UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices

A presentation by **Ultimate Synergy (Group 2 – Tutor: Dr Andrew M Gravell)**

Speakers:

Roberto Gregoratti, Adam Barrett, Matthew Searle, Jacob Causon, George Davies, Jiaxin Shen, Alex Kumaila

April 22nd, 2013 – University of Southampton

Roberto Gregoratti

Adam Barrett

Jiaxin Shen

Jacob Causon

Matthew Searle

Alex Kumaila

George Davies

We are Ultimate Synergy!!

The members of our tutor group

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **an introduction**

Adam Barrett

What are novel business practices?

In the age of the **dot com boom**, many companies are required to **employ new strategies** to keep up with **competitors**, most of which revolve around the use of **available computing technology**.

Take the example of GoldCorp Incorporated; a Gold mining company based in Vancouver, Canada…

Tough times…

In 1999, Rob McEwen, the CEO for **GoldCorp Inc. ,** was facing a crisis ☹

The company's **profits** were at a **standstill** and the many geologists the firm employed were **unable to find any exact locations** and furthermore quantities of gold

With **belligerent shareholders** on his case, he decided he had to take **radical action**: he employed a **novel business practice.**

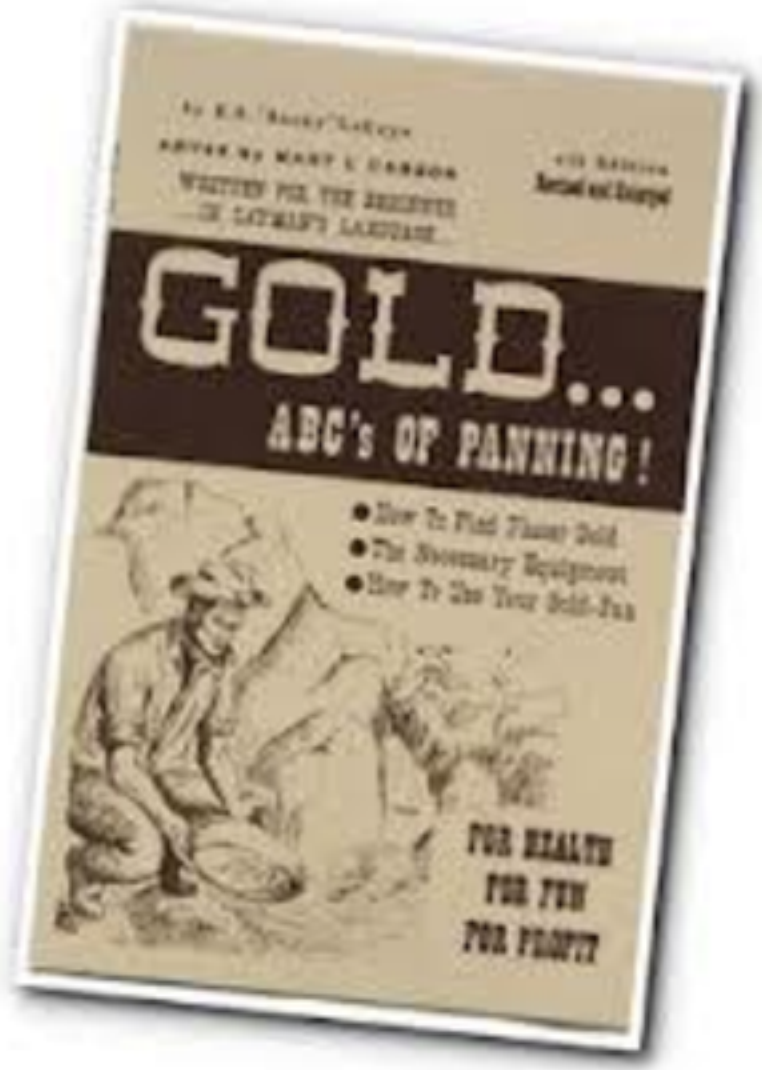
A different approach

In March 2000 the "**GoldCorp Challenge**" was launched.

