

UoG / UESTC Joint School of Engineering

Engineering Project Management & Finance: Lecture 1

What is a Company?

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- What is a Company?
 - Types of companies
 - Ownership of companies
 - What is a company worth?
 - Comparing different companies
- Why engineers need to know about company structures

Limited Company Definition:

A legal entity, allowed by legislation, which permits a group of people, as shareholders, to apply to the government for an independent organisation to be created, which can then focus on pursuing set objectives, and empowered with legal rights which are usually only reserved for individuals, such as to sue and be sued, own property, hire employees or loan and borrow money.

Note: Definitions of a company and types of company have been taken from UK and US sources. These definitions are fairly generic in use throughout the world but there may be minor local differences.

China appears to have similar regulations but you should take advice. HK rules are very similar to UK.

Types of Company: Sole Trader

- If you start working for yourself, you're classed as a self-employed **Sole Trader** -even if you've not yet told HM Revenue and Customs (HMRC) [UK Tax Authorities].
- As a sole trader, you run your own business as an individual. You can keep all your business's profits after you've paid tax on them.
- You can employ staff. 'Sole trader' means you're responsible for the business, not that you have to work alone.
- You're personally responsible for any losses your business makes.

This is the simplest of company structures but also can be risky for the owners.

This structure is often adopted by plumbers, electricians, small shop keepers

Types of Company: Limited

A Limited Company is an organisation that you can set up to run your business - it's responsible in its own right for everything it does and its finances are separate to your personal finances.

- Any profit it makes is owned by the company, after it pays Corporation Tax. The company can then share its profits.

Ownership

- Every limited company has 'members' - the people or organisations who own shares in the company.
- Directors are responsible for running the company. Directors often own shares, but they don't have to.

Legal responsibilities

- There are many legal responsibilities involved with being a director and running a limited company.

This is the most normal structure for a technology company; either one you will work for or start yourself

Limited by shares

- Most limited companies are 'limited by shares'. This means that the shareholders' responsibilities for the company's financial liabilities are limited to the value of shares that they own but haven't paid for.
- Company directors are not personally responsible for debts the business can't pay if it goes wrong, as long as they haven't broken the law.

Private company limited by guarantee

- Directors or shareholders financially back the organisation up to a specific amount if things go wrong. Sometimes used for social enterprises.

Public limited company

- The company's shares are traded publicly on a market, such as the London Stock Exchange.

'Ordinary' business partnership

- In a business partnership, you and your business partner (or partners) personally share responsibility for your business.
- You can share all your business's profits between the partners. Each partner pays tax on their share of the profits.

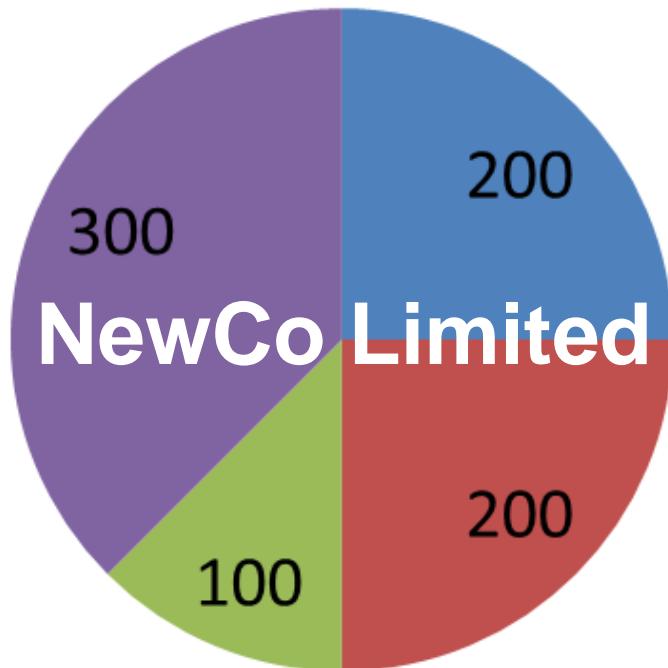
Legal responsibilities

- You're personally responsible for your share of:
- any losses your business makes
- bills for things you buy for your business, like stock or equipment
- You can set up a limited partnership or limited liability partnership if you don't want to be personally responsible for a business' losses.
- A partner doesn't have to be an actual person. For example, a limited company counts as a 'legal person', and can also be a partner in a partnership

These are unusual in engineering except sometimes in consultancy firms.

Note: Partners only share the profits AFTER all company debts have been paid !!

Limited Company Ownership



Shares are divided according to the initial investment in the company

- On the day of formation, the company valuation = investment by founders (800RMB in previous example)
- However... as the company begins to operate and trade, the value increases (hopefully) through:-
 - Creation of IP (knowledge, designs, patents) or products
 - Acquisition of assets (equipment, materials, buildings)
 - Sale of services (i.e. the creation of a customer base)
- This valuation becomes important when:-
 - You need to attract more investment into the company
 - You want to sell the company to a buyer(trade sale)
 - You want to float the company on stock market (IPO)

Initial investors want to hold as much shares as possible; new investors want to do the same!!! [both are driven by the valuation]

Simple Valuation Explanation

Month 0  X 8 = 800CNY

Month 6 Designed product 1
(Valued at 1200 CNY)

Month 12 Sold 100 Product 1
(cost =100, price=200 each)

Month 18 Sold 100 Product 1,
Designed Product 2
(valued at 1200 CNY)

Costs	Sales	Cash in Bank	Valuation
0	0	800	800
600	0	200	1400
10600	20000	9400	9400*
10600	20000	18800	20000*
Our original 800CNY investment is now worth 20000 CNY (Profit of 19,200 CNY)			

* Valuation could be higher because the business has products AND is likely to sell these in the future. The difference between the financial valuation and the actual valuation is called 'goodwill'.

