, premium value proposition)

SAMPLE CHARACTERISTICS
Fixed Costs (salaries, rents, utilities)
Variable costs
Economies of scale
Economies of scope

Revenue Streams

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

TYPES
Asset sale
Usage fee
Subscription Fees
Lending/Renting/Leasing
Licensing
Brokerage fees
Advertising

FIXED PRICING
List Price
Product feature dependent
Customer segment dependent
Volume dependent

DYNAMIC PRICING
Negotiation (bargaining)
Yield Management
Real-time-Market

High Profit vs High Growth

- High Profit
- Lifestyle
  - Restaurant/shop
- P&L
- Organic Growth
  - 20 years

- Debt finance

- High Growth
- Sell the Company
  - Chain of Restaurants/shops
- Balance Sheet
- Investment
  - Exit route
  - 5 years
- Equity
- BUT
  - Fairy Godmothers now extinct
  - Raise enough cash to get to get to profitability and survive

Investor Criteria for a business

Market	Global sustainable under-served market need
Technical	Defensible technological advantage
People	Strong team
Financial	Believable plans, 60% IRR
Major Risks	Framework to understand and manage. What do you know? What do you know you don't know? How will you discover the things you don't know you don't know?

Market Need

- Largest risk factor: everything else is process or resource
- Who needs it?
    - Why?

    Why do they need yours??
        - What are they doing now?
        - How much is it worth to them?
    - How is it sold, or advertised?
        - Routes to market
        - Alliances
        - Branding
  - Under served need
    - Competition
    - What other solutions?
  - Sustainable or one-shot wonder?
  - Growing market
    - Global potential

Global

Sustainable

Under-Served

Market Need

Job to be Done

Market - who loves ya?

it's FAB because

Feature - techie speak
this chip uses a double super helical fooglefarg

Advantages - the translation step
it uses less power, gives you more speed

Benefits - customer speak
it is cheaper, smaller, works better in marginal conditions, batteries last longer

because *your friends will be envious*
why people really buy it

Defensible advantage

Exclude competition	Intellectual Property Asset monopoly
Outcompete	Network effect Scale faster Company culture

Defensible technological advantage

- IPR
  - Patent
  - Copyright
  - Trademark
- Defensible technological leadership
  - against well-funded competition
  - Niche Market share

Senior Team

US	*UK*	
Chair	**Chair**	**Senior figure; Old wise head** **Experience and contacts; Major dispute resolution; part-time**
CEO	**Managing Director**	**Finding money; Investor relations; Style setting; Keeping the peace**
CFO	**Finance Director**	**Accounts etc. Office management; Administration, Legals, Quality control**
CTO	**Technical Director**	**Inventing new things; development**
COO	**Production Director**	**Running the factory and distribution**
VP Marketing	**Marketing Director**	**Deciding what and how to sell; pricing Marcoms; Market information**
VP Sales	**Sales Director**	**Selling; CRM;**

Strong management team

- You can't do it all by yourself
  - "Small" project >10 person-year
  - Team building
  - 1:3:10 rule
- Alliances
- Recruit experience
  - Financial Director
  - Sales & Marketing
- Training & experience
  - Merchant bank/Management Consultancy
  - MBA

Believable Plans

- Business Plan
- Development Plan
- Marketing plan
  - Adverts, mail shots, web-sites
- Sales Plans
  - Distribution, Direct Sales
- Quality Plans
- Financial Projections
  - Budget
    - 60% IRR
      - Pay back financing in third year
  - Cash flow

Writing the Business Plan

Executive Summary and funding requirement

1. Concept
2. The Market
    - 3.1 Global market size and need
    - 3.2 Sustainability
    - 3.3 Competition
    - 3.4 Marketing plans
4. The Team
    - 4.1 CEO
    - 4.2 CTO
    - 4.3 CFO
    - 4.4 VP Sales and Marketing

Writing the Plan - 2

5. The technology and its IPR
6. Summary of plans
    - 6.1 Development plans
        - 6.1.1 Methodology
        - 6.1.2 Milestones
    - 6.2 Marketing
    - 6.3 Sales and distribution
    - 6.4 Quality and industry standards
7. Financials

Writing the Plan - 3

Appendices:

Financial model

Key staff

Letters of support

Correspondence re IPR

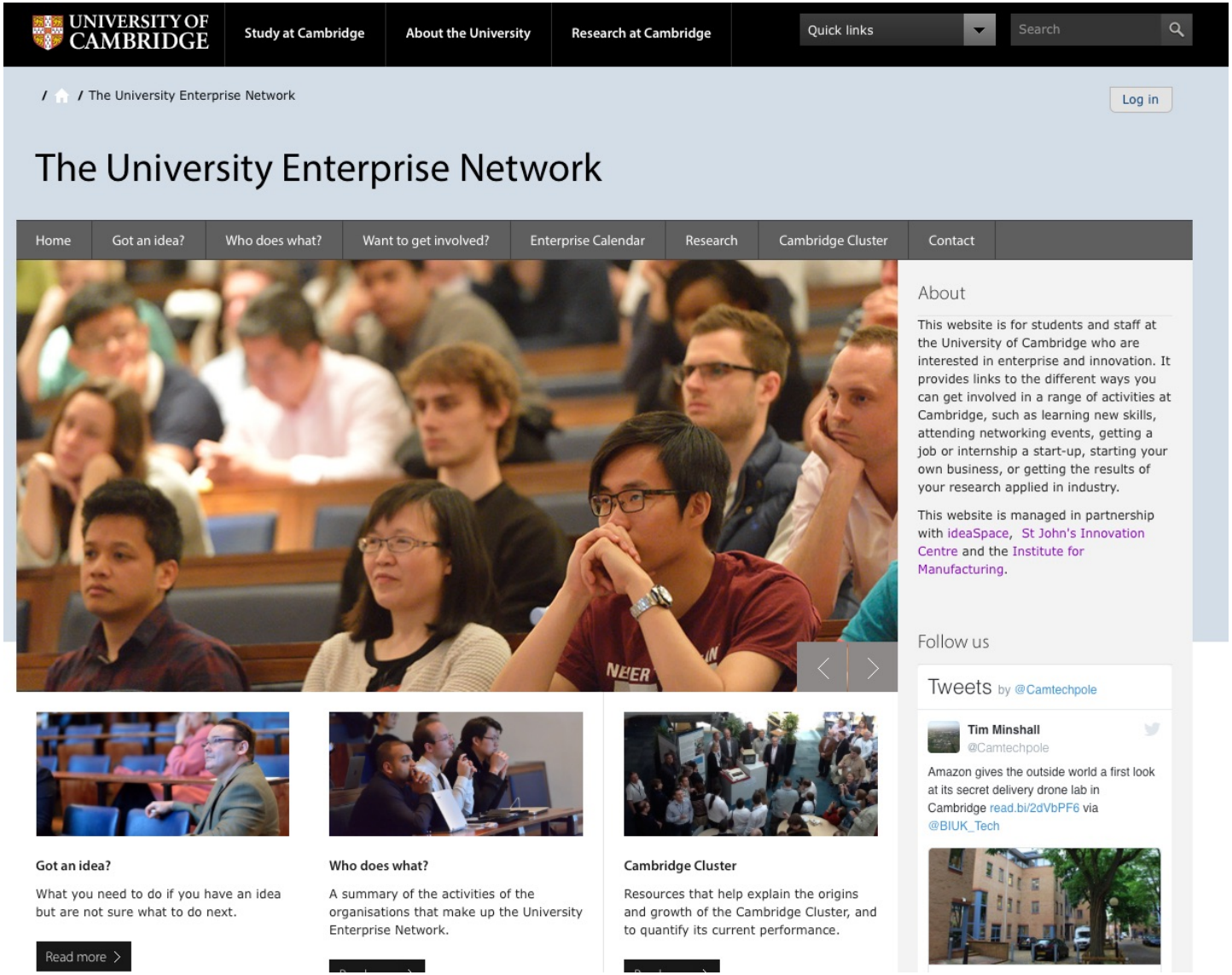
Full development plan

Full marketing and sales plan

Examples and brochures


CAN YOU GIVE ME SOME COMMENTS ON MY BUSINESS PLAN?
SURE.
www.dilbert.com scottadams@aol.com
YOUR PLAN IS A HODGE-PODGE OF UNWARRANTED OPTIMISM ENCASED IN AN IMPENETRABLE FORTRESS OF BUZZ-WORDS.
10-25-08 ©2008 Scott Adams, Inc./Dist. by UFS, Inc.
WOULD YOU LIKE TO READ IT?
THERE'S THAT UN-WARRANTED OPTIMISM AGAIN.

where do you want to fit in?



http://www.enterprisenetwork.group.cam.ac.uk

Business Studies

L2 - Money and Tools to Manage it

Jack Lang and Stewart McTavish

jal1 sam56

2. Money and Tools for it's management

- Introduction to accounting
  - Profit and Loss
  - Cash flow
  - Balance Sheet
  - Budgets
- Sources of finance
- Stocks, Shares, Futures and Options

Introduction to accounting

- Why have accounts?
  - Instruments on the dashboard of the company
  - To control, you must first measure
  - Statutory duty

  - DO THE BUDGET
  - COMPARE WITH REALITY

Legal requirements;

- Keep proper books of account
- Annual audit
- Solvency

Double entry

- TERMS “Debits and Credits”
  - Debit: to receive. Income Owed to the company
  - Credit: to give. Outgoings. Owed by the company
- Ledgers and balances
- Accountancy programs e.g. Sage, Xero

Date	Description	Amount	Date	Description	Amount
	DEBIT SIDE			CREDIT SIDE	

Vertical Format

Income
- Sales
- Interest
- TOTAL Income

Expenditure
- Cost of goods
- Salaries
- Overheads
- Marketing
- TOTAL Expenditure
- Profit

if you form a limited company

the business is not you and you are not the business

so your money is not the business's

and the business's money is not yours

Accounts

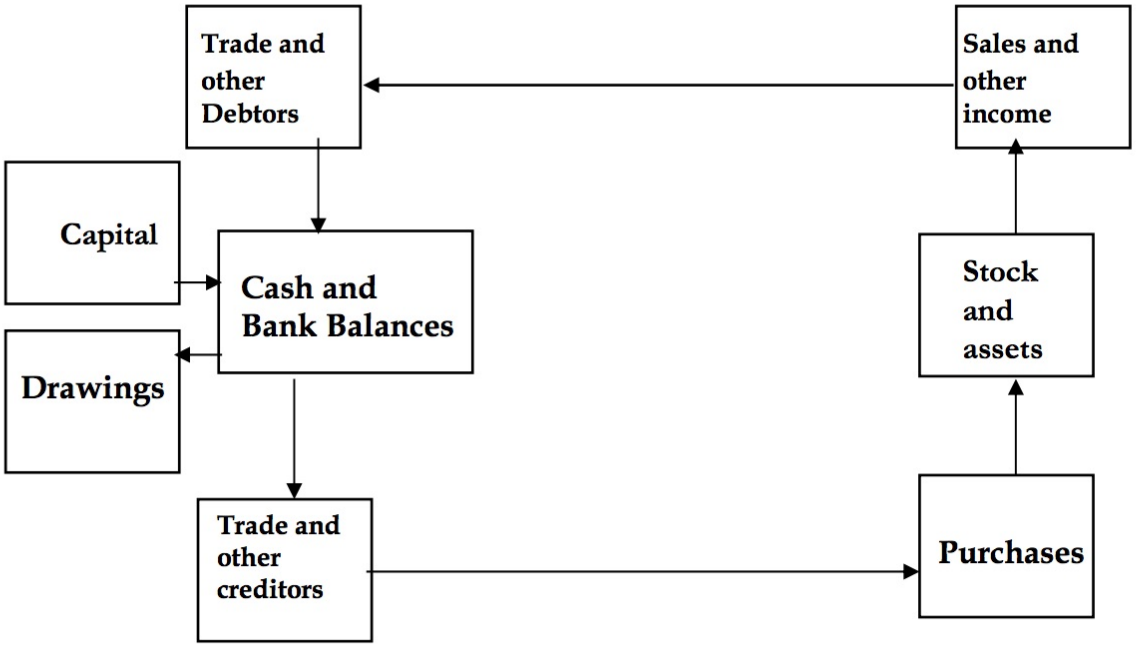
Profit & Loss Account

Debit	Credit
Cost of Goods Sold (all goods for resale minus any stock left at the time)	Sales (invoices raised etc)
Expenses (all the costs including wages)	
Profit (always a balancing figure)	

Balance Sheet

Debit	Credit
Fixed Assets (eg Computer, Car)	Creditors (people you owe money)
Debtors (people who owe you money)	Loans (banks you owe money)
Stock (goods for resale)	Capital (the money you put in)
Bank (assuming a positive balance)	Retained Profit (the profit made so far)

Interlinking of Accounts



Account Example 1

Open a bank account with £1,000 to start your business

- Debit: Bank £1,000
- Credit: Capital £1,000

Go to market and write a £600 cheque for some Mushrooms

- Debit: Stock £600
- Credit: Bank £600 [We could say Debit: Bank -£600 but instead we copy what real Accountants do with minus numbers and change Debit to Credit]

Quick check on the bank

- We put in £1,000 in and spend £600 leaves £400

In accounting speak Debit £1,000 then Credit £600 leaves Debit £400

Account Example 2

Door to door we sell half the Mushrooms for £700 which we pay into the bank

- Debit: Cost of Goods Sold £300 (half of £600)
- Credit: Stock £300 (reducing stock for what we sold)
- Debit: Bank £700
- Credit: Sales £700

We can do some accounts

Profit and Loss Account

Cost of Goods Sold	£	300	Sales	£	700
Profit (=balance)	£	400			
	£	700		£	700

Balance Sheet

Stock	£	300	Capital	£	1000
Bank	£	1100	Retained Profit	£	400
	£	1400		£	1400

Account Example 2

The mushrooms are looking old - We sell the remainder to a caterer for £350

- Debit: Cost of Goods Sold £300 (the remainder of the stock)
- Credit: Stock £300
- Debit: Bank £350
- Credit: Sales £350

We can do some accounts

Profit and Loss Account

Cost of Goods Sold	£	600	Sales	£	1050
Profit (=balance)	£	450			
	£	1050		£	1050

Balance Sheet

Stock	£	0	Capital	£	1000
Bank	£	1450	Retained Profit	£	450
	£	1450		£	1450

Principles of Accounting 1

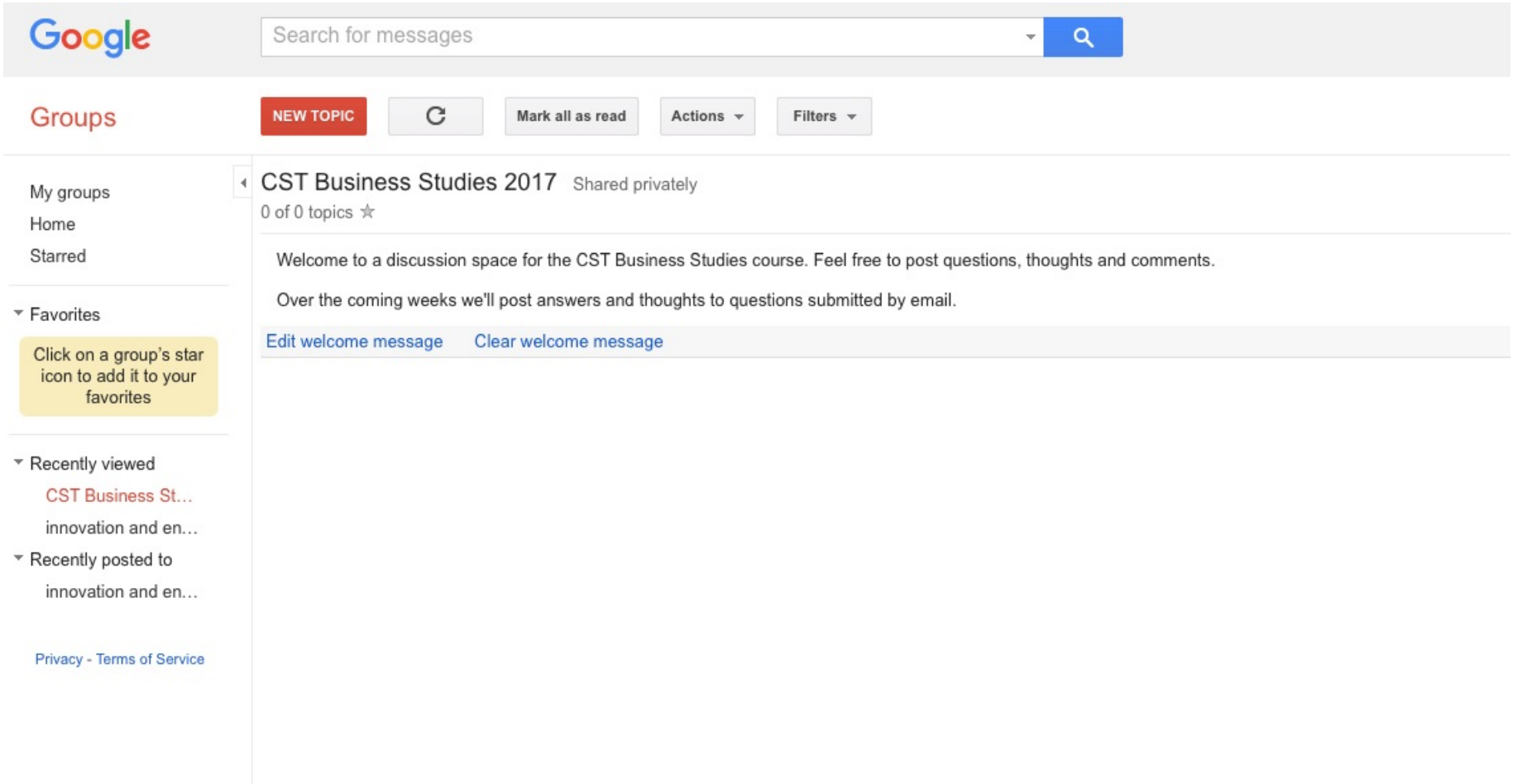
- Boundaries
  - Entity
  - Periodicity
  - Going concern
  - Quantative
- Ethics
  - Prudence - if in doubt, understate profts, overstate losses
  - Consistent - use the same rules thoughout
  - Objective - avoid personal preference
  - Relevance “True and fair”