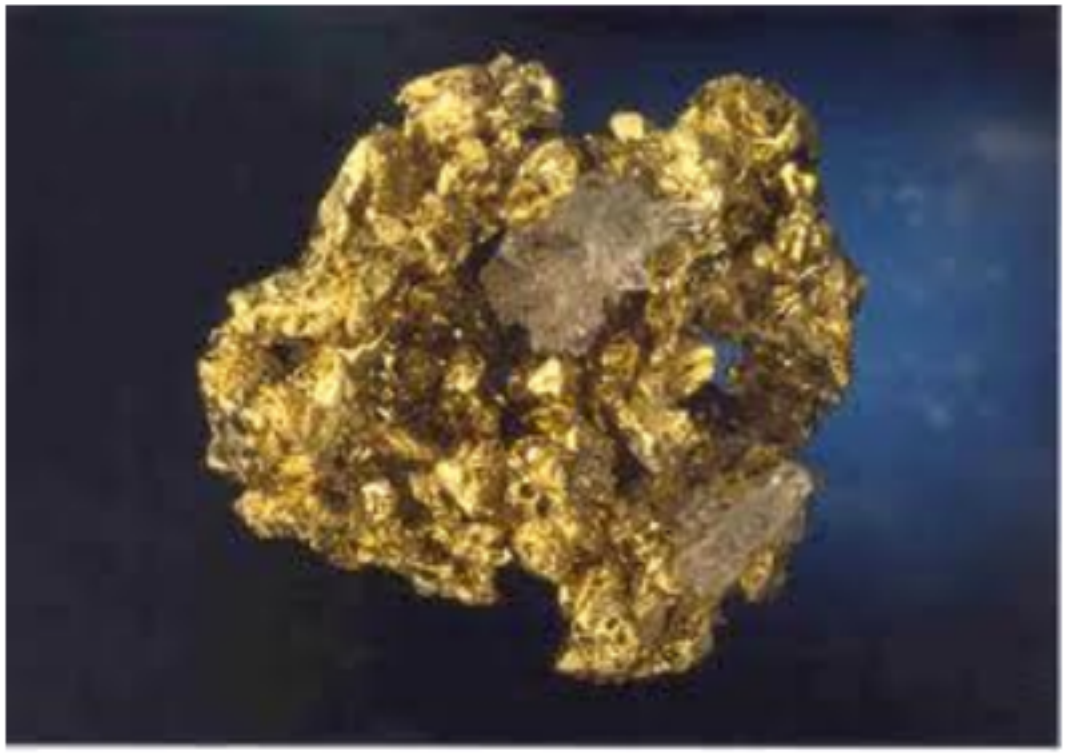
Amid much scepticism, in a bold move McEwen ordered that **all** of the company's **geological data** on the company's 55,000 acre property was p**ublished for all the world to see**.

$575,000 in **prize money** was offered for the **best solution/estimates**

News of the contest spread rapidly, attracting the attention of **many would-be prospectors**. Ranging from experts in Physics to Computer Graphics.



What happened?



The contestants identified over 100 targets on the Red Lake property, 50 percent of which had not been previously identified.

80 percent of said targets yielded massive quantities of gold.

McEwen's approach to the problem transformed GoldCorp from a struggling $100 million dollar company into a **$9 billion dollar power-house**. *He did good*.

One hundred dollars invested in the company in 1993 **was worth over $3,000 dollars today**.

And why is this important??

In the '**cut-throat' world** of business, many companies are forced to employ **new tactics** that depend on **technology** to try and **keep the cutting edge**.

Another example of a company which outsources via IT is **Procter and Gamble** who get **50% of their business ideas** from **external innovators** who submit their ideas via the **P&G portal**, at http://www.pgconnectdevelop.com/home/submit_innovation.html

There are however well established views that this new use of technology is a **threat to the legitimate right of companies to make a profit**. Take the mass-engineered project – Linux for example.

