The University of Southampton
School of Management

ENTR 6037: Innovation and Technology Transfer
Innovation & Technology Transfer

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Course Outline

• Week 1 – Innovation & Competitive Advantage
• Week 2 – Intellectual Property/Capital
• Week 3 – Commercialisation 1
• Week 4 – Commercialisation 2
• Week 5 – Innovation & Tech Transfer Models
• Week 6 – Innovation Models / Group Work
• Week 7 – Innovation Models / Group Work
• Week 8 – Assessment/Presentations
Week 1 – Aims & Tasks

• Review Course Plan
• Form Groups

• Assignment Dates
  – Group Presentations – 18 April 2012
  – Individual Assignment - 3 May 2012

• Group Assignments provided in Week 1
• Individual Assignments provided in Week 5
What is Innovation?
Creativity

“a mental process involving the generation of new ideas or concepts, or new associations between existing ideas or concepts”
Invention

“an object, process, or technique which displays an element of novelty”
Innovation

“Successful Exploitation of Knowledge”

(Products, Processes, Services, Business Models, Organisational Structures, Markets…CBI)
“If Research is all about turning Money into Knowledge then Innovation is about turning that Knowledge back into money!”
Innovation Cycle

MARKET → DESIGN → DEVELOPMENT → EXPLOIT → DISPOSE → IDEA
Service Innovation - Coffee
Product Innovation – Coffee
Process Innovation - Coffee
Schumpeter

- 5 Innovation Areas
  - Product (income generation)
  - Production (cost control/reduction)
  - Supply
  - Market
  - Business Organisation

- Innovation V Imitation (Technology/Knowledge Transfer)
The Creative Instinct

Who is Creative?
Who is Creative?

We all are, just in different ways
Kirton Adaptive-Innovation Index (KAI)

Do it better
Uses existing frameworks
Methodical
Established situations
Intuitive
Reframe

Different solutions
Full of ideas
Take risks
Challenge conventional thinking

Safe
Practical

50 100 150

Essential in times of change

Required most of the time
Radical Creativity
Adaptive Creativity
Remember,
We are all creative, just in different ways
Disney Creativity Strategy

Separate creative and analytical
Powered by management

Idea generator
- Imagination
- Brainstorming
- Idea management
- Experimentation

Idea quality control:
- Evaluation
- Analysis
- Pre-implementation

Ideas

Profits fuel management

Implementation = Profit
Brain Storming
Gas-filled umbrella

Decoy ducks & stay dry!

Fetus Walkman

Musical flamethrower

Cheese-flavored cigarette
Ray Ewry (1873-1937)

Olympic Games, London, 1908

World record: 1,98
Richard Fosbury (1947), Olympic Games, Mexico, 1968

World Record: 2.24 m
Why Innovate?

1. Creates a Competitive Advantage

   Increase the Perceived Added Value

   Unique and sustainable?
Technological Leap
Technological Tweak
Service
Novelty
Technology/Knowledge Transfer
Why Innovate?

2. Provides a Window of Opportunity
Establish a market lead
Establish IP, brand & distribution network
High margins
Value Added Services

Waitrose.com
Benefit - IP Assets

• Business Assets – can be traded, licensed, exchanged

• Tangible

• Intangible…Knowledge-based economy

• Company Wealth / Valuation
Design Index
An index of 61 design-led businesses has outperformed the FTSE 100 by more than 200% over the past decade.
Innovation – Not all Plain Sailing

- Absorption / Absorption Rates
- Continuous & Discontinuous/Disruptive
- Cost/Lessons of failure
Barriers

- Creative invention = novelty = IPR
- Invention innovation = ROI
- Is it needed?
- Can it be made?
- Resources available?
- Knowledge available?
- Cost > price?
- Rely on other innovations?
- Scaling issues?
- Politics, laws, closed markets/monopoly?
Scarcity of Resources

• Finance/Backers?
• Materials?
• Fixings/Adhesives?
• Building Techniques?
• Power Source?
• Fuel?
• Piloting Experience?
Consumer Absorption Rates
OR Technology Adoption Rates
Disruptive Innovation
Disruption – The Music Industry!
Innovation – Failure?
The Idea Review Tool

www.business-kit.co.uk

• Free and Confidential

• Self-learning

• Access to support information
What is the IDEA review tool

- Inventor
- IDEA
- Test Maturity
- Advisor
- Fact Sheet/Links
- Action Plan
START THE IDEA TOOL

Our online diagnostic should be treated as a helpful checklist and a source of advice rather than a prescriptive or exhaustive list.

All ideas and companies are different and, therefore, you may find some areas more relevant to you than others.