Principles 2

- Measurement
  - Money
  - Consistent cost basis
  - Realisation
  - Consistent time basis
  - Double entry
  - Materiality

Example P&L Budget

Month	1	2	3	4	5	6	7	12	Total
Income									
	30,000		30,000			30,000		10,000	100,000
Expenditure									
Programmers	5,000	5,000	5,000	5,000	5,000	5,000			30,000
Overheads	5,000	5,000	5,000	5,000	5,000	5,000			30,000
Total Costs	10,000	10,000	10,000	10,000	10,000	10,000	0	0	60,000
Profit in the month	20,000	-10,000	20,000	-10,000	-10,000	20,000	0	10,000	40,000
Profit to date	20,000	10,000	30,000	20,000	10,000	30,000	30,000	40,000	40,000


Google
Search for messages
Groups
NEW TOPIC
Mark all as read
Actions
Filters
My groups
Home
Starred
Favorites
Click on a group's star icon to add it to your favorites
Recently viewed
CST Business St…
innovation and en…
Recently posted to
innovation and en…
Privacy - Terms of Service
CST Business Studies 2017
Shared privately
0 of 0 topics
Welcome to a discussion space for the CST Business Studies course. Feel free to post questions, thoughts and comments.
Over the coming weeks we'll post answers and thoughts to questions submitted by email.
Edit welcome message
Clear welcome message

Example P&L Budget

Month	1	2	3	4	5	6	7	12	Total
Income									
	30,000		30,000			30,000		10,000	100,000
Expenditure									
Programmers	5,000	5,000	5,000	5,000	5,000	5,000			30,000
Overheads	5,000	5,000	5,000	5,000	5,000	5,000			30,000
Total Costs	10,000	10,000	10,000	10,000	10,000	10,000	0	0	60,000
Profit in the month	20,000	-10,000	20,000	-10,000	-10,000	20,000	0	10,000	40,000
Profit to date	20,000	10,000	30,000	20,000	10,000	30,000	30,000	40,000	40,000

Example Cashflow

Month	1	2	3	4	5	6	7	8	12	Total
Income										
			30,000			30,000		30,000	10000	100,000
Expenditure										
Programmers	5,000	5,000	5,000	5,000	5,000	5,000				30,000
Overheads		5,000	5,000	5,000	5,000	5,000	5,000			30,000
Total Costs	5,000	10,000	10,000	10,000	10,000	10,000	5,000	0	0	60,000
Profit in the month	-5,000	-10,000	20,000	-10,000	-10,000	20,000	-5,000	30,000	10,000	40,000
Profit to date	-5,000	-15,000	5,000	-5,000	-15,000	5,000	0	30,000	40,000	40,000

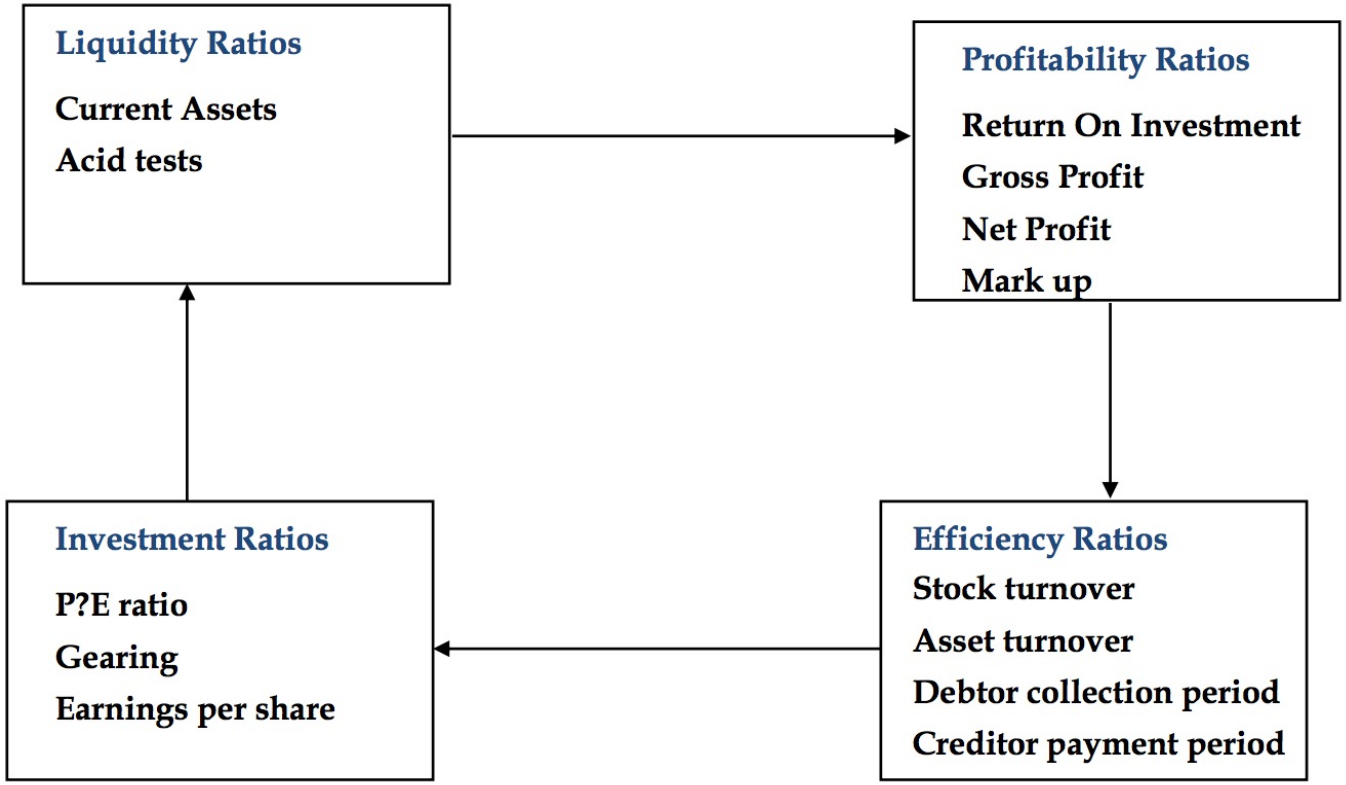
Revised Cashflow

Month	1	2	3	4	5	6	7	8	9	10	16	Total
Income												
			30,000				30,000			30000	10,000	100,000
Expenditure												
Programmers	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000				40,000
Overheads		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000			40,000
Total Costs	5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	5,000			80,000
Profit in the month	-5,000	-10,000	20,000	-10,000	-10,000	-10,000	20,000	-10,000	-5,000	30,000	10,000	20,000
Profit to date	-5,000	-15,000	5,000	-5,000	-15,000	-25,000	-5,000	-15,000	-20,000	10,000	20,000	20,000

Example Balance Sheet as at the beginning of Month 9

Fixed Assets					
Computers				10,000	
Furniture				3,000	
Current Assets					
Work-in-Progress		10,000			retainer, not yet invoiced
Trade Debtors		30,000			Amount invoiced, but not yet paid
Cash		0			Normally there would be some petty cash
Less: Current Liabilities					
Trade Creditors		5,000			
Bank Overdraft		15,000			
Net current assets				33,000	
Representing					
Proprietors Capital				13,000	The proprietor paid for the computers etc.
Plus: Accumulated Profit				20,000	

Tests


Liquidity Ratios
Current Assets
Acid tests
Profitability Ratios
Return On Investment
Gross Profit
Net Profit
Mark up
Investment Ratios
P?E ratio
Gearing
Earnings per share
Efficiency Ratios
Stock turnover
Asset turnover
Debtor collection period
Creditor payment period

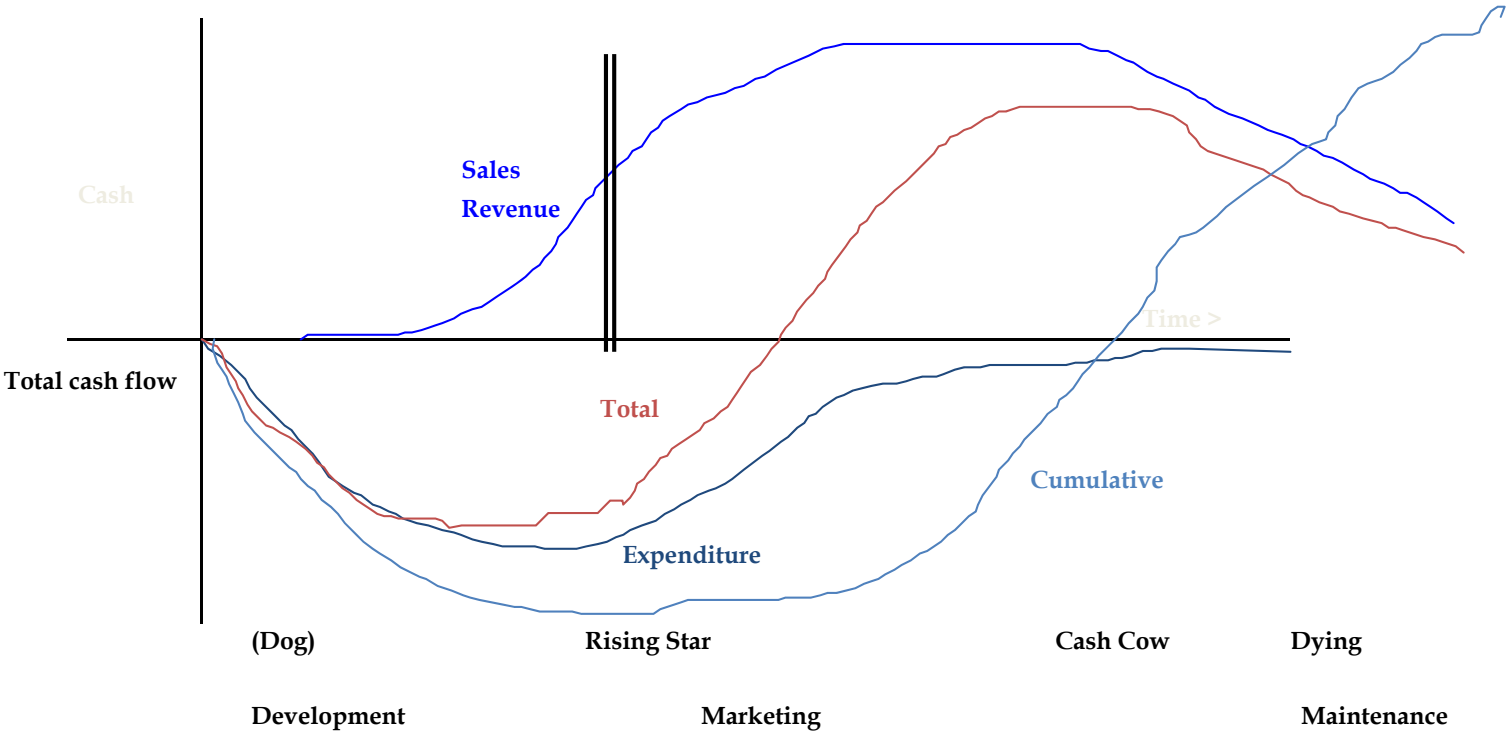
Ratios

- Current ratio
  - Current Assets / Current Liabilities
    - Measures liquidity
    - < 1 indicates potential cash flow problems
- Acid test (Quick Health check)
  - (Current Assets-Stocks) / Current liabilities
    - Stocks may not be able to be sold quickly
    - Similar to Current Ratio, but shorter term
- Gearing
  - Net Borrowings / Shareholders' Funds
    - Reliance on borrowings
    - Vulnerability to interest rate rises
- Return on Investment
  - Profit before Tax / Shareholders Funds
    - Efficiency - 40% for sustainable high growth

Budgeting

- Assumptions
  - "Pessimistic realism"
  - Tell the truth - know the worst
- Sensitivity analysis
- Comparison with actual
- Update!!

Product stages



Debt and Equity

- Debt
  - Loan
    - Credit card, Overdraft, Mortgage, Student Loan, Debenture, Bond etc
    - Interest rates, term, conditions, collateral
    - Repay the same amount regardless performance
- Equity
  - Share of the company
  - Return depends on the performance of the company
    - Can be expensive money
    - Can be valueless if the company folds
    - Only valuable on an exit (sale, IPO etc)
      - Preference shares may have other conditions such as liquidation ratios attached
- Convertible Debentures
- Redeemable Preference Shares

How much will I need?

- DO THE BUDGET
- Working assumption no income for 1st year
  - One man band, working from home £100,000
  - 5 people, office etc £1M
  - 20 people, small factory £5M

  - Game, software package $5M
  - New complex chip $100M

https://www.slideshare.net/msuster/upfront-vc-analysis-2016/17-17Winter_isComingmessagereceived_byportfoliocompanies

Michael Beckwith, Sequoia Capital

OUR TAKE

MANAGE WHAT YOU CAN CONTROL
- SPENDING
- GROWTH ASSUMPTIONS
- EARNINGS ASSUMPTIONS

FOCUS ON QUALITY

LOWER RISK

REDUCE DEBT

Early revenue

Low hanging fruit, Quick wins

Cash flow positive first, expansion later

Lightweight Companies

- Many computer companies need little capital to start
  - Virtual office
  - Spare time or labour for shares
  - Advanced payment from customers
    - Development clubs, Government/EU grants
    - Crowd funding

- Fail early, Fail often
  - Find the market

Sources of finance

- Family and friends £50K
  - Banks
    - Security
- Angels £500K
- Venture Capitalists £5M
  - VCA
  - VCB $25M
  - Mezzanine
- Stock Market floatation $250M
  - Acquisition
  - Exit

FAIRY GODMOTHERS ARE NOW EXTINCT!

Why stages?

- Risk/Reward profile differ
- Successive dilution
- Typically 30% dilution each stage
  - Investment = pre-money valuation/2
  - “Squeeze the Angels”

Round	Investment	Pre-money	Post-money	Founders	FFF	Angel	VCA	VCB
				and staff options				
FFF	50	100	150	67%	33%			
Angels	500	1000	1500	44%	22%	33%		
VCA	5000	10000	15000	30%	15%	22%	33%	
VCB	10000	20000	30000	20%	10%	15%	22%	33%
Total	15650							
Exit	100000			20000	10000	15000	22000	33000
All	15550	100		0.64%				

UK Company types

- Sole Trader
- Partnership
- Private company
- Limited Private Company (Ltd)
- Public limited company (plc)
- Listed company
- Special cases (e.g. Trusts, Societies)

Stocks and Shares

- Shares
  - Ordinary and preference
  - Voting and dividend rights
  - Critical amounts (for normal Table A companies)
    - 25+% Blocks “Substantive” resolutions
    - 50+% Day-to-day control
    - 75+% Total control
    - Other trigger points for public companies
  - Other rights and Coupons
  - Directors accountable to shareholders

Buying and Selling Shares

- Illegal to advertise unless a member of an SRO (e.g Broker),
- Private company usually requires Board approval
  - Stamp Duty 0.5%
- Public company:
  - Primary market: Floatation
  - Shares traded on a public exchange
    - Listing: admitted to the Official List (UK: LSE)
  - Secondary market
    - Settlement
    - Illegal to use or divulge inside knowledge
  - Bull market: upward trend
  - Bear market: downward trend
- Capital Gains Tax

Options and Futures

- Contracts to buy or sell at a fixed price at some future date
  - Typically 10%
  - Futures: Must complete as specified
  - Options: Completion optional
    - Option and future contracts can be traded
- Gambling - leave it to the professionals
  - Spread-betting www.igindex.com
- Markets are largely stochastic - no system
  - Frauds:
    - Ponzi
    - Boiler room

Fraud?

Cambs firm slated over share hike

BAD PRESS has hit Cambridgeshire varicose veins firm DioMed.

The company, which is listed on the U.S. Nasdaq exchange, has become a target for the *New York Post*.

The paper claims the company, originally a spin-out from Generics Group at Harston, is enjoying an unwarranted hike in its share price following the efforts of a stock promoter who has a large holding stashed away in the Cayman Islands.

"DioMed is exactly the sort of stock that should send any normal person fleeing the room at the mere mention of its name: suspect auditor (Andersen in the U.S.), offshore accounts, weird product, teeny-weeny revenues, board members with back stories -- this stock's got it all, the complete package," the New York Post says.

DioMed's share price has risen more than 200 per cent to $7 this year, the greatest gain of any listed stock on Wall Street in this period.