Companies that fail to devise **new methods of generating profit** and **exploiting available technology** are at risk of failure. When was the last time anyone bought a **CD**? ☺.

And so what, today? Why would I want to listen, you might be asking yourself?

Ultimate Synergy's aim is to look at the various **ways technology is employed in the workplace** and the subsequent consequences.

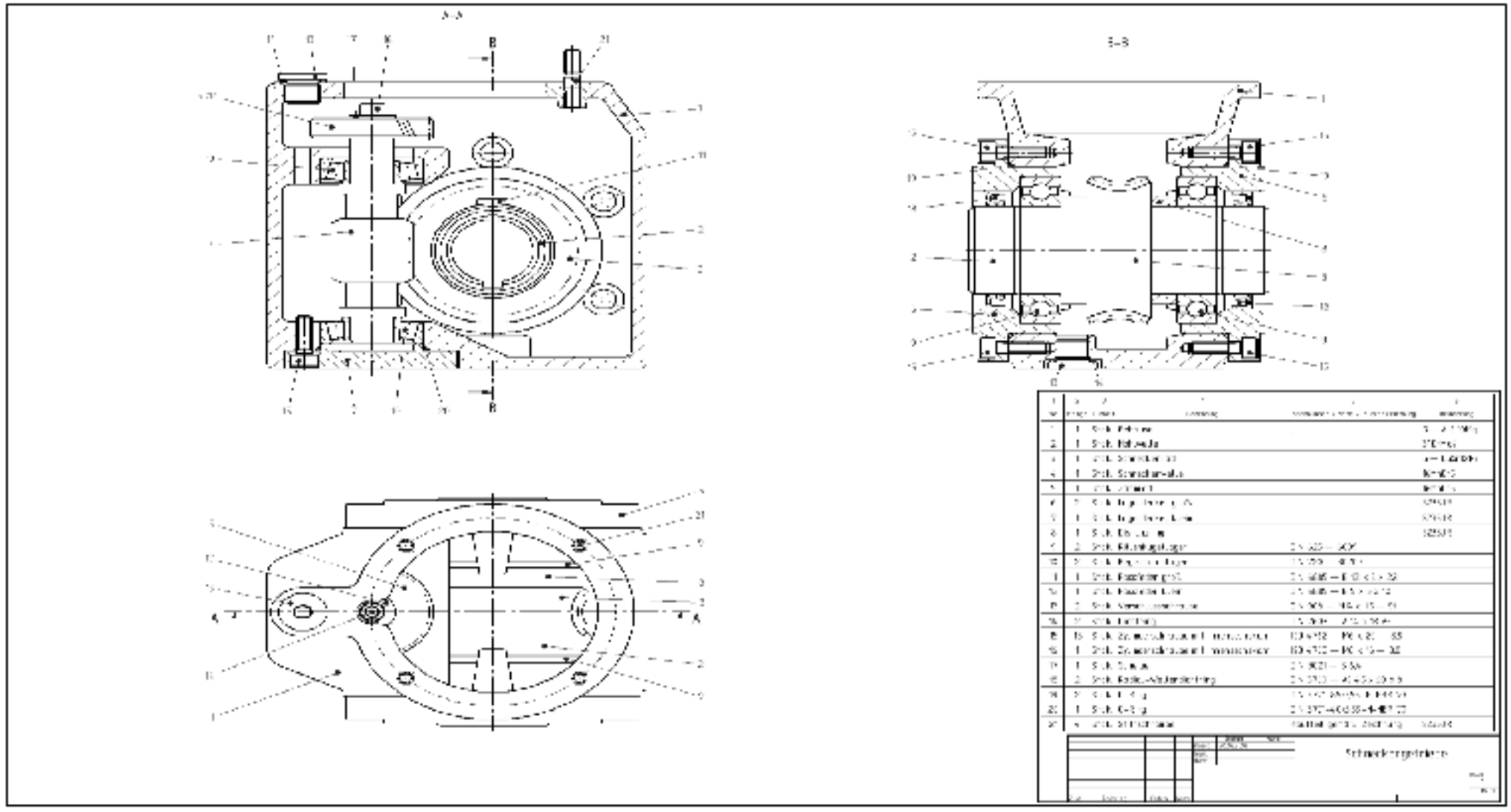
Our topics range from **technology in business pre-production** to technology in **finance** with a focus on the **technical/social aspects** of each.

