E-Commerce - 2
Network Externalities

The more people, the more valuable the network

Examples
- Telephone late 19th century
- Credit card 1980s
- Fax 1985-8
- Email 1995-9

Metcalfe’s law
The value of a network is proportional to the square of the number of users

Not completely accurate, as the value to each user is non-linear
Network Externalities

Utility

Almost nobody uses it

Almost everybody uses it who ever will

Users
Virtual Networks

Example: iPhones and Apps
  Virtuous circle
    People buy iPhones because lots of apps are available
    Developers write apps because there are lots of customers

Many other examples
  Credit cards and merchants
  VCR / DVD standards and media content

Winner takes all
  Dominant Firm Model
  Development of effective monopoly / oligopoly
  Not always: e.g. lots of FAX machine makers
Networks

The increase in value of a network is an example of what economist call an “externality”
  an external factor other than price

Network means that my purchase benefits all other users as well as myself

Once a network passes a critical size it grows rapidly
  Success disaster

Network allows opportunity to extract value even when marginal costs are near zero
  price controls
  lock-in: value is switching costs

**Combination of high fixed / low marginal costs, high switching costs and network externalities lead to a dominant firm model**
  One sentence summary of information economics
Network Effects

Dominant firm markets -> huge amount to play for (crazy valuations)

Control of key de-facto standards

Hugh first-mover advantages
  Can be displaced by larger entity
  MS: “Embrace and Extend” - spreadsheets and wordprocessors

Need to create bandwagon effect with makers of complimentary products
  need to court developers rather than users (e.g. MS)

Price to value
  but still need to make a profit
Liquidity

Liquidity is the ease with which an asset can be traded without creating a substantial change in price or value

Liquidity is a Network Externality
   a single marketplace tends to dominate for any single class of goods reputation

Examples
   Ebay vs Yahoo Auctions
   Stock exchanges
Manufacturing Cost

\[ P \]

\[ Q \]
Supply and demand curves

Quantity increases as price decreases

More supply as price increases
Discriminating monopoly
Regulations

The Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013

Electronic Commerce (EC Directive) Regulations 2002

Privacy and Electronic Communications Regulations (EC Directive) 2003 update 2012/13

EU Consumer Rights Directive 2011

Consumer Rights Act 2015 - included “Digital content”
Consumer Contracts - 1

Your identity including sufficient detail for the consumer to be able to identify the business they are dealing with. **This means real name**

A description of the main characteristics of the goods or services you are offering

The price of the goods or services you are offering, including all taxes

Details of any delivery costs

Details of how payments can be made

If payment is required in advance, you must supply your full **geographic address**
Consumer Contracts - 2

The arrangements for delivery or performance of the service, for example when consumers can expect delivery of the goods or the service to start. The contract should be performed within 30 days unless the parties agree to a different period. **Not this affects pre-orders.**

Information about your consumers' right to cancel, where applicable.

If consumers have to use a premium-rate phone number, you must specify the cost of the call (including taxes) before any charges are incurred for the phone call.

For how long the price of the offer remains valid.

The minimum duration of the contract where good or services are to be provided permanently or recurrently and that you will pay the cost of your consumers returning any product that you supply as substitutes because the goods or services originally ordered are not available.
Consumer Contracts - 3

After buying information that must be supplied in a durable form (meaning paper or email)

The information above

When and how to exercise their rights to cancel including

for goods - whether you require goods to be returned by the consumer and
if so who will pay for their return

for services - the consequence of agreeing to a service starting before the end of the usual seven working day cancellation period

Details of any guarantees or after-sales services (but see warranties)

The geographic address of the business to which the consumer may direct any complaints. This excludes PO Box addresses

If a contract lasts more than a year or is open ended, the contractual conditions for terminating it.
Electronic Commerce (EC Directive) Regulations 2002

The full name of your business

The geographic address at which your business is established

Your contact details, including e-mail address

Details of any publicly accessible trade or similar register with which you are registered

If you service is subject of an authorisation scheme or if you are a member of a professional body, details of the relevant superviseory authority or body

Your VAT registration number
where you refer to prices, a clear and unambiguous indication of those prices and whether the price include taxes and delivery costs (but Consumer Contracts also require you to quote prices inclusive of all taxes if the sale is covered by those regulations).