CEN 27th Mar 2002

Hewlett-Packard agrees deal to buy Autonomy for £7.1bn

19 August 2011 | Business

Share

Hewlett-Packard is to buy UK software firm Autonomy for £7.1bn ($11.7bn).

The offer, which has been accepted by Autonomy's board, is 64% above the firm's market value.

It came as the US company announced a massive strategic shake-up, involving stopping making hardware in order to refocus on software.

Shares in HP spiked as rumours of the various news - **now confirmed by HP** - broke, but the firm eventually ended the day down 7.6%.

That came on top of a 3.9% fall on Tuesday that was prompted by a warning from rival Dell that it expected demand in the US market to weaken in the coming months.

'Positive for UK'

Autonomy was set up by researchers at Cambridge University and specialises in pattern-recognition technologies.

Founder Mike Lynch, whose 8.2% stake could be worth several hundred million dollars, has pledged to vote for the deal, told the BBC: "HP understands the special culture we have. This is about building Autonomy. It will be a positive thing for Cambridge and the UK."

HP will pay 2,550 pence per share, compared with a closing price in London on Wednesday of 1,558p.

The implied valuation of the company is equivalent to 47 times the pre-tax profits earned by Autonomy in the 12 months to June this year.

Hewlett-Packard unveils details of $5bn Autonomy fraud case

US firm claims Mike Lynch inflated revenues by $700m, but Autonomy founder says HP has failed to produce 'smoking gun'

Of particular interest to Hewlett-Packard are 37 deals with small IT contractors that bought Autonomy's software. Photograph: Jim Young/Reuters

Hewlett-Packard has unveiled full details of its $5bn (£3.3bn) fraud case against the founder of the UK software company Autonomy, claiming that Mike Lynch inflated the revenues of his business by about $700m over a two-and-a-half-year period.

HP, which bought Autonomy in 2011 for $11bn, has filed a claim against Lynch and his finance director, Sushovan Hussain, in the high court in London, alleging

https://www.theguardian.com/business/2015/may/05/hewlett-packard-unveils-details-of-5bn-autonomy-case

Autonomy founder Mike Lynch sues HP for $160m over fraud claims

HP has accused Mike Lynch and Autonomy's chief financial officer of accounting fraud that forced it to write down the value of the deal by $8.8bn

HP accused Dr Lynch and the British software company's chief financial officer, Sushovan Hussain, of accounting fraud Photo: Reuters

By Christopher Williams, in San Francisco
9:17PM BST 01 Oct 2015

Mike Lynch, the founder of Autonomy, has sued Hewlett-Packard for more than $160m over the allegations of massive fraud it has levelled against him.

He challenged Meg Whitman, the Silicon Valley giant's chief executive, to a High Court showdown over the disastrous takeover of the FTSE 100 software company.

In his counterpunch to HP's own $5.1bn damages claim, Dr Lynch accused

http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/electronics/11905834/Autonomy-founder-Mike-Lynch-sues-HP-for-160m-over-fraud-claims.html

Crowd Funding

- Preselling
  - Street Performer
  - Need a prototype or good mockup
- Kickstarter, Indiegogo
  - https://www.kickstarter.com/
  - https://www.indiegogo.com/
- Up to £1m
  - Elite Dangerous https://www.kickstarter.com/projects/1461411552/elite-dangerous

How much is it worth?

- Market value
  - What someone will pay
  - Comparisons
- Utility value
  - Customers, lock in, staff, technology
  - Cost to reproduce
- Asset Value
  - Often small for startups
    - Not what it cost
  - IPR
- NPV
  - Net present value of future profit
  - EBITDA
- DCF
  - Discounted cash flow – maybe easier to estimate
- Statistical models
  - Black – Scholes

Business Studies

L3 - Legal Aspects, Contracts and Copyright

Jack Lang and Stewart McTavish

Disclaimer

ftaod tinla

jinal

sinal

twasnl

wdeptoti

flaaal

bhtswhraaaspliiyf

3. Setting up: Legal aspects

Setting up: Company Formation

Brief introduction to business law; duties of Directors

Shares, stock options, profit share schemes and the like

IPR

Company formation

Legal entity

Purchase
- Solicitor
- Agent (website)
- Mem and Arts; Objectives; Share conditions

Company books
- Minute book: initial resolutions
- Appointment of Bank, Auditors, insurance
- Employee handbook

Company formation 2

Register company, directors and shareholders

Register for tax

Register as employer

Find a pension provider

Register with ICO

Details

Premises

Phone and internet

Letterhead (with company number)

Accounts and accounting system

Purchasing system; Contracts

Asset control

More details

Insurance

Recruitment

Furniture

Equipment

Planning

Budget
- Keep track of your resources

Project Plan
- What are you going to do and when

Quality Plan
- how are you going to know you've built the right thing

Marketing Plan
- how are you going to reach your market and enable them to reach you

Brief introduction to the duties of Directors

Ensure solvency
Maintain fiduciary duty to shareholders
Ensure the business complies with all applicable laws

- Companies Acts
- Financial Services Act
- Shops Offices and Premises Act
- Discrimination Acts
- Data Protection Act
- Taxes: VAT, ACT ….
- Etc, etc, etc

There are books and courses available - IoD

Brief introduction to the duties of Directors

Companies Act 2006 - codified seven duties

- Act within their power to abide by M&A and Shareholder Decisions
- Promote the success of the company
- To exercise independent judgement
- Exercise reasonable care and skill
- Avoid conflicts of interest
- Not to accept benefits from third parties
- Declare an interest in a proposed transaction with the company

Shares and share structure

Shares govern ownership of the company:

- Distribution of control
- Distribution of capita
- Distribution of profits (dividend)

Shareholders agreements

- Pre-emption rights
- Tag-along / Drag-along and anti-dilution clauses
- Appointment of Directors

Preference Shares

- Liquidation ration

Taxation issues

- EIS relief

Control

Normal limited company under Table A of Companies Act 1985 if incorporated before 1 Oct 2009 afterwards Companies Act 2006 Model Articles

- 25%+ Blocks “Substantive” resolutions
- 50%+ Day to day control
- 75%+ Absolute control - but must respect the rights of minority shareholders

Stock option scheme

Agreement to sell shares at fixed price
- Part of renumeration package
- Recruit and motivate key staff

Relevant for high growth companies
- In a large company problem to make scheme relevant to work done
- Exit route

Balance advantages to company and staff
- Nominal (par) price
- 4 year monthly accrual; 1 year cliff
- Lock in as employee

Tax implications

Other remunerations

Profit share

Commissions (paid when?)

Pension scheme

Car (bike hire purchase scheme)

Discretionary budgets, sabbatical and training programmes

IPR

Intellectual Property Rights

Patent
Copyright
Trademark
URL
Design right
Registered Design
Database right
Trade Secret
Plant Breeders rights

Patents

Absolute right to invention

Bern convention

Expensive: need professional advise
- separate jurisdiction

Must be
Novel
Reducible to hardware

Provisional Patent:
low cost
one-year
can be challenged

Undesirability of Patents

Expense
- £3k first application
- £10k grant
- £100k international filings
- £1m to defend

Network effect
- Bio vs tech
- Utility increases with square of users
- Standard

Timescale
- Moore's law

Untimely Publication

Undesirability of Patents cont.

Hard to administer

Typically
- tech has many weak patents
- ways around invention
- Bio-tech has strong patents

Conclusions
- Usually defensive rather than offensive for tech
- Be very selective
- Handy for bean counters (and investors), but can suppress innovation

Trademarks

Right to exclusive use of name or mark

- register by classes of goods
- local jurisdiction
- in USA use must be shown

Company name does not imply trademark

Copyright

Copying prohibited
- but not re-invention
  - “clean-room” clones
- Techniques: include nonsense signatures

Self-declarative
- Copyright <year> <author>
- library rights
- include statement of rights (e.g. backup)

FAST

Internet and Copyright

Overextension of Copyright
- 70 years from death of Author
- DRM etc

“Fair Use” text only
- “Deep linking” other than through main page
  - probably ok but
    - Germany Paperboy case
    - US: Ticketmaster vs Microsoft
    - UK: Shetland Times vs Shetland Chronicle in the UK

- “Direct Linking” eg directly linking in another’s picture without permission NOT OK

- Search Engines
  - Still ongoing

Internet Issues

Legality of Encryption

Signatures and contracts
- Jurisdiction
- Audit trails
- Liability

Domain names

“Fair use” and copies

Contracts

Complex law
- exchange of value
- fairness

Signatures
- Problem for Internet

- TTP's, CA's
  - Trust and Liability

- Signifying assent
  - But can you prove it?
    - Audit trails

Contracts … cont

Making the contracts you want to make, and avoiding the commitments you don't want to accept

Mechanics

- Offer and acceptance
  - Offers to treat
  - Writing and signature

- Incorporating terms
  - Standards (Consumer Rights Act 2015, previously Sale of Goods Act 1979 and Supply of Goods and Services Act 1982)
  - Implied Terms (Unfair Contract Terms Act 1977, Unfair Terms in Consumer Contracts Regs 1999)

One world?

- Applicable law
- Place of litigation
- Enforcement of foreign judgements
- Arbitration

Tort

Avoiding infringements of the rights of others, and giving adequate notice to others of your rights that you may want to enforce

Defamation - Derogatory statements you cannot prove true, or linking to others' statements

Negligence - Careless advice causing injury or (sometimes) loss

Copyright - making derivative work, publishing others work

Trademarks - taking others reputation, domain names, metatags, inlining, marking

Patents - novel non-obvious inventions, scope differences US/UK/EU

Tort

Complying with regulations, so as to avoid penalties, so that your rights are enforceable

Consumer Contracts Regulations 2014

- Consumer Protection (Distance Selling) Regulations 2000 for contracts up to 12 June 2014
- Detailed rules on content of “selling” webpages

Data Protection Act 1998

- ICO, need to register, “fairness” may require opt out

Consumer Credit Act 1974

- Amended by Consumer Credit Act 2006
- Formalities for credit agreements, cooling off period
- Financial protections for cardholders

Special cases

- share dealing, insurance, banking, gambling, prescription drugs, pornography, tobacco, alcohol, fireworks, guns, etc.
- Radtio Spectrum Consumer protection (CE), HSE …
- Value Added Tax (especially import and export)

Business Studies
L4 - People: how to organise a team

Jack Lang and Stewart McTavish
jal1 sam56

4. People

“There go my people. I must follow them, for I am their leader.”
(M. Gandhi, quoting Alexdre Ledru-Rollin, (1848)
“Eh! Je suis leur chef, il fallait bien les suivre”)

Motivating factors
Groups and Teams
Ego
Hiring and firing; Employment law
Interviews
Meeting techniques

Management

Culture lead

Goal setting
- Overall direction
- Measures of success
- Strategy rather than tactics

Accountability

Communication

Management Theories

“7 people is a hunting group”

- Amazon’s two pizza rule
- Company growth break points: 7, ~50, ~350 …

Classical / Hierarchical

Human Relations

Classical

Formal and rational approach

Focus on STRUCTURE of organisation

Tasks reduced to simple elements -> boring and repetitive

Assumptions that individuals primarily motivated by PAY

Management Tasks - Classical model

Fayolism - Henri Fayol (1841-1925)

General Theory of Business Administration

- Planning
- Organisation
- Staffing
- Direction
- Co-ordination
- Controlling

https://en.wikipedia.org/wiki/Henri_Fayol

Management Tasks - Classical model

Fredrick Winslow Taylor (1856-1915)

Principles of Scientific Management

- Replace rule of thumb work methods with methods based on scientific study
- Select, train and develop each employee rather than letting them train themselves
- Provide “detailed instruction and supervision”
- Divide work between planning and doing

https://en.wikipedia.org/wiki/Frederick_Winslow_Taylor

Management Tasks - Classical model

Lilian (1878-1972) and Frank Gilbreth (1868-1924)

Time and motion study and human factors

- Clipboards and stopwatches
- Reducing actions to atomic parts - “therbligs”
- Find “the best way” early CQI

https://en.wikipedia.org/wiki/Lillian_Moller_Gilbreth

https://en.wikipedia.org/wiki/Frank_Bunker_Gilbreth_Sr.

Management Tasks - Classical model

Henry Gantt (1861-1919)

- The Gantt chart
- Task and Bonus system
- Social responsibility of business

https://en.wikipedia.org/wiki/Henry_Gantt

Human Relations

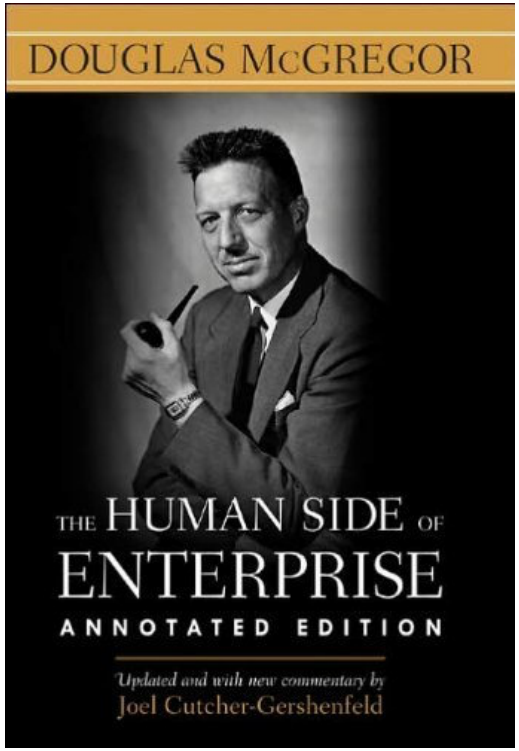
Consider individuals

- social needs
- motivation
- behaviour

Focus on WORK done

People are the key assett

Theory X and Theory Y



Douglas McGregor (1906-1964)

Theory X
Authority, direction and control

Theory Y
Integration and self-control

https://en.wikipedia.org/wiki/Douglas_McGregor

Theory X

People don’t want to work, they have to be made to do so

People must be coerced, controlled, threatened

Hierarchical structure, defined roles, task orientated, little flexibility

Poor communication, status demarcations - “Them and us”

Slow to change or adapt

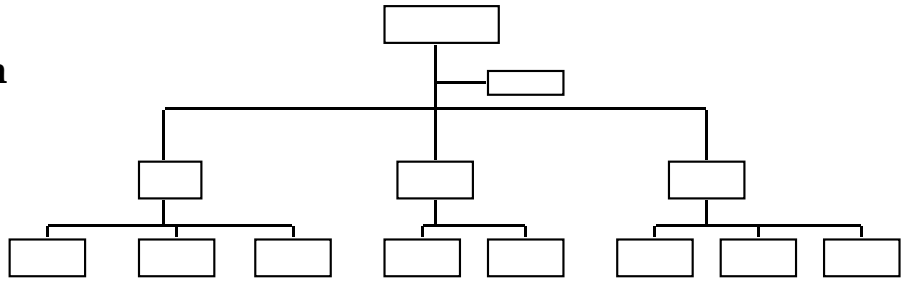
Traditional industries

Theory Y

People want to work, but are prevented from doing so
They will exercise self-control when committed to common objectives
Accept and seek responsibility
Flat management structure (e.g. Matrix)
Good communications, little status
People orientated: flexible work teams
Adapts well to rapid change
Most modern computer companies

Management Structures

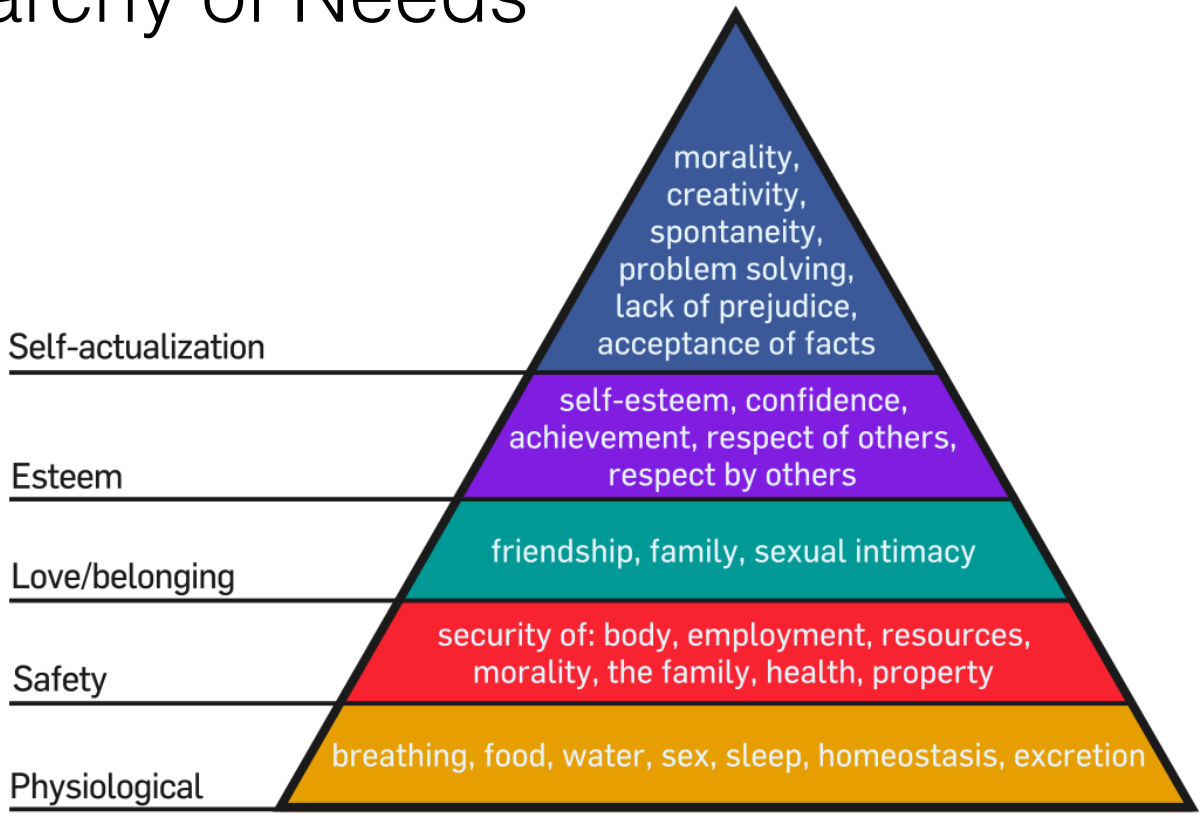
Hierarchical Organogram



Matrix example

Project -> People/Skill	Home Group	1	2	3	4
Alice	A	L (75%)		25%	
Bob	B		L (75%)		25%
Charlie	B	50%	50%		
Dave	A		25%		L (75%)
Elizabeth	A	25%			75%
Fred	B			L (75%)	