UNIVERSITY OF Southampton
School of Electronics and Computer Science

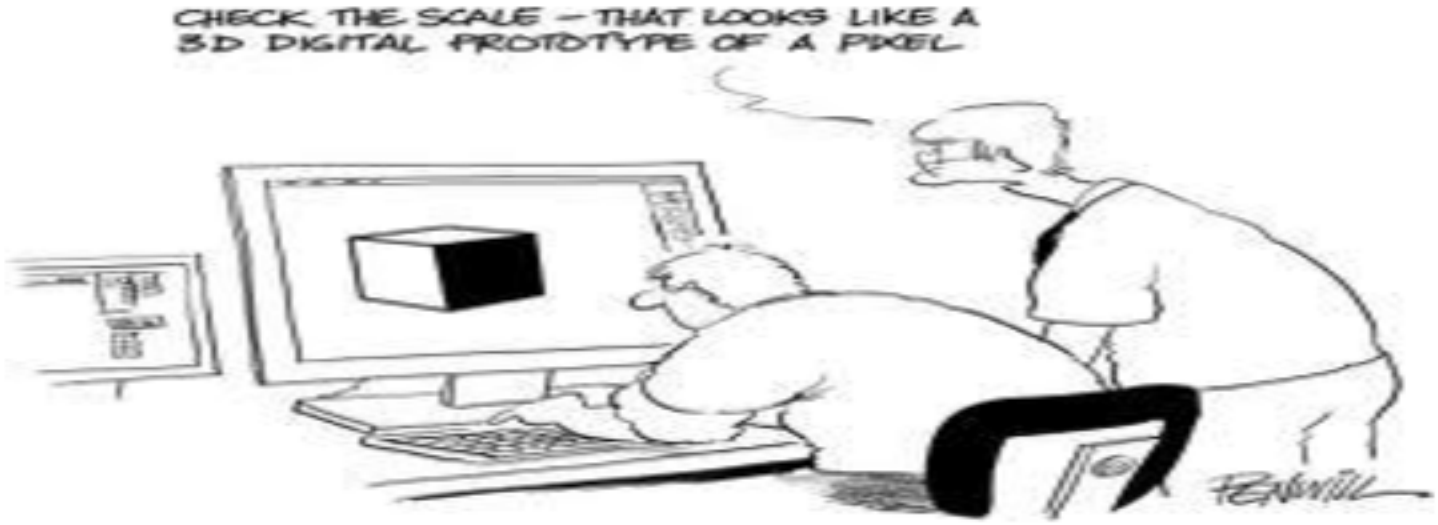
Novel business practices: **Pre-production**

Matthew Searle

Computer Aided Design (CAD)



What is it?



- "Computer-aided design (CAD) is the **use of computer systems** to **assist in the creation, modification, analysis, or optimization of a design**"
- **3 Dimensional drawing tools** in combinations with other technologies such as **3D printing** allow Engineers to **test principles and concepts** in a whole new way.
- 3D printing means that engineers can **prototype throughout the design process** and actually get their **hands on models of the end product** which in the past may have been too difficult to model to scale.

NARAYAN, K. LALIT (2008). COMPUTER AIDED DESIGN AND MANUFACTURING. NEW DELHI: PRENTICE HALL OF INDIA. P. 3.

How has it improved upon the old method

Beginning in the 1980s **computer-aided design programs** reduced the need of **drafters**.