It is designed to enable you to check the maturity of your idea as well as providing free information and links to further advice that will enable you to improve your business plan.

Our online diagnostic will also give you an insight into the mind-set of a potential investor.

The process can take around half an hour to complete - your progress is automatically saved throughout so you can login and return to it at any time.

Return to main Business-KIT website

Start the tool

Section 1: About Your Idea
Section 2: Marketing & Sales
Section 3: Business Planning

View Results

Navigation Bar
The navigation bar (shown you are here... here) indicates where you are within the tool. You can also use this to navigate between sections / questions...

Reviewing your progress
The meter to the top right provides an indication of how much work you have completed. You can also review your recommended reading progress from the results.
CAN YOU DESCRIBE THE DETAILS OF YOUR PRODUCT OR SERVICE?

... In order to take an idea from concept to market you must first be able to describe your idea in sufficient detail to be able to demonstrate it to others. Before you can protect your idea, to stop others from copying it, you need to be able to demonstrate that the idea or invention is new and does not already exist.

... Many products and some services have to meet national and international standards. Others are controlled by local authorities, planning consent may also be required, health and safety, and environmental guide lines have to be followed. Some ideas have great market potential but turning them into reality can be very difficult.

... In the following section we will breakdown this question further, summarised in the list on the right, and provide you with information and resources to help you understand and judge how far you have developed your idea.

... If this is your first visit to this section then click "Start this section" else click on the appropriate subquestion to continue.

Questions within this section:

- CAN YOU DESCRIBE OR DEMONSTRATE YOUR PRODUCT OR SERVICE?
  - Do you have Sketches or Diagrams?
  - Do you have a Concept Demonstrator?
  - Do you have a Prototype?
  - Have you considered How the Product will be Produced?

- CAN YOU SHOW THAT THIS IDEA HASN’T BEEN DEVELOPED BEFORE?
  - Have you Searched the Internet?
  - Have you undertaken a Publication Search?
  - Have you Physically Searched for the product?
  - Have you done a Third Party Search?

- CAN YOU DEMONSTRATE THAT YOUR IDEA CAN BE PROTECTED?
  - Have you Patented your idea?
  - Have you Trademarked your idea?
  - Have you protected your Design Rights?
  - Have you protected your Copyright?
  - Have you considered Design Registration?
  - Have you Secured your Company Name
  - Do you have a Non-Disclosure Agreement?

- CAN YOU SHOW THAT YOUR IDEA CAN BE MADE TO CONFORM TO LEGISLAION/STANDARDS?
Do you have a Prototype?

... A Working or “Pre-Production” prototype is something, whether it is a product or a process that is fully operational and is robust and safe enough to be tested by a select audience of customers/users.

... The feedback gained from this exercise will allow for final optimization of the product or service before the possible final stages of scale manufacture, accreditation and launch. The prototype can also be used as a marketing tool to attract early sales and customer interest and will also verify the cost and quality aspects of the product or service.

Current Status

⚠ Task is partially complete

Do you have a Prototype?

Rate yourself on this issue

⊙ Not heard of / not started
⊙ Just started reading about this issue (or not relevant)
⊙ Have started working on this issue
⊙ Well on the way towards addressing this issue
⊙ This issue is completed

Web Links...

☒ Research and Development Grants
☒ Rapid Prototyping Techniques
☒ Virtual Prototyping Review
☒ Knowledge Transfer Partnerships

Go to the next question
Go to next section
Go back to previous question
Go back to section start
Marketing & Sales

CAN YOU DEMONSTRATE THERE IS A DEMAND FOR YOUR IDEA?

... When you are setting up a business it is essential that you understand your potential market. Although it is time-consuming to acquire a thorough and reasoned knowledge, without this information, it is almost impossible to develop a product or service that meets the needs of your potential customers: the price they will pay, the volumes they will buy and their preferred method(s) of purchase.

... Understanding your customers and the market will allow you to honestly assess the viability of your venture and to convince your partners, suppliers and financiers that your business is a good investment of their time, energy and money.

... In the following section we will breakdown this question further, summarised in the list on the right, and provide you with information and resources to help you understand and judge how far you have developed your idea.

... If this is your first visit to this section then click "Start this section" else click on the appropriate subquestion to continue.

Questions within this section:

- DO YOU KNOW WHO YOUR CUSTOMERS ARE?
  - Do you know Who your customers are?

- WHERE AND HOW WILL YOUR PRODUCT/SERVICE BE SOLD?
  - Do you know Where and How the product/service can/will be sold?
  - Can you Differentiate your product/service from your competitors?