Hierarchy of Needs



https://en.wikipedia.org/wiki/Abraham_Maslow

Groups and Teams

Limit to project size an individual can tackle

“7 people is a natural hunting group”

Informal as well as formal communications

Groups

John Adair (1934), Trinity Hall ‘59

Groups have
- definable membership
- shared identity
- shared purpose
- interdependence
- interaction

https://en.wikipedia.org/wiki/John_Adair_(author)

Work Types

Meredith Belbin (1926), Clare College ‘45

Team roles
- Co-ordinator
- Ideas Person
- Shaper
- Teamworker
- Implementor
- Resource Investigator
- Monitor Evaluator
- Completer Finisher
- Specialist

https://en.wikipedia.org/wiki/Meredith_Belbin

Team formation

Bruce Tuckman (1938-2016)

Forming
before individuals see themselves as a team, feels difficult, anxious, unsure

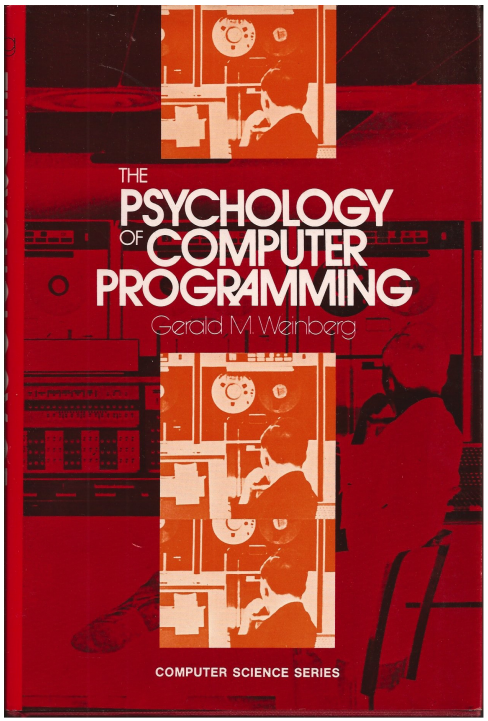
Storming
challenge the leader, hostility aggression, emotions high

Norming
organise tasks, agreeing ways of co-operating, feels secure and comfortable

Performing
work surges ahead, people perform well, openness, mutual trust and support
enthusiasm, inspiration

https://en.wikipedia.org/wiki/Bruce_Tuckman

Egoless Programming / Work



Gerald Weinberg (1933)

The Psychology of Computer Programming - 1971

Structure work and create a culture to minimise personal factors so quality of work can be improved

Open communication allows information to flow
Feedback is objective and not personal
Asking for help is good and to be encouraged

https://en.wikipedia.org/wiki/Gerald_Weinberg

Networking and Corporate Communications

Robin Dunbar (1947),

Professor of Evolutionary Pyschology, University of Oxford

Dunbar's number 100 - 250 (~150) the number of relationships in which an individual knows who each person is and how each person relates to every other person

Teams do not exist in a vacuum they depend on help and co-operation with other teams

If they do not network with, learn about or connect with other teams companies fall foul of
intergroup hostility, inward thinking, NIH syndrome

https://en.wikipedia.org/wiki/Robin_Dunbar

Having employees

About us

- **Effective relationships and good practice in the workplace help organisations succeed and the economy grow.**
- **Acas provides expert and impartial advice on good practice, and support in finding solutions when relationships go wrong.**
- **For every £1 Acas spends, there is at least £12 benefit to the economy.**

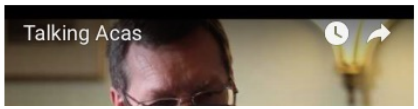
Acas (Advisory, Conciliation and Arbitration Service) provides free and impartial information and advice to employers and employees on all aspects of workplace relations and employment law. We support good relationships between employers and employees which underpin business success. But when things go wrong we help by providing conciliation to resolve workplace problems.

We also provide good value, high quality training and tailored advice to employers. Our expertise is based on millions of contacts with employers and employees each year and we are governed by an **independent Council**, including representatives of employer and employee organisations and employment experts.

Do you know Acas?

Watch our video to find out who we are and what we do.

Listen to our customers and stakeholders.



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acas Help & advice for employers and employees

Search this site Search

Download and share free Acas guidance publications

- Advice A-Z
- Rights and responsibilities at work
- Good practice at work
- Disputes and problems at work
- Early Conciliation
- Contact us

Gender pay reporting

View Acas guidance for employers on best practice and upcoming changes to regulations.

What we do

We provide information, advice, training, conciliation and other services for employers and employees to help prevent or resolve workplace problems.

- About us
- Regional offices
- Help resolving disputes
- Case studies

Training courses

Acas training for managers, line managers, supervisors and HR professionals in workplace relations can boost an organisation's productivity and profitability, increase motivation levels and ensure less conflict arises in the workplace.

Find a course ▸▸

Helpline Online ▸▸

Ask a question online: our automated Helpline Online tool provides answers to popular employment relations questions.

Research and discussion

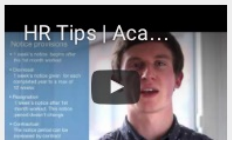
Research papers ▸▸

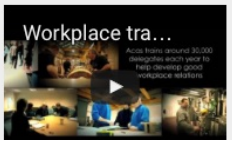
Read our latest series of **research** and **policy** papers, or get involved with our **latest blog**.

Tools for your business

Useful letters and forms ▸▸

Free templates employers can download, helping to save time and get it right when hiring, managing or disciplining staff.





News

RSS | Media Centre ▸▸

Twitter Feed

Acas @acasorguk

Here's 5 myths about disability in the workplace. Read more about this in our #disability guidance: bit.ly/20qhwPK #EqualityAtWork

Hiring and firing

Employment contract / Statement

- Hours and holiday
- Remuneration
- Grievance procedure

Letting people go

- Firing - 2 verbal, 2 written warnings - keep written records
- Redundancy
- or Settlement Agreements

Non-discrimination

Equalities Act 2010 - protected characteristics

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership
- Pregnancy and maternity
- Race
- Religion and belief
- Gender
- Sexual orientation

Recruitment

Job Spec / Role Description
- responsibilities
- work
- personal characteristics

Personal contacts

Referrals

Advertisements

Agencies (head hunters)

Interviews

Recruitment and Appraisal

Why

- Learn more about person
- Compare with job spec
- Provide further information about organisation and role
- Encourage positive feeling about organisation and role

Preparation

- Who needs to know or be present?
- Who greets, refreshments, room, seating
- Questions and outline
- Report form
- Circulate papers

Conducting Interviews

Problems

- Pre-conceived ideas
- Only remembering last candidate
- Eye conduct
- Projection
- Leading questions

Discussion

- Create rapport - smile
- Summarise / reflect
- Listen - don’t talk
- Tone
- Body language

Interviews

Questions

- Speed / pace
- Open /closed
- Situational
- Probing
- Stress - why?

Close

- Check plan - covered everything?
- Any questions?
- Explain next stage
- Check still interested

Conducting Interviews

Make the decision

- Skills
- Personal qualities
- Best compared to rest
- CVs, check references, unexplained gaps, unusually short jobs

Follow-up

- Offer
- Contract
- Induction

Appraisals

Purpose

- Enable team members to get a clear idea of how they are doing
- Identify where they might need support / training
- Set objectives
- Personal career / growth

Form

- Date, Name, Job title, Assessor
- Self assessment
- Assessor or line management assessment
- Key objectives
- Development plan
- Actions - jointly agreed
- Follow up

Interview

Opportunity to sell yourself

Opportunity to learn about the company, the role and future prospects

Be yourself

Enthusiasm, achievements

Questions - do your homework and have some

Communication skills

Say it three times

Not more than three major points

What does the target audience know?

Say what you mean and mean what you say

Business Studies
L5 - Project planning and management

Jack Lang and Stewart McTavish

jal1 sam56

5. Project planning and management

Role of a manager

Charts and Critical Path Analysis

Estimation Techniques

Monitoring

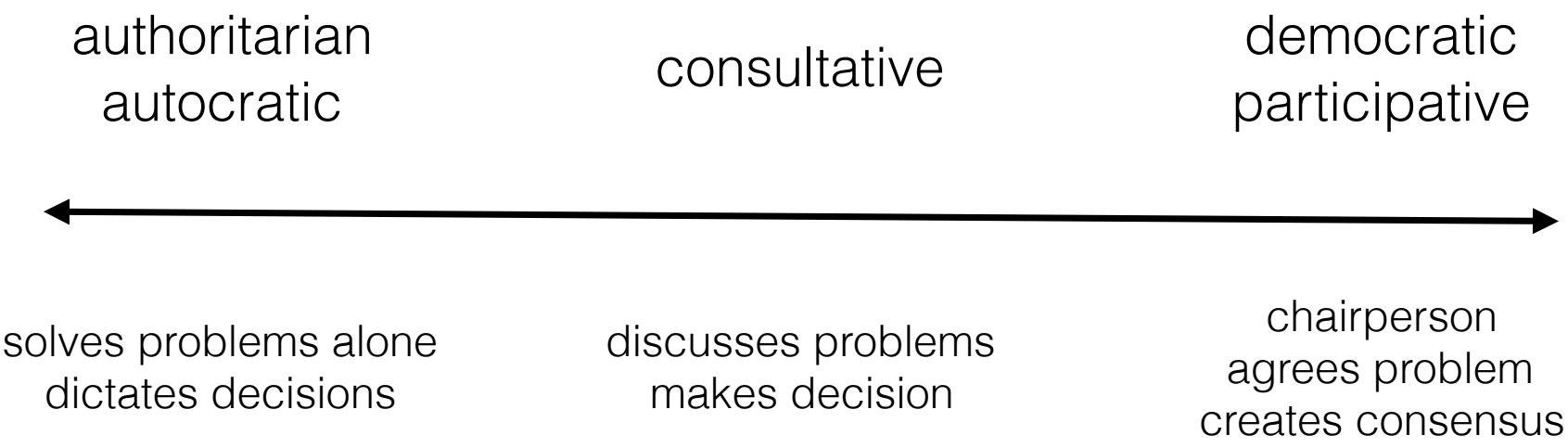
Role of a manager

Directs resources for the achievement of goals

LEADER also provides
- vision
- inspiration
- rises above the usual

No one right way to manage

Management Continuum



Managerial Roles

Henry Mintzberg (1939)

Interpersonal

Figurehead, leader, lisaison

Informational Roles

Monitor, disseminator, spokesperson

Decisional Roles

entrepreneur, resource allocator, disturbance allocator, negotiator

https://en.wikipedia.org/wiki/Henry_Mintzberg

Managerial and Leadership Qualities

Technical / Professional knowledge
Organisational know-how
Ability to grasp situations
Ability to make decisions
Ability to manage change
Creative
Mental flexibility
Learns from experience
Pro-active
Moral courage
Resilience
Social Skills
Self Knowledge

Project Management Variable

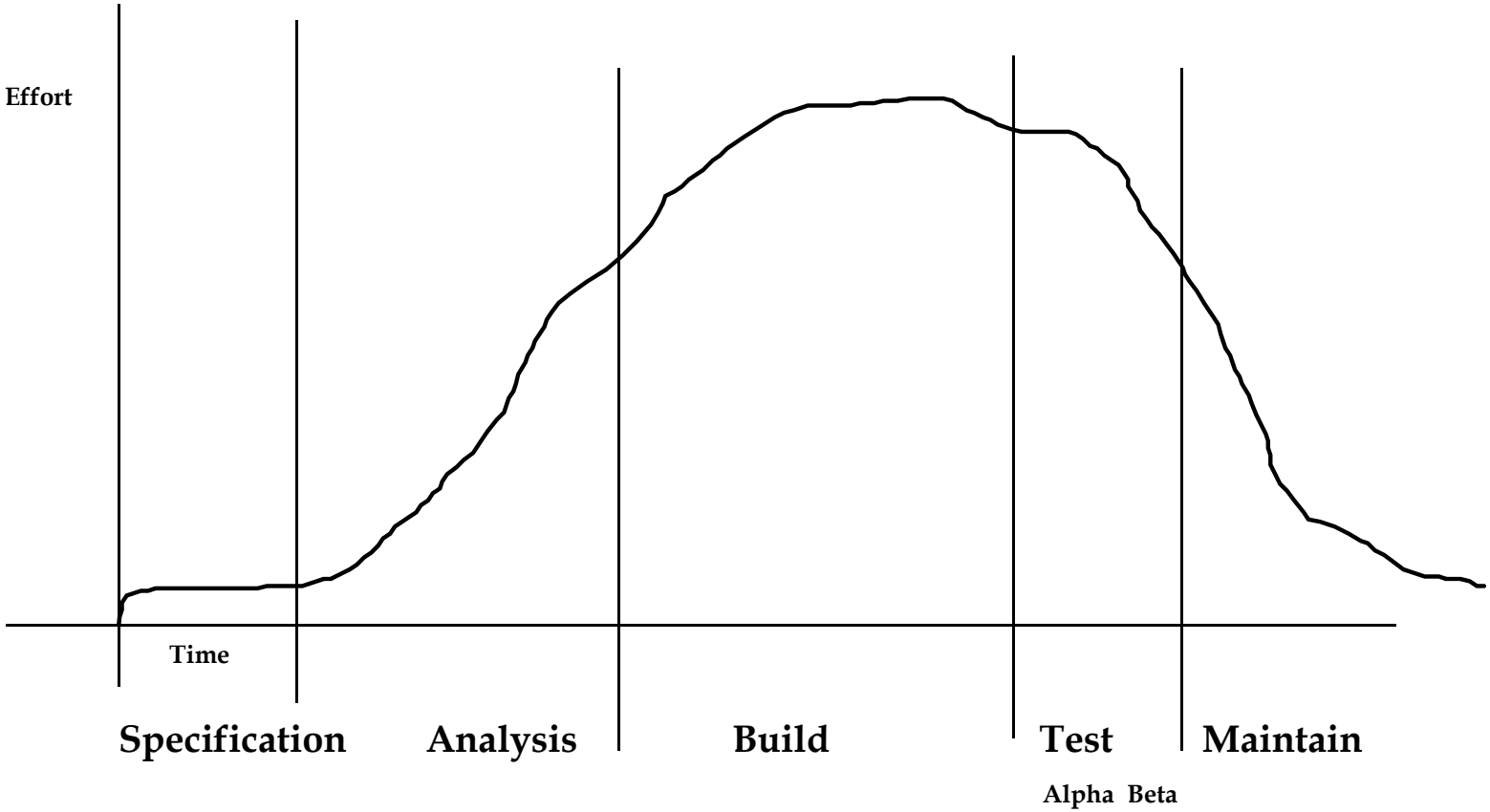
Resource

Time

Function

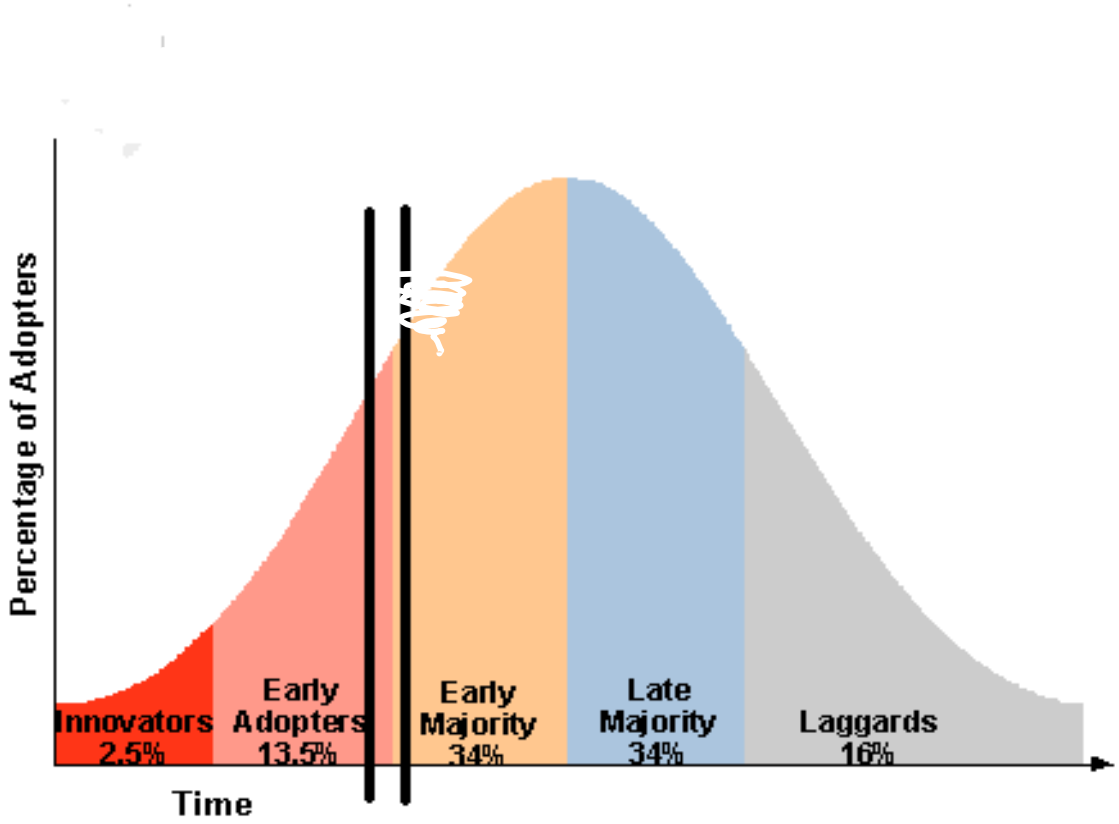
You can have any two of quick, good or cheap, but not all three.