- Drafters were **specially trained artists** that would sit at drafting boards and create **accurate, scaled drawings** of the **designed product**.
- The drafters would have to draw **many different variations** of the given design for architects and engineers to argue over **before the final design** was decided upon.
- Now the models having been designed on a computer can be much **more easily modified and assessed.**

Example application: Google sketch up

- **3D models** allow designers to almost **walk around the space they are designing in**
- Architects and Engineers can **model the space and simulate sunlight** to check for **light dispersion**
- The computer is able to test **whether the design is structurally safe**
- This also give clients an **accessible medium** by which to **imagine the finished product** rather than a technical drawing

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **Production**

Jacob Causon


HYUNDAI
@YOUNGESTER

Automated production lines

- **Faster** and **more accurate** than a human
- Have **abilities** humans don't such as the ability to 'see' **infrared** and **x-rays**
- Doesn't need to take **breaks** or be **paid**
- Has had an **impact** on the **unskilled labour market**
- Will need new, **expensive skilled** employees to **manage the system**

Automated production lines

- Only lead to **savings** when producing products **high volumes**
- Still has the **costs** associated with **transportation** from factory to consumer

These systems **can't be used everywhere** but when they can they can c**hange the way that the business operates** for the better

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **Working practices**

Roberto Gregoratti

How this all started… In the ‘90s

- 1990s: the Dotcom Bubble and the advent of the Internet account for new business models being developed by companies…

BUT…

- *“The business plans floated on the theoretical supposition of everyday interactivity failed because the experience turned out to be so clunky when real home users tried it out on dial-up computers.”* (Peter Day, BBC, 2003)
- Technology was not sufficiently developed to be deployed on a corporate level!!
- New business models started to emerge anyway, based on the **predicted growth of technology** in the industry…

And where we are today…

- **100% of the corporate world** today uses technology to their advantage
- **Technology** at the **heart** of **financial** transactions, **employee development** programs, **career** progression and financial **success**
- Internet is the main platform for a company to **advertise** themselves!
- A **fully interconnected world**… new business model from the ground up

Open and linked data usage

- Key principle: **Open source movement and an ever-increasing amount of data are at the centre of the business world today…**
- Increasing bandwidth and Internet resources = companies can use technology as their **development, outreach and deployment platforms**
- Automation of 90% of business services = **enormous quantities of data to handle**
- Everyday **interactivity** key of business success today
- ***Linked data:*** "a method of publishing structured data so that it can be interlinked and become more useful" . Similar concept: **open data**
- Companies are applying **transparency** in their business model. Data published on the Internet leads to more interactivity and cooperation
- Corporate cooperation = successful business practices and larger market shares. Collaboration = better, more popular products: **more resources, higher success**

New ways of working / Productivity

- Trending practices: **homeworking** and **teleworking**
- ICT allows for **flexibility** on workspace and distance work
- Meetings and face-to-face projects can't be included in the scheme : a combination of **face-to-face and distance working** is proving prolific for some businesses
- Reduction of **costs** for employers
- **Hot desking** also developing for certain businesses

Employee training

Company efficiency improved through **training for new employees,** by using:

1. **Technology** (training software, hands-on experience)
2. Custom, tailored **training packages**
3. **Collaborative** environments

Strategy 1: Custom-designed training software

- ✓ Advantage: tailored, self-paced training.
- ✓ Disadvantages: lack of face-to-face training from experienced employees. Often costly (development). Not hands-on most of the time.
- ✓Example: system functionality tutorials

Strategy 2: Learn-by-doing approach

- ✓ Advantages: personal experience, contact with experienced personnel. No added cost for the company.
- ✓ Disadvantage: Often a lengthy process.
- ✓Example: mentoring scheme

Legal issues, data protection and intellectual property

- More technology = more **data**, more **legalities (patents, etc).** Companies need to observe **laws** (Data Protection Act et al.) – **downside** of technology in corporate world
- Cooperation= productivity : growth of **open source products and services** (most famous startup model: Linux). Often this represent great revenue for the company
- **Creative Commons** licensing and cooperative model
- Need to **protect patents and intellectual property:**
  - ✓ **2012 – Record number of patents:** 257,000+ Europe only
  - ✓ **Intellectual property** most valuable asset for a company
  - ✓ Copyright and severe restrictions on **important products**

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **Logistics**

George Davies

27

Logistics

- Logistics is defined as “the detailed **organization and implementation of a complex operation**”[1]
- When relating **logistics** to **business**, it evaluates to the **management of transportation, storage and stock** of products.