- HOW MANY CUSTOMERS ARE THERE FOR YOUR PRODUCT/SERVICE AND WHAT WILL THEY PAY?
  - Do you know How Many customers there are for your product/service?
  - How Much will your customers pay for your product/service?
  - How much will it Cost to get each Sale?
  - Have you Identified your Suppliers?

- DO YOU KNOW WHO YOUR COMPETITORS ARE?
  - Do you know who your Competitors are?
**Do you know Where and How the product/service can/will be sold?**

... As well as knowing who your customers are and why they will buy your products or services you also need to understand how they want to buy from you. There are many routes to most markets and your targeted customer base will have preferred buying options: face to face, internet, wholesaler, telephone, mail, etc. Geography and proximity may also be critical success factors as some customers may want to buy from local suppliers.

... Accessing international customers will require a greater understanding of cultural as well as infrastructure and legal differences as well as greater logistical control.

**Current Status**

- Task is partially complete

**Do you know Where and How the product/service can/will be sold?**

**Rate yourself on this issue**

- Not heard of / not started
- Just started reading about this issue (or not relevant)
- Have started working on this issue
- Well on the way towards addressing this issue
- This issue is completed

**Web Links...**

- Find an Exhibition or Trade Fair
- Selling Abroad
- Finding a Route to Market advice and examples
- Getting Noticed on the Internet
- Selling on eBay
- Creating an Online Shop
- Practical Simple Marketing Advice

**Go to the next question**

**Go to next section**

**Go back to section start**
Congratulations on successfully completing the idea investigation diagnostic - we hope that the fact sheets and links have been useful.

Please feel free to return to the diagnostic at any time to follow links or to re-evaluate your idea. We would also recommend at this stage that you take advantage of a free and confidential meeting with an impartial Business Link Advisor who can help you examine your proposal in further detail.

Click on the 'meet advisor' link below to arrange contact by Business Link.

Meeting request with Business Link Advisor

Please be aware that Business Link will require some basic financial information regarding your proposed product / business. This will be kept confidential and is used to benchmark the future performance of your business.

You may also find it useful to read our fact sheet on 'Pitching Your Idea' as this will help you explain, in a concise and engaging way, your idea to others (make sure your idea is protected before discussing with others).

* All discussions with the Business Link Advisor will be confidential and impartial. We also suggest that you use a Non-Disclosure Agreement during any meetings where you may be revealing your idea.
Well done! Based on the answers that you have given, you have completed most of the tasks within this section. It may be more important to work on any sections that have resulted in a RED or AMBER grade rather than spending more time on this section.

**CAN YOU DESCRIBE OR DEMONSTRATE YOUR PRODUCT OR SERVICE?**
- Do you have Sketches or Diagrams?
- Do you have a Concept Demonstrator?
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**CAN YOU SHOW THAT THIS IDEA HASN'T BEEN DEVELOPED BEFORE?**
- Have you Searched the Internet?
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**CAN YOU DEMONSTRATE THAT YOUR IDEA CAN BE PROTECTED?**
- Have you Patented your idea?
- Have you Trademarked your idea?
- Have you protected your Design Rights?
Submit meeting request to Business Link Advisor

Business-KIT will pass your data to your local Business Link Operator and will not keep any financial data pertaining to your business on record. Business Link will assist use the information that we collect about your company for administration, research and customer services purposes and keep it for a reasonable period of time so as to enable them to contact you about their services. They may disclose your information to appropriate Government departments, although they will withhold your company/business name and any personal details.

By completing and returning this form, you consent to Business Link processing your sensitive personal data such as gender and ethnicity for the above purposes. When you give Business Link information about another person you confirm that they have appointed you to act for them, to consent to the processing of their personal data, including sensitive personal data. You have a right to ask for a copy of the information that Business KIT and the Business Link Operators hold and to correct any inaccuracies.

Date Submitted:

Company Name
UOP

Address (inc postcode)
- 
- 
- 
- 

Contact Name
Mr Mark Jaques

Position

Telephone

E-mail
Mark.Jaques@port.ac.uk

Financial Year End (dd/mm/yyyy)

Business Sector
Agriculture, hunting & forestry

Have you been trading for less than 12 months?
- Yes
- No

If yes, what was your start up date (mm/yyyy)?

Done
Tasks

Reading:

• Chapter 1, 3 and 4, Tidd et al

• Chapter 1, P. Trott, Innovation Management and New Product Development
Group Work

• You are a team of Strategic Innovation Development Managers. Your job is to review possible technological inventions, gauge the chance of commercial success and present your findings to an Investment Board.

• Task 1 – review the technological invention
• Task 2 – present the possible competitive advantages of the invention.
• Task 3 – individually, use the Idea Tool
Possible Inventions