Development cycle:



Crossing the Chasm

- Geoffrey Moore, after Everett Rogers



Approaches and methodologies

Top Down
- waterfall decomposition

Bottom Up
- meta machine

Rapid Prototype
- successive refinement
- agile engineering

Muddle through

In February 2001, 17 software developers met at the Snowbird resort in Utah to discuss lightweight development methods. They published the *Manifesto for Agile Software Development*, in which they said,

Agile explosion

https://en.wikipedia.org/wiki/Agile_software_development

Popular agile software development frameworks include

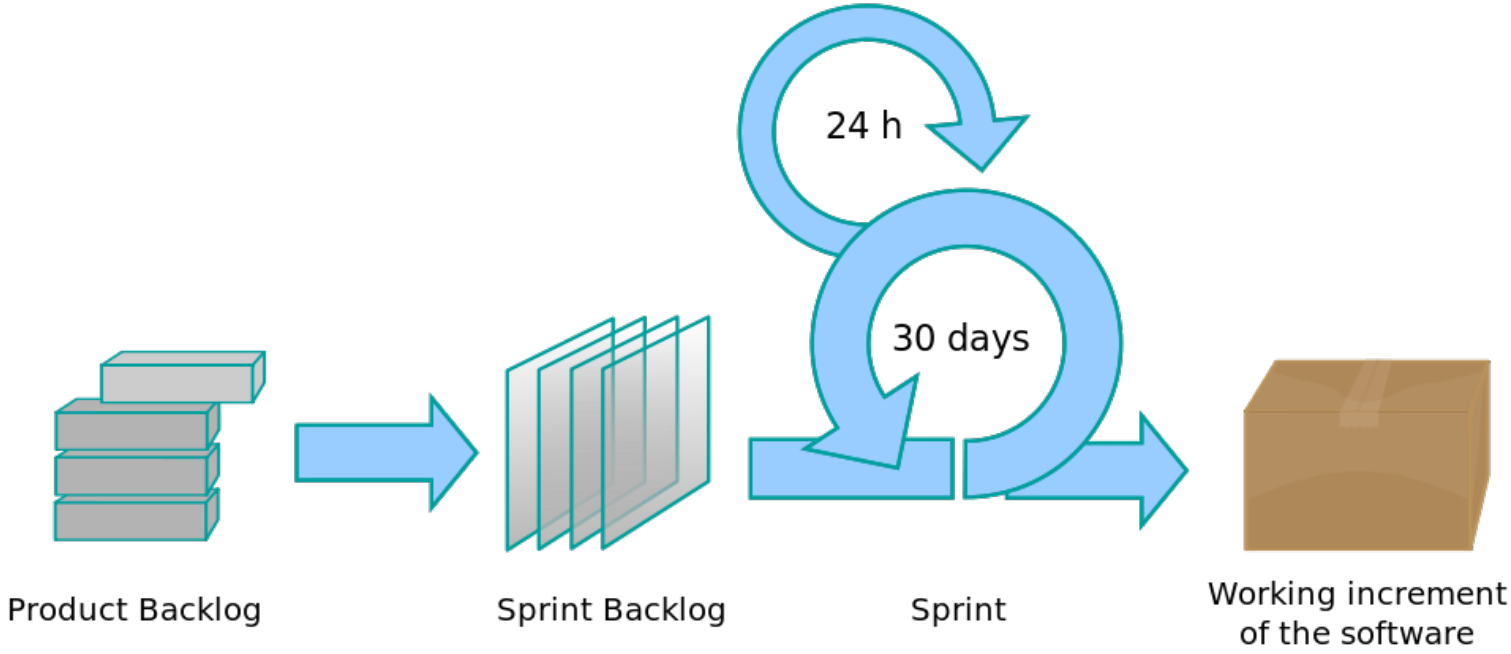
- Adaptive software development (ASD)
- Agile modeling
- Agile Unified Process (AUP)
- Crystal Clear methods
- Disciplined agile delivery
- Dynamic systems development method (DSDM)
- Extreme programming (XP)
- Feature-driven development (FDD)
- Lean software development
- Kanban
- Scrum
- Scrumban

- Acceptance test-driven development (ATDD)
- Agile modeling
- Backlogs (Product and Sprint)
- Behavior-driven development (BDD)
- Business analyst designer method (BADM)[37]
- Cross-functional team
- Continuous integration (CI)
- Domain-driven design (DDD)
- Information radiators (scrum board, task board, visual management board, burndown chart)
- Iterative and incremental development (IID)
- Pair programming
- Planning poker
- Refactoring
- Scrum events (sprint planning, daily scrum, sprint review and retrospective)
- Test-driven development (TDD)
- Agile testing
- Timeboxing
- User story
- Story-driven modeling
- Retrospective
- Velocity tracking
- User Story Mapping

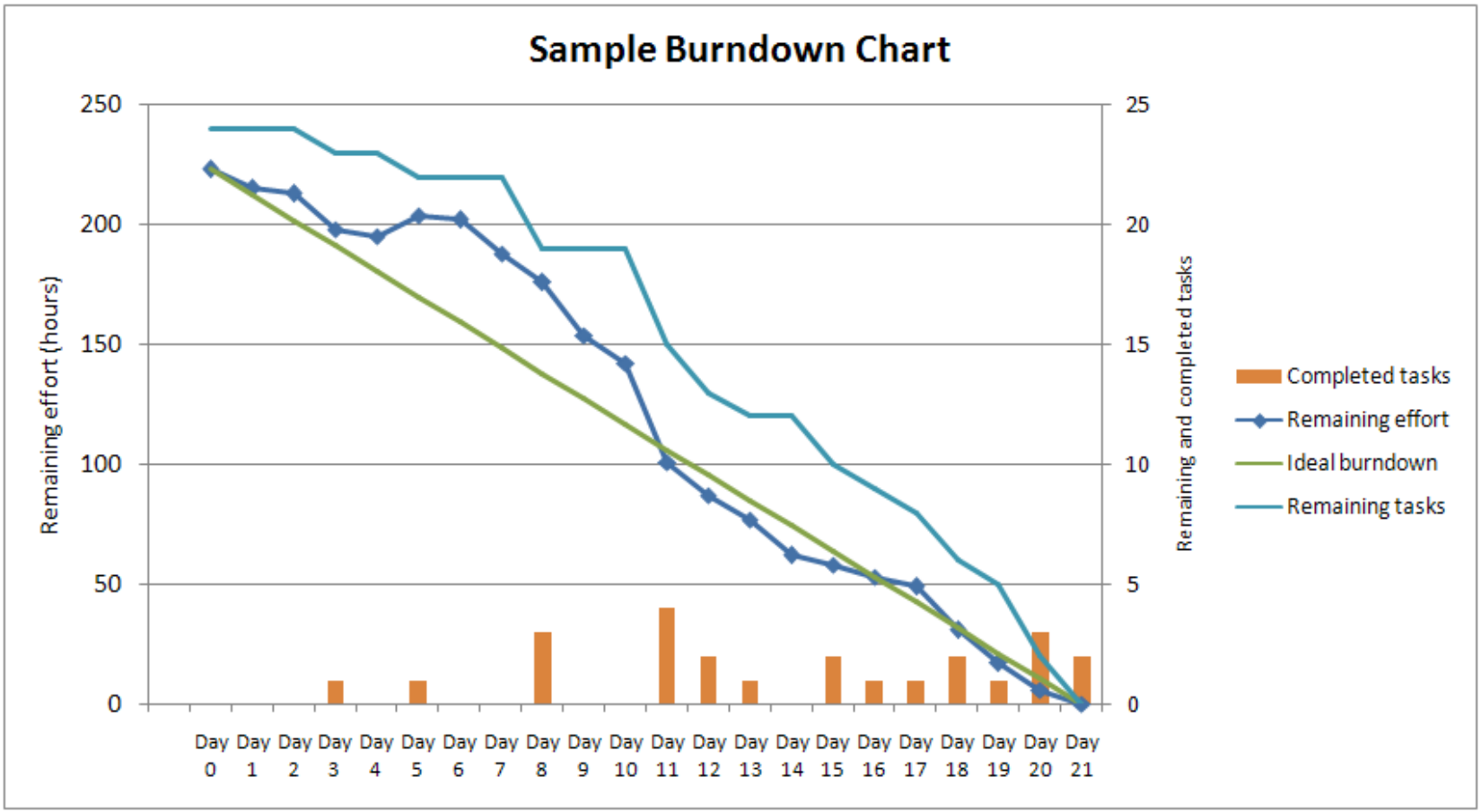
The Agile Alliance has provided a comprehensive online guide to applying agile these and other practices.

https://www.agilealliance.org

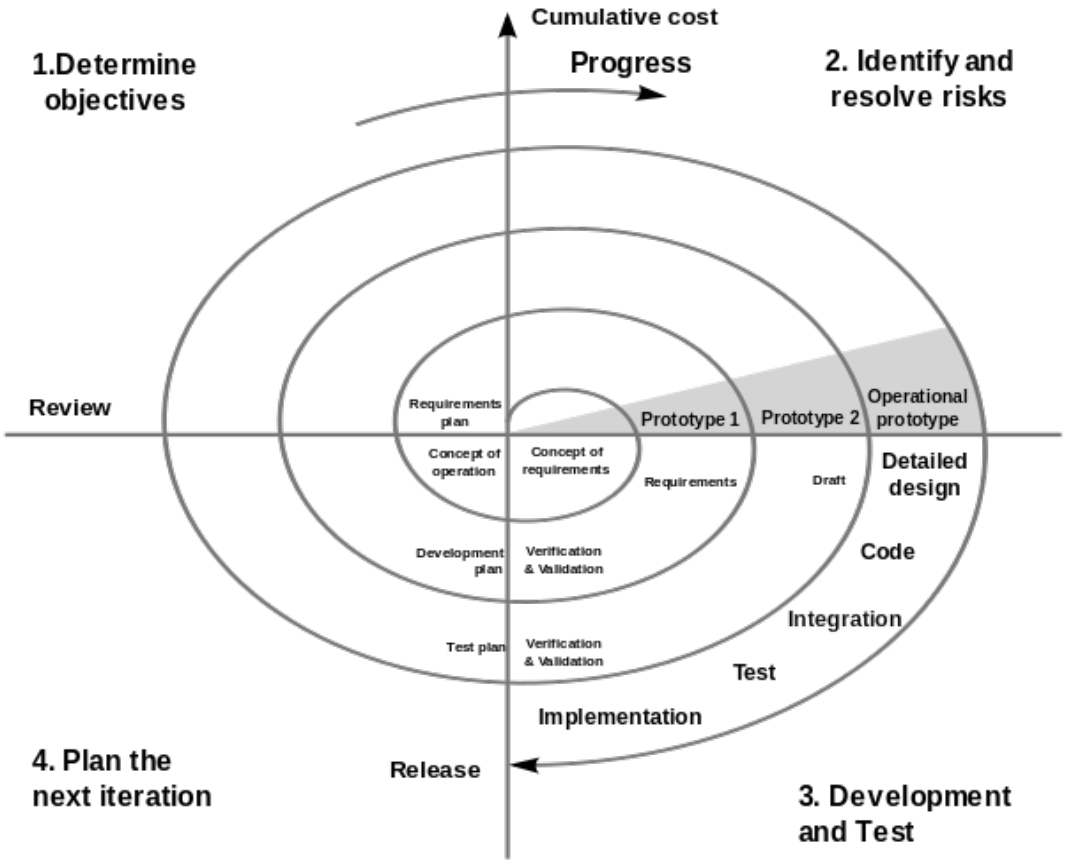
Scrum, Sprints, Timeboxes



By Lakeworks - Own work, GFDL, https://commons.wikimedia.org/w/index.php?curid=3526338


Sample Burndown Chart
Remaining effort (hours)
250
200
150
100
50
0
25
20
15
10
5
0
Remaining and completed tasks
Day 0
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7
Day 8
Day 9
Day 10
Day 11
Day 12
Day 13
Day 14
Day 15
Day 16
Day 17
Day 18
Day 19
Day 20
Day 21
Completed tasks
Remaining effort
Ideal burndown
Remaining tasks

Spiral Methodology



By Connyderivative work: Spiral_model_(Boehm,_1988).png: Marctroyderivative work: Conan (talk) - File:Spiralmodel_nach_Boehm.png, Spiral_model_(Boehm,_1988).png, Public Domain, https://commons.wikimedia.org/w/index.php?curid=9000950

Microsoft Solutions Framework 4.0

adapted from http://slideplayer.com/slide/6868969/

	Deliverables	Goals
Envision	Vision / scope document Project structure document Initial risk assessment document	Develop a clear understanding of what is needed within context of project constraints Assemble necessary team to envision solution with options and approaches to meet needs given constraints
Plan	Functional specifications Master project plan Master project schedule	Evolve conceptual solution into tangivle designs and plans so it can be built in the build phase
Build	Completed solution Training materials Documentation Marketing materials Updated master plan, schedule and risk documentt	Build various aspects of the solution in accordance with plan track deliverables
Test	Proactive - leads build effort Supportive - follows build effort	Expose issues, uncover design flaws and identify unexpected behaviour
Stabilise	Pilot review Release-ready versions of solutions and accompanying collateral Testing and bug reports Project documents	Improve solution quality to meet release criteria for deployment to production Validate solution meets stakeholder needs Validate solution usability
Deploy	Operations and support information systems Revised processes and procedures Repository of all solution collateral	Place solution into production at designated environments Facilitate smooth transfer of solution from project team to operations team as soon as possible

Scrum Meetings

Daily Scrum

Scrum of scrums

Sprint Planning Meetings

Sprint Review Meetings

Sprint Retrospective

Pert and Gantt Charts

Visual representation of project

Microsoft Project

Example: Getting up in the morning

Task	Duration (mins)
1 Alarm rings	0
2. Wake Up	3
3. Get out of bed	5
4. Wash	5
5. Get dressed	5
6. Put kettle on	2
7 Wait for kettle to boil	5
8 Put toast on	2
9 Wait for Toast	3
10 Make coffee	3
11 Butter Toast	2
12 Eat Breakfast	10
13 Leave for Lectures	0

Pert Chart


Get out of bed
8:56am 8:56am
8:56am 8:56am
Wash
8:56am 9:01am
8:56am 9:01am
Get dressed
9:01am 9:06am
9:01am 9:06am
Put Kettle on
9:06am 9:09am
9:09am 9:12am
Wait for kettle to boil
9:09am 9:14am
9:12am 9:17am
Make Coffee
9:14am 9:17am
9:17am 9:20am
Eat Breakfast
9:20am 9:30am
9:20am 9:30am
Put toast on
9:06am 9:11am
9:06am 9:11am
Wait for Toast
9:11am 9:16am
9:11am 9:16am
Butter Toast
9:16am 9:20am
9:16am 9:20am
Leave for Lectures
9:30am 9:30am
9:30am 9:30am