Transportation

- **34 million vehicles** are registered on **Great Britain**'s roads[1].

- In **2010** there were **1,966 million tonnes of freight** lifted in Great Britain, with **1621 million tonnes of this going by road**[1]

Transportation

- **Satellite navigation** has evolved to allow businesses to **dynamically adapt to daily road conditions**.
- The **efficiency** of modern **delivery** provides **faster delivery** using **less employees**.

Stock management

- To build a **successful assembly line**, the **materials** must **arrive** in the **correct quantity** at a **time** before they are needed.
- By using **technology driven delivery**, materials can be delivered **within a time frame**. To ensure that there is the correct quantity of materials at the location, **stock management** is needed.

Stock management

- Using a **technological solution** such as a **database** can **nullify the need for a dedicated employee** responsible solely for this purpose.
- This process **reduces the reliance on one person** and **increases reliability of stock ordering**

Storage management

- Businesses have a **finite amount of storage** space.
- A company must ensure that the storage space they do have is **effectively managed** so that there is a **balance** between the **volume of stock being sold** and the **volume being produced**.

Storage management

- The **warehouses** distributed across the planet must maintain a **varying range of products** to **increase the availability** of a product **globally.**
- By maintaining a **global-stock database** versus a **location based database**, a business can effectively **ship its products from factories and warehouses** to enable an **even global distribution** of its products is maintained.

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **Communication**

Jiaxin Shen

Technical aspect

Smart meetings

- Software programme
- Easy to share content and capture ideas in powerful, engaging ways

Instant communication

- Instant messaging
- Allow two or more people contact in one time
- Reduce time of consumption