Anti-spam provisions
- commercial communications must be clearly identified as such,
- provide your identify as the person making the communication,
- clearly identify any promotional offer or promotional competition or game and ensure that the terms and conditions for participation are presented clearly

Requirements relating to the storing of the contract and for access to this by the consumer

Provision to enable the consumer to correct input errors prior to placing an order

Consumers should receive acknowledgement of the receipt of the order electronically without delay.
Warranties

EU law does not mandate a 2 year warranty

But does mandate a 2 year period for return of goods delivered faulty

Cancellations by consumer

  14 working days after delivery of goods or required information

  30 days plus seven working days if no information is delivered
VAT etc

UK customers

EU customers UNLESS they are registered for VAT and you have their VAT number

Special cases

Local sales taxes

Revenue duty on import converse of above

Excise duties complex e.g. TV components
Cookies

Must declare use

Must obtain explicit assent for third party cookies each time
BREXIT

It hasn’t happened yet.

Trade arrangements are still be negotiated.

Access to single market is a key question.

The arbitration process and court of appeal for trade disputes will change.
Capturing / Extracting Value

Business models (Where’s the money?)

- Landgrab
- Merchant
- PPV, Subscription, Freemium, Shareware, etc
- Market
- Advertising hoarding
- Lotteries and scams
Land grab

Maximise market share now; worry about profitability later

Since there are not yet profits, stock market values the company (for a while) on number of customers

Typical of new “Bubble” companies: cable TV, airlines, radio, Railways in 19th C, colonial exploration in 18th C

Now discredited: later never comes
   At least, not until the next bubble
Merchant

Sells goods or services for more than they cost
Basic to most businesses
Internet technologies add maybe 20% efficiency
  Disintermediation
  Lower cost market comms
  Lower cost order taking
  Lower cost distribution, especially for informational goods
  ‘Just in Time’ gives lower cost for stock and inventory
  Better modelling and control
    Mexican cement plant example

BUT still must be a sound business!!
  Established players may be asleep, but are not dead
PPV or Subscription

Pay per View (use)
  e.g. phone rates

Subscriptions
  Actuarial calculations
  All you can eat models
  Administration issues - charging model never stays simple!
    Matrix of services and products
    Freebies, promotions, etc

Copying issues
  Provide service
  Street Performer Protocol
Market

Commission on other people’s trades
   No stock cost
   Low barriers to entry

Place for buyers and sellers to meet
   eBay, B2B auctions, lastminute.com, bookfinder.com

Liquidity, liquidity, liquidity
   Network effects

Settlement issue
   Paypal, CrestCo, Bolero, Amazon pay, Apple pay, Google wallet

Novel pricing models (e.g. auctioning demand / surge pricing)
   Agent technology

Death of the portal (and maybe rebirth)
Better ways to trade - Platforms

Network effects
  Single marketplace for each class of goods
  Markets illiquid for large trades, inefficient for small trades
  What is a ‘fair market’?

Clearance and settlement
  Issues for very large and very small trades
  Warranties provided by CC & banks
  Dispute resolution
  Bearer certificates?
  Tax and jurisdiction?
  Privacy vs money laundering
Advertising

Typical rate £10 pctl (thousand impressions)
  More for personalisation and target adverts
  Advertising industry, and advertisers are very conservative
Monitoring

High traffic sites
  ISP home pages
  Need to drive traffic to the site
  Need to refresh site often / build community to keep users returning

Agency sales
  Google, Facebook

Market saturating
  Rates dropping
  Different formats
  Flash inserts; streaming media
  Email, digital TV, etc
Lotteries and Scams

Lotteries: tax on the ignorant
    Poor estimate of low probability events

Premium rate telephone scams
    TV quiz shows and auctions
    Phone this number to win…

Straight frauds
    Ponzi schemes (Pyramid sells)
    Credit card and other personal details
    Telecom scams
    Boiler room operations
Lightweight startups

Virtual office and presence

Cloud based resources (e.g. Amazon S3)

Low hanging fruit

Crowd source - Kickstarter
   Establish market
   Pre-sell product

Test assumptions not just product miracles