This is a very simple example BUT easy enough to explain the principles



Top 10 Hi tech Companies in China

Ranking	Company	Main Business	Score
1	Huawei Technologies 华为技术有限公司	Telecom solutions	87.51
2	Legend Holding Ltd. 联想控股有限公司	IT, investment and real estate	63.45
3	Haier Group 海尔集团	Home appliances	61.82
4	Great Wall Technology 长城科技股份有限公司	Cloud computing	43.81
5	ZTE Corp. 中兴通讯股份有限公司	Telecommunication equipment and network solutions	37.21
6	Hisense Group 海信集团有限公司	Flat panel TVs, household appliances and mobile communication	31.69
7	Sichuan Changhong Electronics Group 四川长虹电子集团有限公司	Television, air conditioner, telecommunication, small household appliances and video systems	27.82
8	TCL Corp. TCL 集团股份有限公司	Consumer electronics, mobile communication and home appliances	27.14
9	Founder Group 北大方正集团有限公司	Technological innovations, information technology	25.37
10	BYD Co. Ltd. 比亚迪股份有限公司	IT, automobile and new energy	25.13

Global Top 100 – Technology

Top 100 Technology companies 2015	Nationality	Rank +/-	Rank 2015	Market Cap (\$bn) 2015	Rank 2009
Apple Inc	United States	-32	1	725	33
Google Inc	United States	-20	2	375	22
Microsoft Corp	United States	-1	5	334	6
Facebook Inc	United States	-	17	231	-
Oracle Corp	United States	-7	30	188	37
Tencent Holdings Ltd	China	-	32	178	-
IBM Corp	United States	26	40	159	14
Intel Corp	United States	4	44	148	40
Cisco Systems	United States	19	49	141	30
TSMC	Taiwan	-	56	121	-
Qualcomm Inc	United States	12	64	114	52
SAP	Germany	4	93	89	89



Top 100 global companies 1-20

Company name	Nationality	Industry	Rank +/-	31 March 2017		31 March 2009	
				Rank	Market Cap (\$bn)	Rank	Market Cap (\$bn)
Apple Inc	United States	Technology	32	1	754	33	94
Alphabet Inc-Cl A	United States	Technology	20	2	579	22	110
Microsoft Corp	United States	Technology	3	3	509	6	163
Amazon.Com Inc	United States	Consumer Services	-	4	423	NA	31
Berkshire Hathaway Inc-Cl A	United States	Financials	7	5	411	12	134
Facebook Inc-A	United States	Technology	-	6	411	-	-
Exxon Mobil Corp	United States	Oil & Gas	-6	7	340	1	337
Johnson & Johnson	United States	Health Care	0	8	338	8	145
Jpmorgan Chase & Co	United States	Financials	19	9	314	28	100
Wells Fargo & Co	United States	Financials	45	10	279	55	60
Tencent Holdings Ltd	China	Technology	-	11	272	-	13
Alibaba Group Holding-Sp Adr	China	Consumer Services	-	12	269	-	-
General Electric Co	United States	Industrials	11	13	260	24	107
Samsung Electronics Co Ltd	South Korea	Consumer Goods	39	14	259	53	61
At&T Inc	United States	Telecommunications	-8	15	256	7	149
Ind & Comm Bk Of China-A	China	Financials	-12	16	246	4	188
Nestle	Switzerland	Consumer Goods	-2	17	239	15	129
Bank Of America Corp	United States	Financials	69	18	236	87	44
Procter & Gamble	United States	Consumer Goods	-9	19	230	10	138
China Mobile Ltd	Hong Kong	Telecommunications	-15	20	224	5	175

How to compare companies

- Previous 2 tables show 2 very different ways to compare companies
 - The Chinese ranking lists the country's top 100 electronics and information technology companies based on their sales, profits and R&D strength in 2010. It is unclear HOW the score is calculated but appears to be a financial calculation and fact based.
 - The PwC list is based only on Market Capitalisation; which represents the value of the company to investors.
$$\text{Market capitalisation} = \text{Number of Shares} \times \text{Share Price}$$
 - Market capitalisation can change overnight due to market sentiment. It is opinion based.

It is very difficult to compare companies, especially if they are in different business sectors e.g. Oil & Gas compared with Technology

1. Professional engineers often hold director level positions; they must be aware of the responsibilities
2. Engineers are often entrepreneurs; they need to understand the principles of company formation and the options available
3. If you are working for a company, it is important to understand the structure and how you can influence success
4. Finally, business is just ‘engineering with money’ it is not as complicated as you might think.

- We have discussed companies
 - Types of companies
 - Ownership of companies
 - Why engineers need to know about company structures
- What is the difference between a ‘sole trader’ and a limited company by shares?



University
of Glasgow

Thankyou!!