Critical Path Analysis

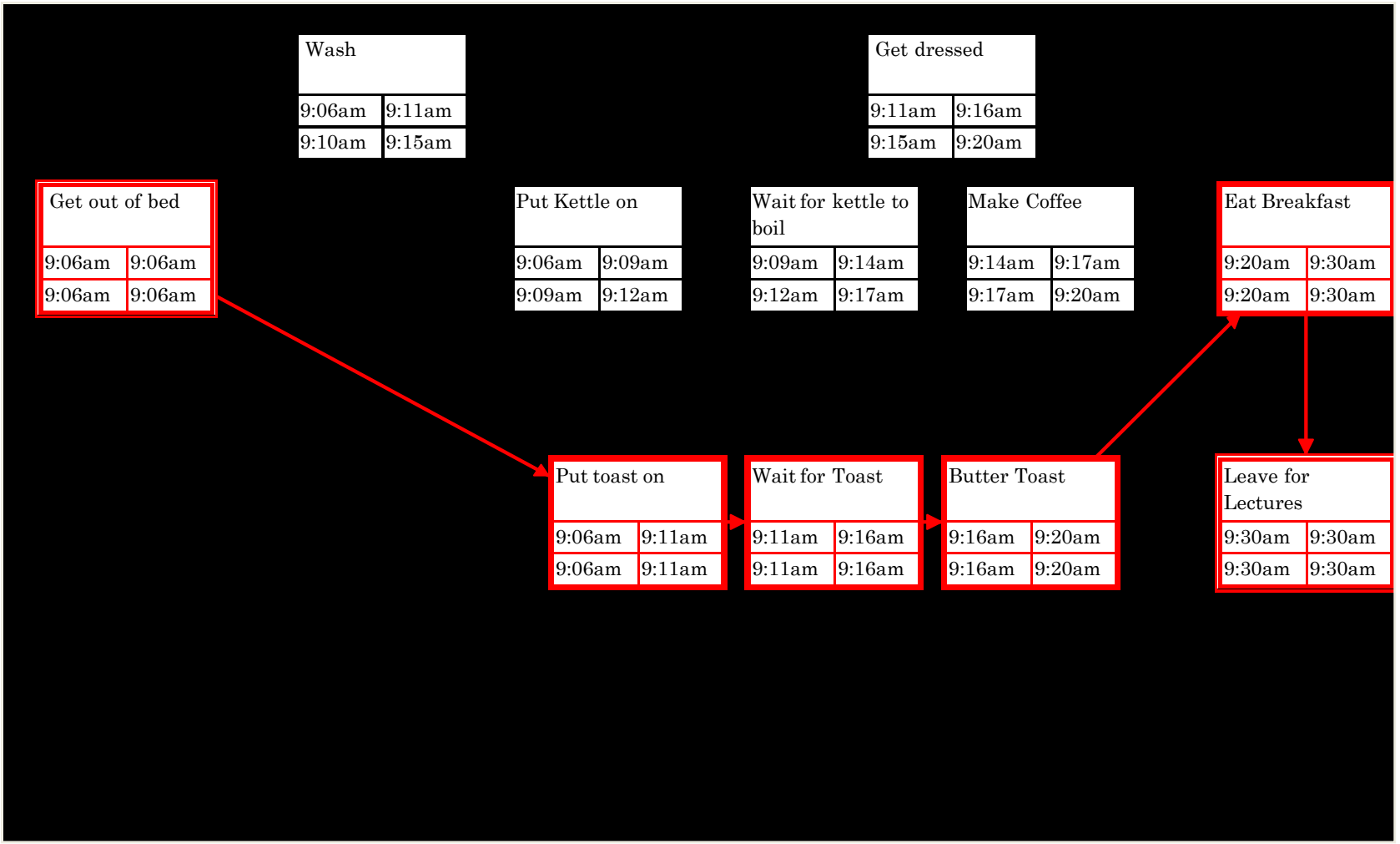
Compute earliest and latest start / finish for each task

The difference is the slack

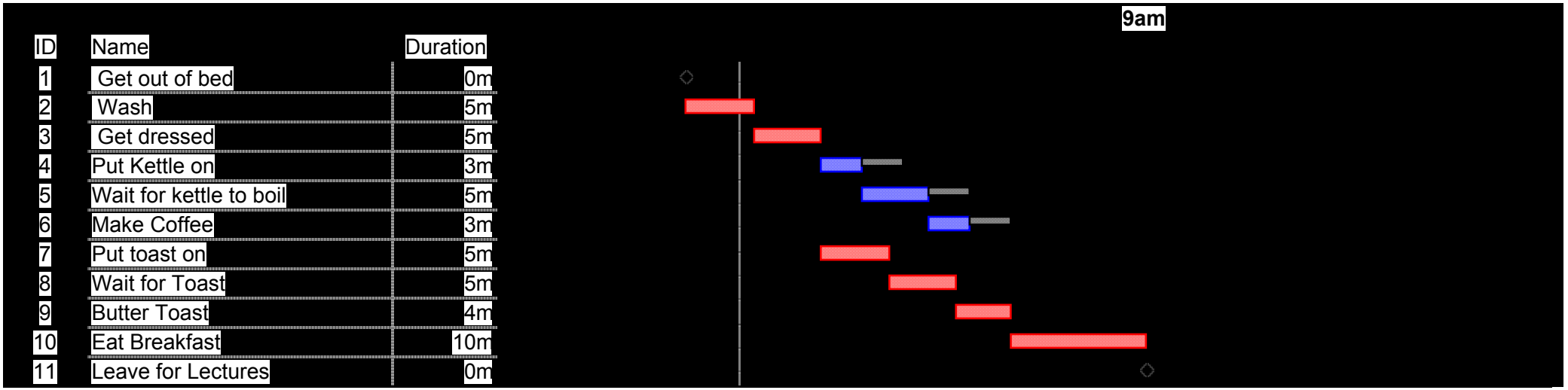
The Critical Path joins the tasks for which there is no slack

Any delay in tasks on the Critical Path affects the whole project

Pert Chart

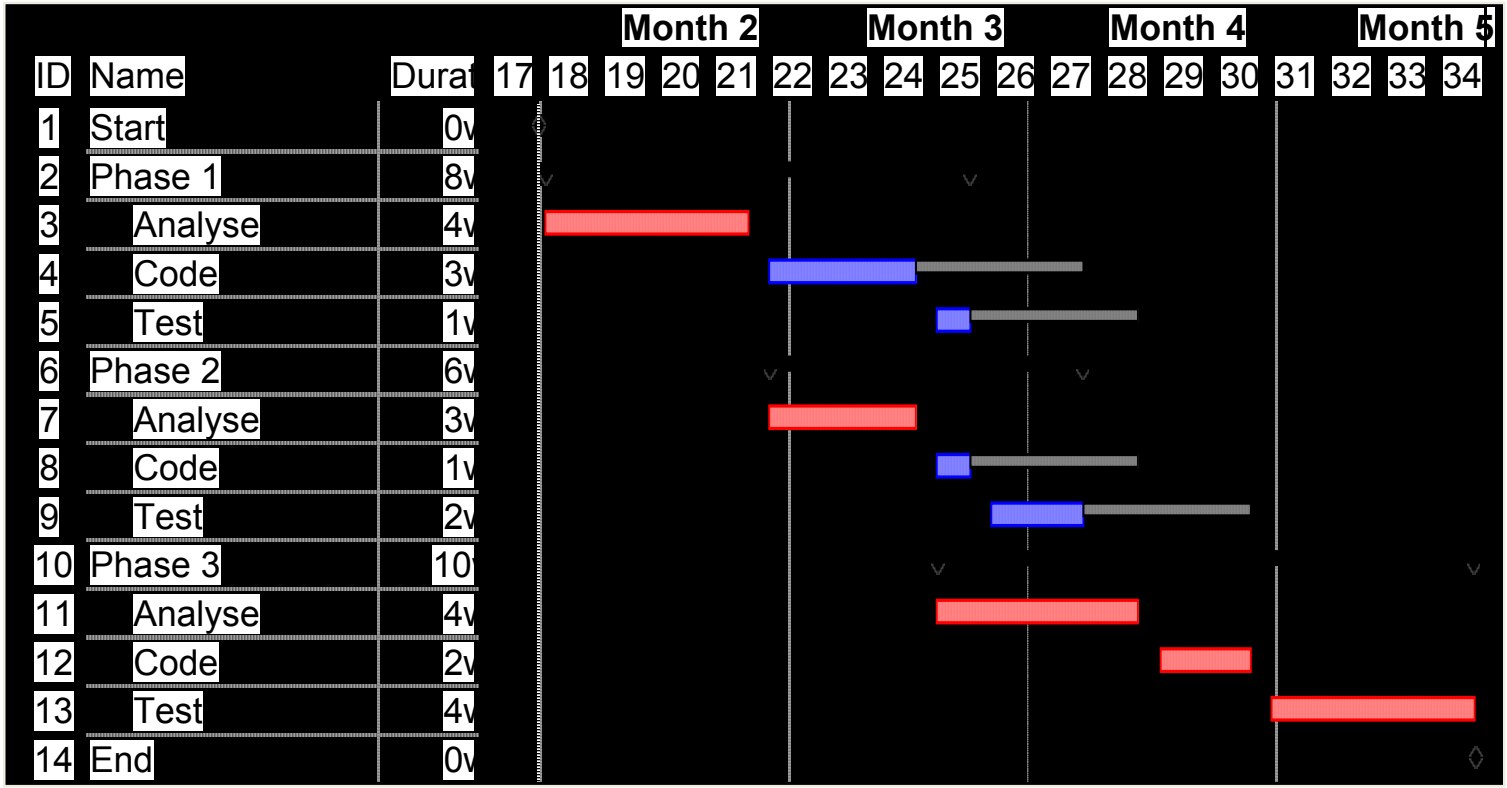

Wash
9:06am 9:11am
9:10am 9:15am
Get dressed
9:11am 9:16am
9:15am 9:20am
Get out of bed
9:06am 9:06am
9:06am 9:06am
Put Kettle on
9:06am 9:09am
9:09am 9:12am
Wait for kettle to boil
9:09am 9:14am
9:12am 9:17am
Make Coffee
9:14am 9:17am
9:17am 9:20am
Eat Breakfast
9:20am 9:30am
9:20am 9:30am
Put toast on
9:06am 9:11am
9:06am 9:11am
Wait for Toast
9:11am 9:16am
9:11am 9:16am
Butter Toast
9:16am 9:20am
9:16am 9:20am
Leave for Lectures
9:30am 9:30am
9:30am 9:30am

Gantt Chart

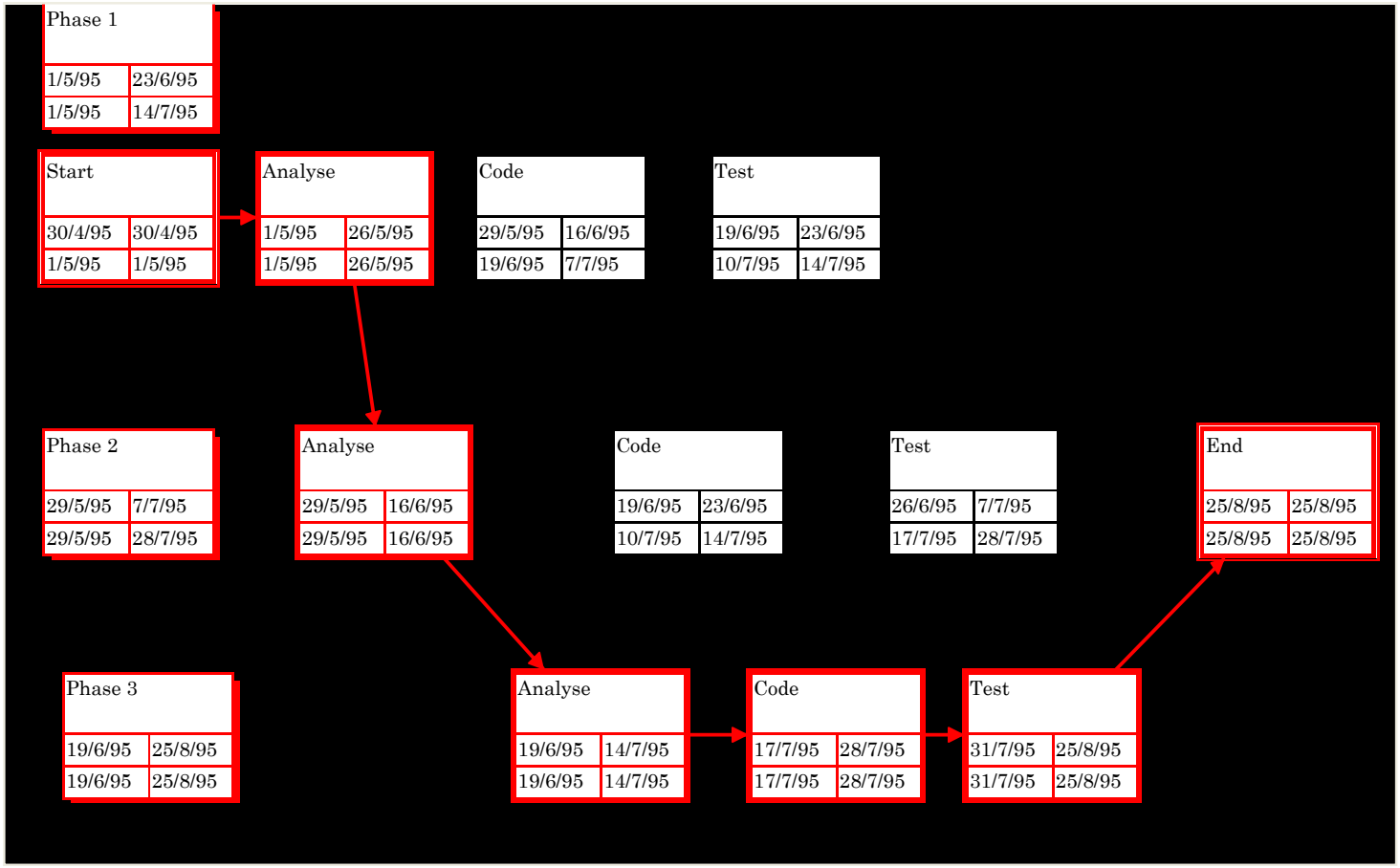


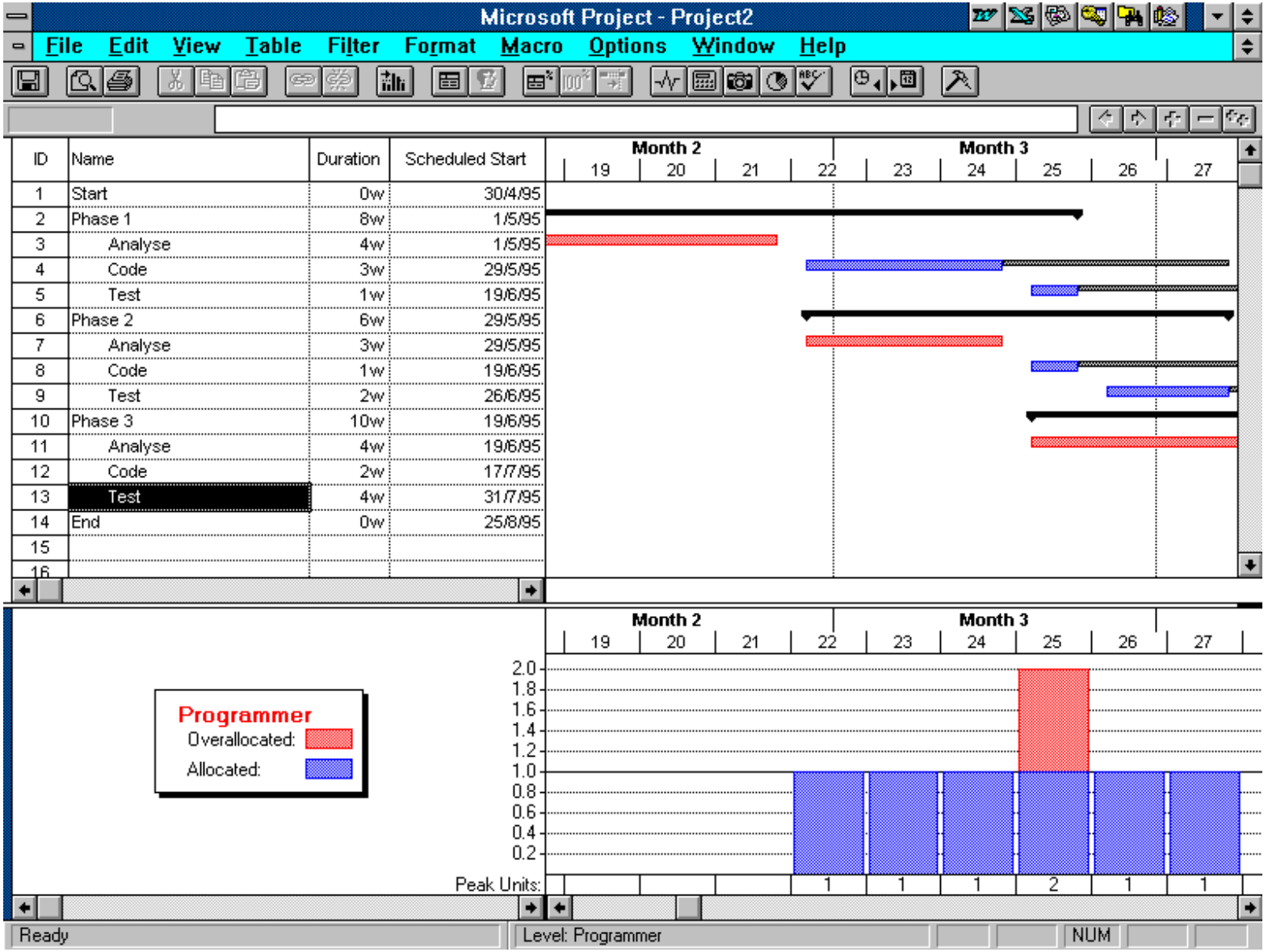
ID	Name	Duration
1	Get out of bed	0m
2	Wash	5m
3	Get dressed	5m
4	Put Kettle on	3m
5	Wait for kettle to boil	5m
6	Make Coffee	3m
7	Put toast on	5m
8	Wait for Toast	5m
9	Butter Toast	4m
10	Eat Breakfast	10m
11	Leave for Lectures	0m