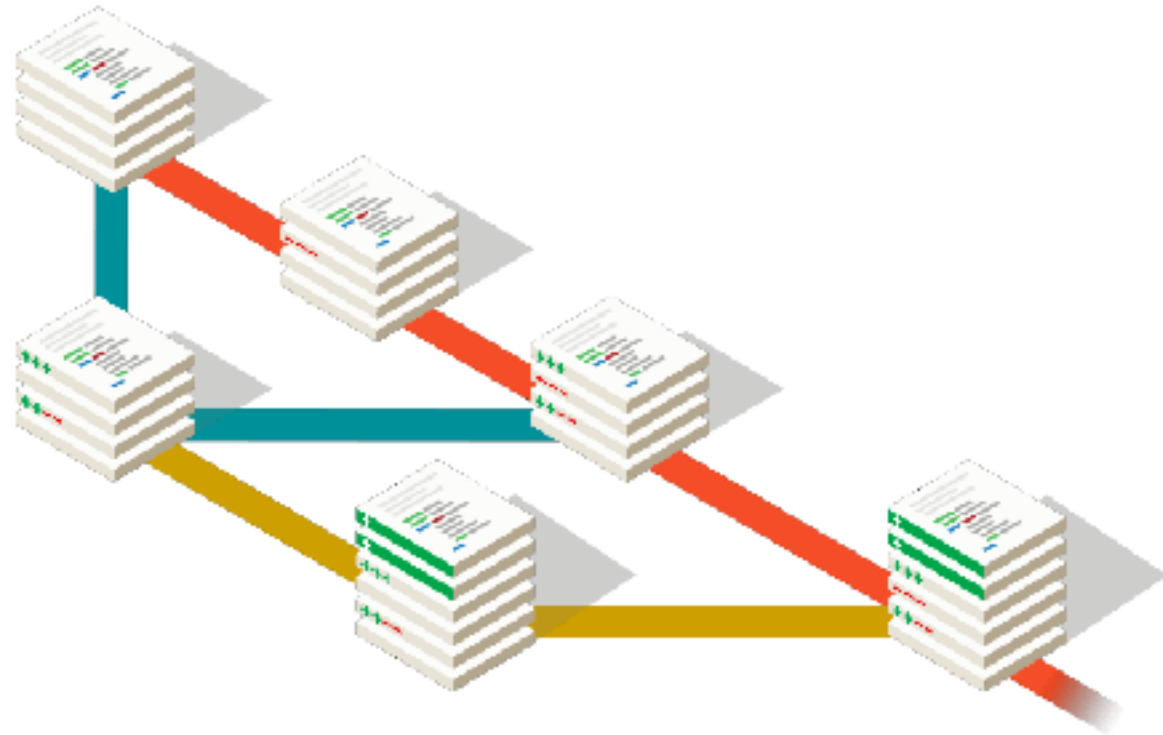
Social aspect

Translation

- Enable a larger market
- Make simple and easy understand

Network

- Git
- LinkedIn



UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **Finance**

Alex Kumaila

Online transactions

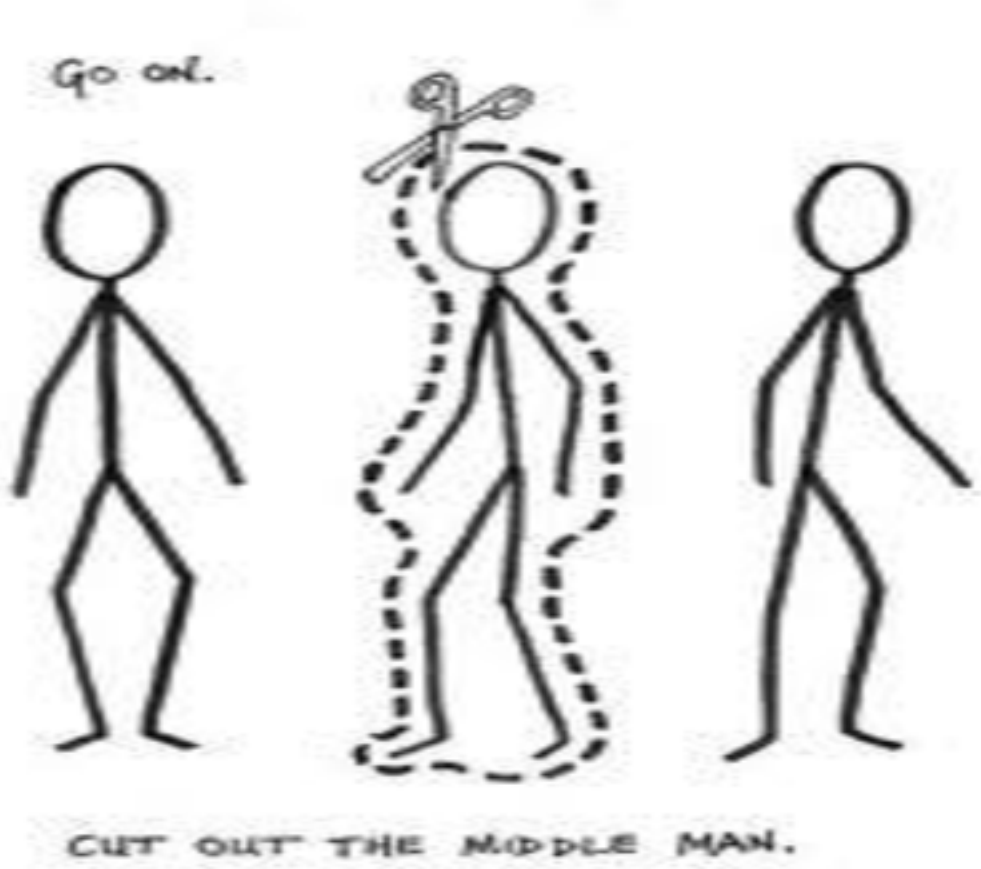
- **Electronic Commerce**
  - ✓"A type of industry where **buying and selling** of either product or service, is conducted **over electronic systems**."
- The introduction of '**E-tailing**'
  - ✓**Virtual store fronts**, sometimes gathered into **a 'virtual mall'**.
- Expands potential customer bases of **B2B and B2C sales**.
- A safe way of payment; **SSL encryption** covers **current conventional methods** (Visa, PayPal .etc).