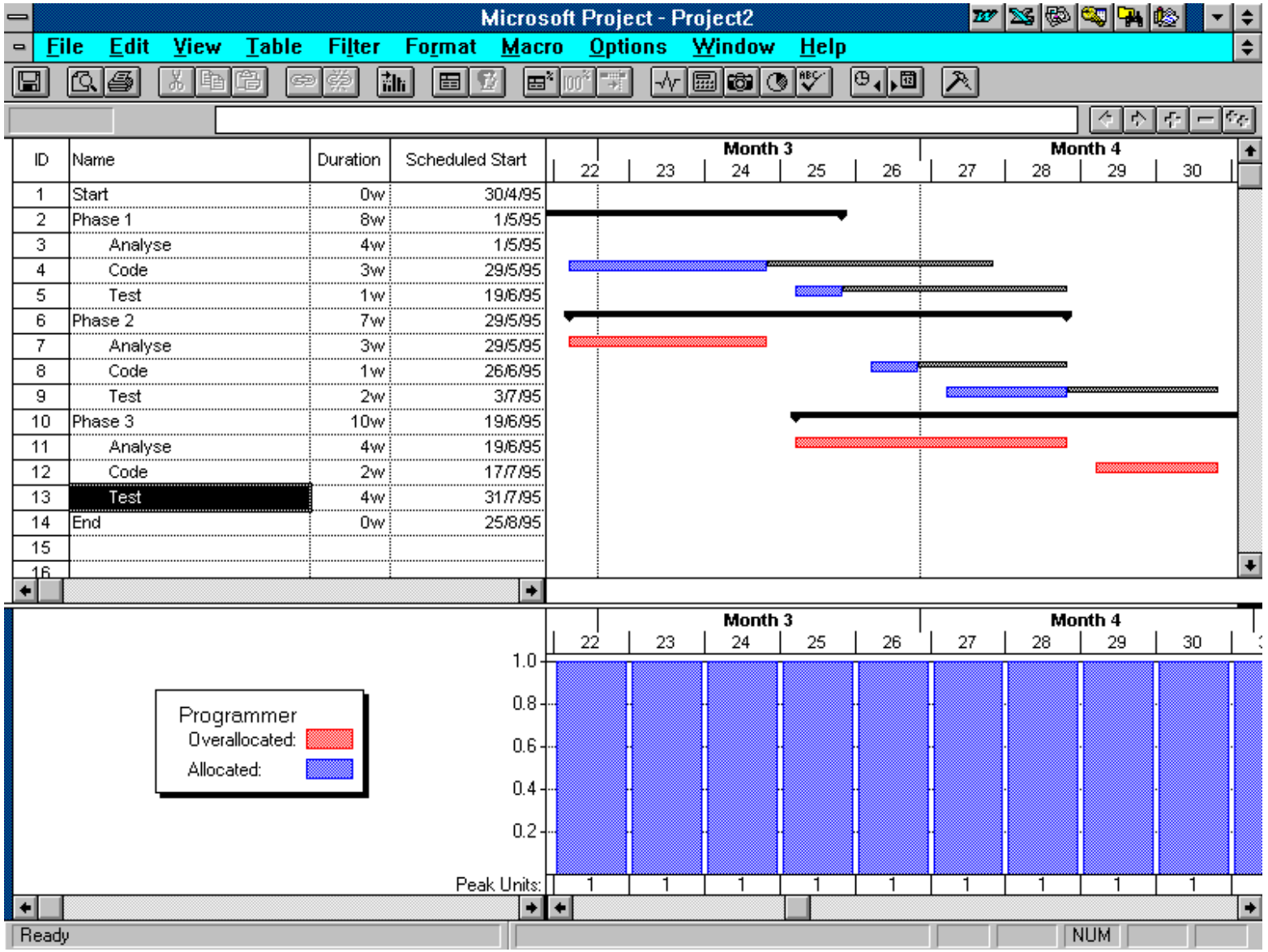
Example


Month 2
Month 3
Month 4
Month 5
ID
Name
Durat
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
1 Start 0v
2 Phase 1 8v
3 Analyse 4v
4 Code 3v
5 Test 1v
6 Phase 2 6v
7 Analyse 3v
8 Code 1v
9 Test 2v
10 Phase 3 10
11 Analyse 4v
12 Code 2v
13 Test 4v
14 End 0v

Example Pert




Microsoft Project - Project2
File Edit View Table Filter Format Macro Options Window Help
ID Name Duration Scheduled Start
1 Start 0w 30/4/95
2 Phase 1 8w 1/5/95
3 Analyse 4w 1/5/95
4 Code 3w 29/5/95
5 Test 1w 19/6/95
6 Phase 2 6w 29/5/95
7 Analyse 3w 29/5/95
8 Code 1w 19/6/95
9 Test 2w 26/6/95
10 Phase 3 10w 19/6/95
11 Analyse 4w 19/6/95
12 Code 2w 17/7/95
13 Test 4w 31/7/95
14 End 0w 25/8/95
15
16
Month 2
Month 3
19 20 21 22 23 24 25 26 27
Programmer
Overallocated:
Allocated:
2.0 1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2
Peak Units:
1 1 1 2 1 1
Ready
Level: Programmer
NUM


Microsoft Project - Project2
File Edit View Table Filter Format Macro Options Window Help
ID Name Duration Scheduled Start
1 Start 0w 30/4/95
2 Phase 1 8w 1/5/95
3 Analyse 4w 1/5/95
4 Code 3w 29/5/95
5 Test 1w 19/6/95
6 Phase 2 7w 29/5/95
7 Analyse 3w 29/5/95
8 Code 1w 26/6/95
9 Test 2w 3/7/95
10 Phase 3 10w 19/6/95
11 Analyse 4w 19/6/95
12 Code 2w 17/7/95
13 Test 4w 31/7/95
14 End 0w 25/8/95
15
16
Month 3
Month 4
22 23 24 25 26 27 28 29 30
Programmer
Overallocated:
Allocated:
1.0
0.8
0.6
0.4
0.2
Peak Units:
1 1 1 1 1 1 1 1 1
Ready
NUM

Levelling

Adjust tasks to match resources available

Automatic system available, but does not always give an optimum result

Tasks may be delayed within slack without affecting project dates

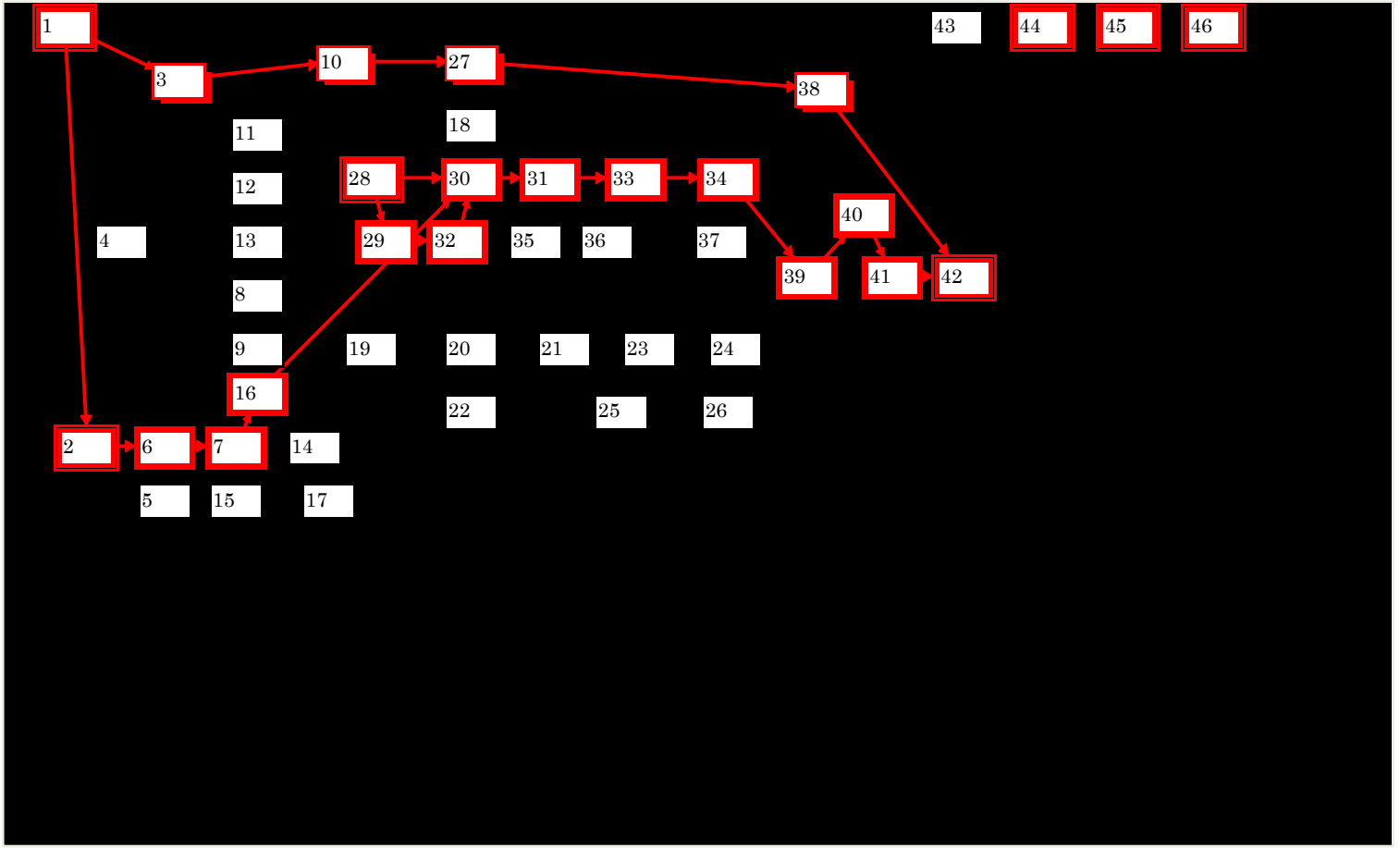
Otherwise consider extending project, or using more resource

Adding resource to a late project may cause RECURSIVE COLLAPSE

- consider carefully whether the benefits outweigh the additional learning delays and overheads

Derive costings

Larger example



Estimation Techniques

Experience

Comparison with similar tasks

- 20 lines of code / day
- can vary by 2 orders of magnitude

Decomposition

Plan to throw one away

20 working days per month BUT 200 per year

Rules of Thumb

Software projects

estimate 10 x cost and 3 x time

1/3/10 rule

1 cost of prototype

3 cost of creating a product

10 cost of sales and marketing

Hartree's Law

The time to completion of any project, as estimated by the project leader, is a constant (Hartree's constant) regardless of the state of the project

A project is 90% complete 90% of the time

80% rule

Don't plan to use more than 80% of available resource

Cynic's Project Stages

Enthusiasm

Disillusionment

Panic

Persecution of the innocent

Praise of the bystander

Business Studies

L6 - Quality, maintenance and documentation

Jack Lang and Stewart McTavish
jal1 sam56

6. Quality, maintenance and documentation

Development Cycle

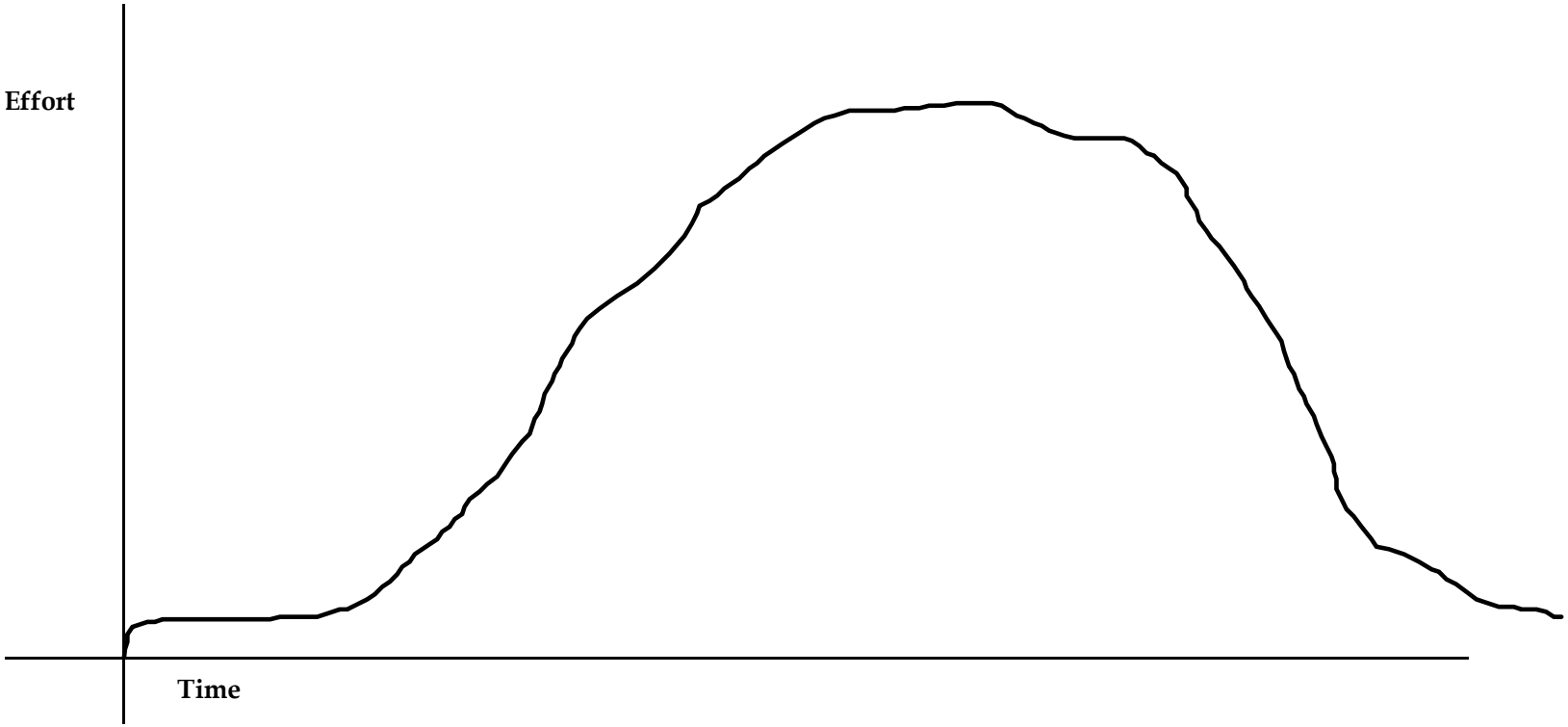
Productisation

Plans for quality

Plan for maintenance

Plan for documentation

Development cycle:



Productisation

Generalisation

- Does the product work on all target systems?
  - Hardware varians
  - OS variants (run time environment variants)
- Internationalisation
  - Language, number, date and time formats
- Testing
  - Usability
  - Market
  - Standards approvals

Productisation II

Documentation

- Installation, User Guide, Reference Manual, Help text, FAQs, examples, training
- System manual, maintenance documentation
- Conformance

Legals

- IPR generated (Copyright, trademark)
- IPR used
- Licence, contract, liability

Productisation III

Packaging

- Artwork, Box, Deliverable

Manufacture

- Reproduction, Manual printing, Stocking
- Distribution set-up

Marketing Materials

- Leaflets, brochure, advertisements
  - Text, Artwork, approvals

Productisation IV

Maintenance and after sale support

- Support organisation setup and training
- Help desk, staff, facilities, FAQs, training
- Report forms, databases and summaries

Supply side management

Quality control - monitoring and contingency planning

Information Systems - stock control, JiT, shipping, supplier integration

Reliability of supply - multiple sources

Change management - evolution, tracking and support

Scale Up

Takes time and money

New markets

- Regulations, translation, adaption
- High volume manufacturing

Time

- 18 week lead time or more for new silicon
- Line set up
- Staff recruitment and training
- Approvals (and testing)

Plan for Quality

Cheaper in the long run

Build in from the start; can’t be added later

Board-level function

“Good Practise”

Standards

ISO 9000 / BS 5750

- Quality management systems
- Traceability

BS 7799

- Information Management and Security

Internal standards

Control and review

Record key decisions

Control key documents

Control versions and deliverables

Define standards

- coding standards (naming, structure, testing)
- documentation standards (style, conventions and examples)

Review and Audit

Key Documents

Project Definition

- User Requirements Document
- Project Constraints Document

Base definition

- Functional Specification or prototype
- Top Level Design

Control

- Project Plan
- Project Log
- Quality Plan
- Document Plan

Detailed Controlled Documents

Sub-system specs and interfaces

Data model and dictionary

Module specs and interface

Released code and documentation

Monitoring

Early warning of impeding disaster

- Time to do something about it
- Avoid unpleasant surprises

Culture

- Communication (internal and external)
- OK to ask for help
- Requests taken seriously

Milestones

- Roughly one every 1-2 weeks

Review meetings

- Weekly

Meetings

Keep it short

- meetings are expensive

Circulate agenda and papers BEFORE

Start on time

Purpose and structure

Finish on time

1 page minutes

Brain-storming

Problem solving

Purpose

List ideas/topics, no matter how crazy

Vote

Work on top three

- break up into subgroups

Report back

Board Meeting

Place for decisions, not discussions

Agenda

- Call to order
  - Attendance
  - Minutes
  - Matters arising
- Statutory Business
- Reports
  - Finance
  - Business Development
  - Personnel
  - Shareholder's Issues
- AOB
- Date of next meeting

SWOT

Strengths

Weaknesses

Opportunities

Threats

Testing

Test plan

Test suite

- Base functionality
- Specific bugs
- Performance
- Correct failure
- re-run the entire suite each time

Bug reports and database

Action plan for fixes & prioritisation

Plan for maintenance

The relationship goes on

- Revenue stream
  - 12% p.a.
- Future sales channel

Levels

Help desk

Internal documentation

Record keeping

Plan for documentation

10 x the coding effort

Specialist skill

Levels of documents

- User
- Training
- System
- Maintenance

Avoid forward references!

Conformance

Business Studies
L7 - Marketing and Selling

Jack Lang and Stewart McTavish
jal1 sam56

7. Marketing and Selling

Sales and marketing are different

Basic economics

Marketing; Channels; Market Communications

Stages in Selling

Control and Commissions

Sales and marketing are different

Marketing

- what to sell,
- to who
- how

Selling

- moving the product

Relationship management

Marketing

What

- Product characteristics - ACCTO
- Price sensitivity

Market Characteristics

- Size
- Defensible
- Sustainable

How?

- Channels

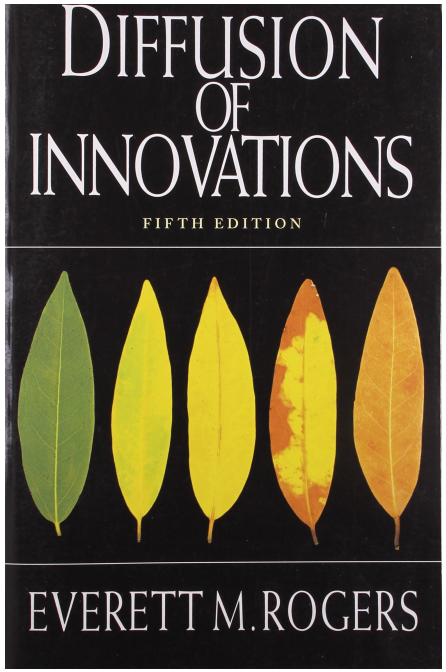
Inform

- Routes

ACCTO

Criteria for customer acceptance

80% of new product failures are due to customer acceptance



A - relative Advantage over competitors

C - Complexity; can I understand it?

C - Compatibility with working practise

T - Trial-ability, can I try it out first?

O - Observability, can I notice the benefits?

Market Requirement Document

User Profile
who will use it and what are they trying to achieve

Product Description
features, advantages and benefits

Customer Profile
who will buy it and how do they make decisions

Competitive analysis
what are table stakes and what are USPs

Positioning
the one thought potential customers have in their head when they hear the product name

Market Requirement Document II

Market Trends
what is happening in the market your will be operating in

Market Size
the total available market

Route to market / Distribution
how do you deliver to your customers

Pricing
how much is the customer prepared to pay

Customer support
how will the user but trained and supported (documents, helpdesk, etc)

Market Requirement Document III

Business Opportunity

in this market with this product at this price you can make this amount of money [do this one last]

Alliances and Partners

who do you need on side

Marcoms

how will you tell the market about your product

Market - who loves ya?

it's FAB because

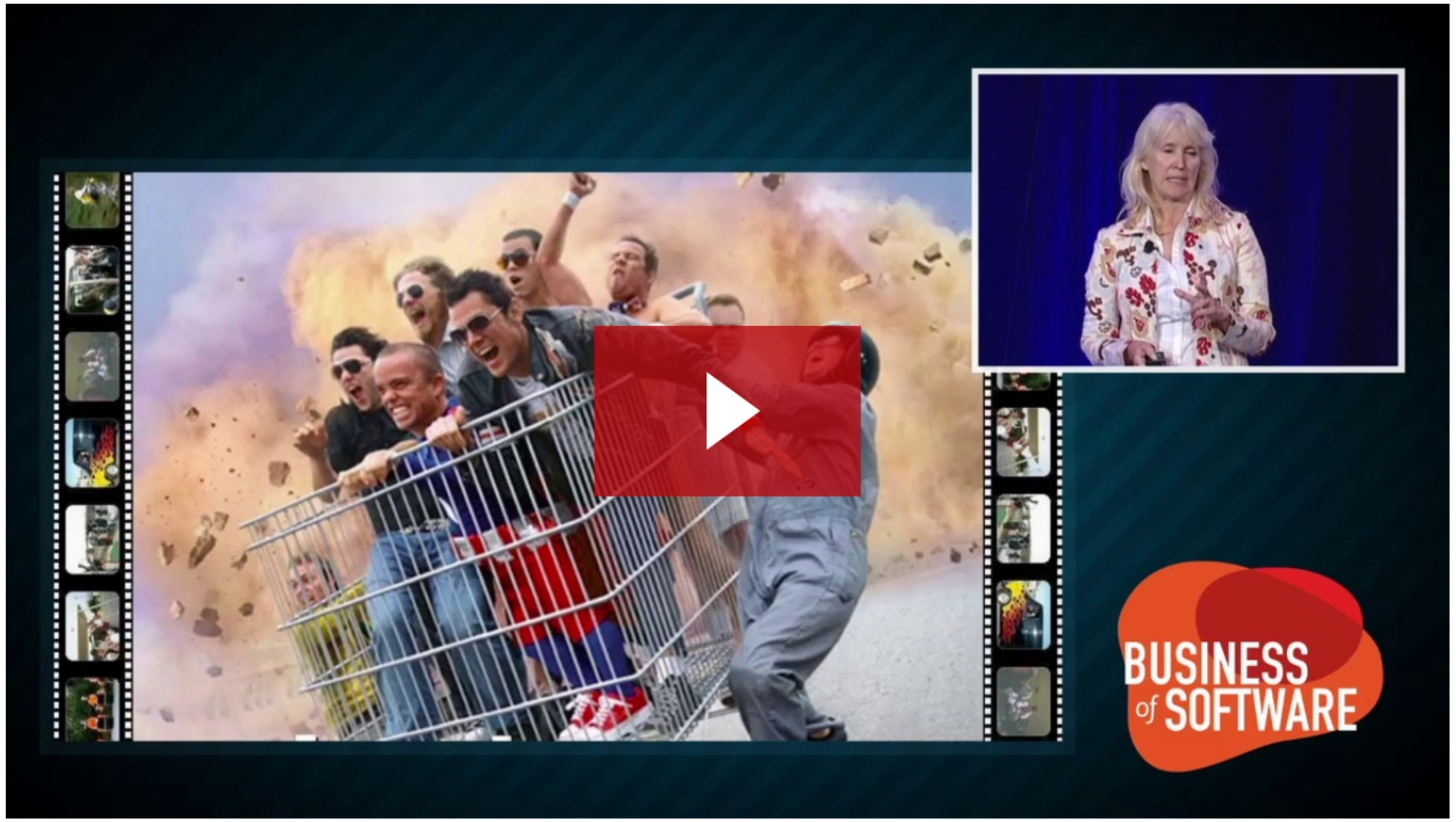
Feature - techie speak
this chip uses a double super helical fooglefarg

Advantages - the translation step
it uses less power, gives you more speed

Benefits - customer speak
it is cheaper, smaller, works better in marginal conditions, batteries last longer

because *your friends will be envious*
why people really buy it

Building the minimum Badass User | Kathy Sierra | BoS USA 2012



http://businessofsoftware.org/2013/02/kathy-sierra-building-the-minimum-badass-user-business-of-software-a-masterclass-in-thinking-about-software-product-development/

Product or Service Requirements

Customers need to

- know about it
- have the opportunity to purchase it
- be satisfied that it meets a real or perceived need
- be able to afford it (but don’t make it cheap)

A brief introduction to market analysis

Desk research

- existing market or solutions
- competition, actual and potential
- demographics

Market surveys

- qualitative; groups and usability testing
- quantitative; surveys, testing marketing

Distribution channels

Market communications

Channels

Direct Sales

Distributor / Retailer - they are your customers

- National
- International

Choose carefully

- changing is expensive and difficult
- key sales
- opinion formers

Market Communications

Targeting

Advertising

- Image
- Message
- Sales - MOP
  - General - Newspapers, TV
  - Specific - Trade press, specialist magazines

PR

Direct mail

- List brokers (1-2% response)
- Control and record-keeping

Direct sales

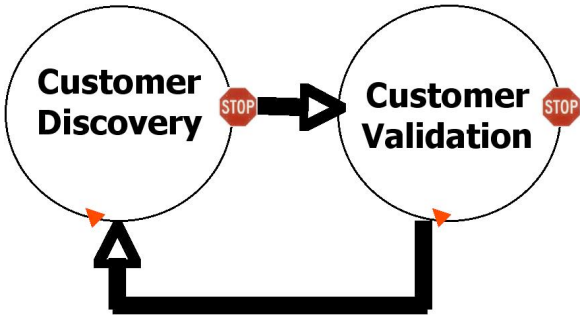
Bespoke

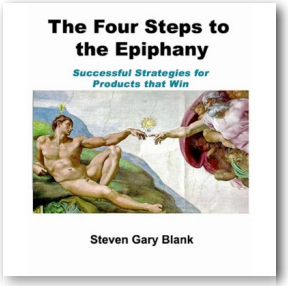
- sales staff / customer relationship manager
- cash flow

Mail order requirements

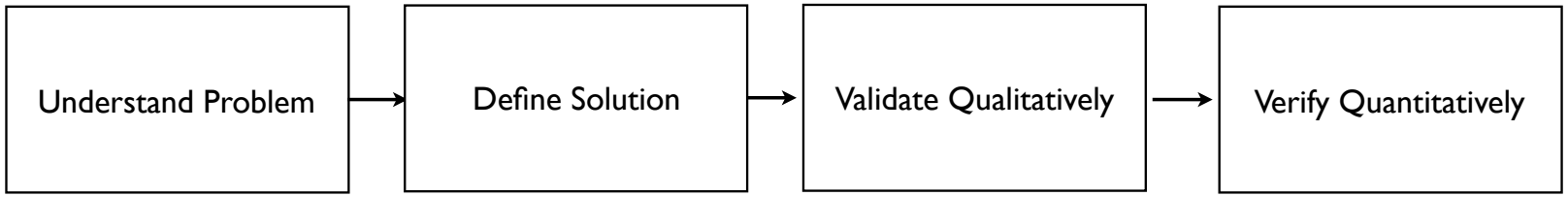
- Product
- Guarantees
- Stocking
- Support
- Key accounts
- Market communications

Discovering a market from the bottom up



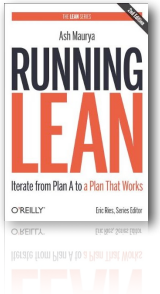


Discovering a market from the bottom up



Problem / Solution Fit

Product / Market Fit



Pricing Models

Market comparison
needs to be an order of magnitude better or cheaper to replace incumbent

Utility
How much is it worth to the customer (efficiency gains to suer, payback time)

Cost + profit
(+distribution + tax)

Loss leader

Ballpark pricing

Sales price	£	1,000.00	
Factory price: (60%)	£	600.00	
Cost (30% of factory price)	£	200.00	
Net profit / unit (10% of factory price)	£	60.00	
Annual sales (Million):		1.00	(guess)
Profit (£M)		60.00	
Set-up and fixed costs (£m)		50.00	(including initial marketing)
Stocking (£m)		100.00	(6 months at cost)
Capital need (£m)		150.00	
Payback time		2.50	years

Exhibitions

Expensive, hard work

Make it obvious

Place for meetings, not cold sales

Preparation

- Research and contact attendees
- Stand
- Exhibits
- Manual
- Travel and accommodation

Be attentive

Follow-up

- Timeliness

Sales techniques

Listen to the customer

- Needs
- Concerns
- Authority

Stages in Selling

Prospecting
Pre-approach
Approach
Survey
Proposal
Demonstration
Close
Service

Prospecting

Locating the most likely buyers

Cold calling

- Directors Guides, Yearbooks
- Local council offices, Chambers of Commerce
- Institutional meetings

Qualified Prospects

- Marketing response: Advertising, PR, Mailings
- Lookalike Audiences - Facebook, Google etc
- Service organisations, exhibitions

How many

- 10% result in sale
- Maybe 2 calls per day

Pre-approach

Research

- Who are the decision makers?
- What is the management structure?
- What are their concerns?

Preparation

- Presentation
- Visiting cards, brochures

Approach

Listen, establish mutual ground

Contact building

Generalities

Survey

Needs, requirements

Constraints

Budget

Structure, contacts, decision points

Timescale

Proposal

Sell the benefits to the customer

- FAB, USPs
- Price is not an issue; value is
  - lifetime cost
  - service, reliability, reputation

Sales Proposal

- Introduction,
- Objectives
- Recommendations
- Benefits
- Financial Justification
- Warranty and service
- Company Background
- Price and conditions

Follow up

Demonstration

Objectives

Administration

- Who, where, maps, car parking, accommodation
- Greeting, seating
- Catering: coffee, lunch or sandwiches

Script

- Presentation
- Visiting cards, brochures

Sum up

Agree follow-up

Close

Small step at a time

Advantages

Customer concerns

- hidden agenda

Sum up

- discount
- limited offer

Service

Relationship management

- communications
- contact point
- regular liaison
- early warnings

Spec changes and the consequences

Meeting milestones

Planning and Records

Graded Prospect List

Sales Forecast

Call analysis

Sales Cost analysis

Graded Prospect List

Company Name	Address	Phone	Fax	Contact Name	Decision Maker	Potential %	Previous Contact Date, Who, Action	Next Contact Date, Who Action

Sales Forecast

Company	Amount	Time analysis				Product Analysis	Comments
		Q1	Q2	Q3	Q4		

Control and Commissions

Control

Sales organisation structure

- by product, geography, channel, key account

Measurement

- Cost per sale
- Response rate
- Timeliness
- Individual measures, targets

Commission

Don’t stint

- Basic salary

Pay on delivery, or payment

Business Studies
L8 - Growth and Exit Routes

Jack Lang and Stewart McTavish

jal1 sam56

8. Growth and Exit routes

New markets: horizontal and vertical

Problems of growth; second system effects

Communication

Exit routes: M&A, IPO, MBO or liquidation

Places to look for new enterprises

Conclusion; over to you!

New markets

Horizontal

- Similar products or services
- New Customers
  - Geographical, application, pricing

Vertical

- New products or services
  - New model, vertical integration
- Similar Customers

Problems of growth

Communication

Control and Monitoring

Structural change; different skills, people

Formalisation

Cash

Second system effects

Communication

Formal channels

Charters

Newsletters

Company meetings and informal events

Needs conscious effort: company culture

Management structures

Groups and sub-groups

Charters

Reporting structures

Exit routes

Acquisition

- Sell to another company

Floatation

- Sell to the public

Management Buy Out

- Sell to the staff

Liquidation

- Sell the assets

Acquisition

Natural process

- Wildflower model
- Forced sale

Marriage - doesn't happen quickly

- Courtship - selling the company as a product
  - Pre-nuptial relationship - distributor, customer, JV, competitor
- Tying the knot - Due diligence process
- Clergy - lawyers, bankers, accountants, M&A specialists
- Honeymoon - learning to live together, culture clash, raionalisations, lock in

Valuation - how much is it worth?

Asset value
NPV of profitability
DCF
Utility
Comparison with similar
Market value
Probabilistic methods - matrix, black scholes
Paper vs Cash
Lock-in periods

Floatation

Sales of shares to the public

- Primary Market

- Highly regulated
  - Potential for fraud
  - Expensive
  - Get advise!
    - undewriter

Floatation II

Sales of shares to the public

Admittance to an exchange

Primarily for raising capital

Floatation III

Primarily for raising capital

- £10m +
- Valuation of the company
- Capital raising
- Exit for founders and investors
    - Lock-in

Management Buy Out

MBO

- buy-out
  - variants

Easier to fund

- existing cash flow, staff, customers, etc
- easier to value

Mature company

- new blood

Liquidation

Voluntary

- stop trading
- asset sale
  - not usually as valuable as going concern
  - except for asset stripping opportunities
- distribute proceeds

Liquidation II

Compulsory

- e.g. failing to pay the taxman
- Bankruptcy
  - illegal to trade if insolvent
  - Receiver and Directors accountable to Creditors (not shareholders)
  - Half-way houses
    - Bankruptcy (insolvency) need not force liquidation
    - Administration (US Chapter 11)
    - Creditor arrangement - talk to them
  - Bank guarantees
    - Arrangement
    - Talk to them EARLY

Kübler-Ross model - Managing Traumatic Change

Exits and M&A are traumatic times within the company.

Change counsellors recognise four stages

Denial

- need information, who, what, when

Anger

- need sympathetic hearing
- safe environment

Resignation

- needs information and planning
- small steps, quick wins

Acceptance

https://en.wikipedia.org/wiki/Elisabeth_Kübler-Ross

Where to look for startup ideas?

Jack's list

- Internet and Digital TV evolution
- Civil liberties: identity, privacy, censorship, ownership, dark web, etc
- Intelligent agents (e.g. EPG)
- PDA's / Cell phones
- Electronic currency
- Voice recognition
- Embedded and SoHo systems
- Reversion to local data
- 3D & AR

Conclusion

Building the future - social responsibility

Generation of Wealth

Generation of employment

Now you do it

http://www.camring.ucam.org

http://www.cue.org.uk

http://www.cutec.org

http://www.enterprisenetwork.group.cam.ac.uk