Bitcoin

- A **digital currency**, first introduced in 2008.
- **Peer-to-peer payment** system.
- Creation and transfer is completed over **open source encryption protocols**.
- **Not managed by a central authority**. (Anarchism, Micro-philanthropy)
- Acquired through either **exchange or mining** (the procedure of using your own computing power to process and maintain the security of Bitcoin transactions, and/or crunching onerous mathematical equations).
- Slowly becoming **more and more accepted** as a payment method.
- An **anonymous transaction**, often used in online black-markets. (Silk Road)

The loss of a ‘middle man’

- Two key **business benefits**:
  - **Reduced paper trails.**
  - Faster and more **accurate forecasts** of revenues and expenses.
- **Increases productivity** within business, no need for human intervention for every transaction.
- With **ease of payment** comes ease of decision, pushes **more sales.**



Fees

- Some online transfers, however, entail **levels of fees which hinder global payment growth.**
- Payments which include currency exchange are often charged an **exchange commission.**
- This can, in many cases, **sway the decision of the customer**, as **complication and lack of value** is introduced to the transaction.

UNIVERSITY OF Southampton
School of Electronics and Computer Science

Novel business practices: **the conclusion…**

We might end here, but this is just the beginning…

Conclusion…

- ✓ What we have presented today is just a **small part of the application of technology in the creation of new business models** in today's corporate world
- ✓Technology is being employed in business to **create successful products, increase the productivity and efficiency of the existing models** and **generate more revenue by introducing cooperation with other companies and other innovative business models**
- ✓There are **many more issues for further exploration and discussion!!**

From Ultimate Synergy…

… thanks for listening!!

(And if you want to know where we got the inspiration from, check our references in the next slide!)

Sources / References

- "Robotic equipment in the meat industry", Graham Purnell (1998) http://www.sciencedirect.com/science/article/pii/S0309174098900560
- "Present and future robot control development - An industrial perspective", Torgny Brogardh (2007) http://www.sciencedirect.com/science/article/pii/S1367578807000077
- http://news.bbc.co.uk/1/hi/business/6280489.stm - Peter Day, BBC, Here comes the creator economy
- http://www.slideshare.net/myslideshare/intellectual-property-and-trade-mark - Intellectual property and trade mark presentation (patents and licensing section)
- http://blog.swirrl.com/articles/linked-data-business-models (open data)
- http://www.slideshare.net/missdunlop1/working-practices-2008452 (productivity, working practices)
- http://www.trainingindustry.com/content-development/articles/training-best-practices-and-organizational-success.aspx (employee training)
- http://www.businessperform.com/ (workplace practices)
- http://www.epo.org/news-issues/press/releases/archive/2013/20130306.html (patents and licensing)
- Department for transport, TSGB04 - Freight, Table TSGB0401, https://www.gov.uk/government/statistical-data-sets/tsgb04-freight, accessed 18/2/13)
- Oxford dictionaries, http://oxforddictionaries.com/definition/english/logistics, accessed 18/4/13)
- http://smarttech.com/Home+Page/Solutions/Visual+collaboration+solutions/Products/SMART+Meeting+Pro+software - SMART Meeting Pro software
- http://git-scm.com/ - Git
- http://www.linkedin.com/static?key=what_is_linkedin&trk=hb_what – What is LinkedIn
- BBC News - http://www.bbc.co.uk/news/technology-22152213
- Daily Anarchist - http://dailyanarchist.com/2011/10/02/i-was-wrong-about-bitcoin/