Definition of Innovation
01. Defining Innovation
02. Grades of Innovation
03. Motivations and Barriers
04. Innovation System
01. Defining Innovation
What is Innovation?
Innovation From a European Commission Perspective

Innovation is the successful production, assimilation and exploitation of novelty in the economic and social spheres.

- “The renewal and enlargement of the range of products and services and the associated markets;
- The establishment of new methods of production, supply and distribution;
- The introduction of changes in management, work organisation, and the working conditions and skills of the workforce.”

European Commission’s Green Paper on Innovation
Innovation From a World Perspective

- The improvement of existing or the creation of entirely new products, processes, or services.
- The transformation of existing conditions into preferred ones.
- The creation of new value for the world.

At its root INNOVATION IS CHANGE!
Innovation – Why Does It Matter?

*It is the core driver of modern economic growth.*

90% of the variation in the growth of income per worker across nations is attributed to innovation.

*The Information Technology & Innovation Foundation*
02. Grades of Innovation
Definition of Innovation

- **Innovation – a metaphor**
**Incremental innovation**: The new product incorporates a few new elements, absent in the previous one, without changing the basic functionalities.
**Distinctive innovation:** Although possessing some traits similar to previous products, the new product incorporates attributes which correspond to previously non-existing functions.
**Disruptive innovation**: Complete break-up with previously existing products. It may arise in response to the satisfaction of a certain need, or by creating a new need which previously did not exist.
Each path of innovation has a distinct positioning.

Adriano Freire, 1997
Example of Distinctive Innovation: iPod

The Information Technology & Innovation Foundation
03. Motivations and Barriers
Why do enterprises innovate?

- Customer sophistication
- Changing market requirements
- New technologies
- Trends e.g. Green
- Competitors’ speed of response
- Changes in the Environment e.g. Laws
- Serve new markets
- Globalization of markets

SURVIVE IN THE MARKET
Definition of Innovation

Benefits

- Profit/Margins increase
- Product diversification
- Product differentiation
- Keeping or increasing market share
- Gain a competitive advantage
- Satisfying customer needs
- Customer loyalty
Risks

• Non-acceptance of the product in the market
• Failure in product development
• High investments that run the risk of not being profitable during the product life cycle
• Excessive concentration of resources and attention on the new product at the expense of quality and marketing of existing products
• The company becoming dependent on the new product’s growth in market share
Barriers

- Lack of ambition and vision
- Risk avoidance
- “Siloing”
- Time commitments
- Incorrect measures (e.g. performance indicators)
- Lack of expertise in the process
- Inadequate funding

What about Culture??
04. Innovation System
Concept & Main Characteristics

“.. the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies.”

Freeman

- Flows of technology and information among people, companies and other institutions are key to the innovative process: innovation systems are highly dependent on how smooth the knowledge flows.

- There are various mechanisms for making the knowledge flow: joint industry research, public/private sector partnerships, technology diffusion and movement of personnel.
Concept & Main Characteristics (cont.)

To assess national innovation systems it is necessary to measure the four types of knowledge flows:

1) **joint industry research**: interactions among enterprises and joint research activities;

2) **public/private sector partnerships**: interactions among enterprises, universities and public research institutes, including joint research, co-patenting and more informal linkages;

3) **technology diffusion**: to enterprises, including industry adoption rates for new technologies and through machinery and equipment;

4) **movement of personnel**: movement of people and the knowledge they take with them.
Importance of linkages

- Understanding the links among the stakeholders involved in innovation is crucial for improving technology performance and overall innovation performance of a country.

- Different approaches of analysing innovation systems:
  
  - innovation surveys
  
  - international knowledge flows
  
  - **cluster analysis** focuses on the interactions between particular types of firms and sectors within the innovation system.
Definition of Innovation

EC Framework Programmes

- Technology creation
- Market focused business and product development
- Early commercialization

Resources

- Existing Research and Development Resources
- Existing Commercialization Resources

Primary investors

- Government and NPOs
- Entrepreneurs and seed/angel investors
- Venture capitalists
- Stock owners

Public sector

Private sector
HEADQUARTERS

**SPI PORTO**

Avenida Marechal Gomes da Costa, 1376
4150-356 Porto - PORTUGAL

E-Mail: spipporto@spi.pt

P: +351 22 607 64 00

F: +351 22 609 91 64

www.spieurope.eu

---

**Definition of Innovation**

---

**EUROPE**

**PORTUGAL**

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI PORTO &amp; SPI VENTURES</td>
<td>Avenida Marechal Gomes da Costa, 1376</td>
<td>+351 22 607 64 00</td>
<td>+351 22 609 91 64</td>
</tr>
<tr>
<td></td>
<td>4150-356 Porto - PORTUGAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI COIMBRA</td>
<td>Instituto Pedro Nunes, Ed. E.</td>
<td>+351 29 09 08 54</td>
<td>+351 29 09 08 55</td>
</tr>
<tr>
<td></td>
<td>30330 - 199 Coimbra - PORTUGAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI LISBON</td>
<td>Avenida 5 de Outubro, nº 12</td>
<td>+351 21 421 22 49</td>
<td>+351 21 421 12 01</td>
</tr>
<tr>
<td></td>
<td>4º Direita, 1055-056 Lisboa - PORTUGAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI AZORES</td>
<td>Avenida Principe do Mônaco, Bloco 5, 2º Ori</td>
<td>+351 22 607 64 00</td>
<td>+351 22 609 91 64</td>
</tr>
<tr>
<td></td>
<td>95950-236 Ponta Delgada - PORTUGAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBN - BRUSSELS</td>
<td>Avenue de Tervuren, 1688</td>
<td>+32 2 772 89 00</td>
<td>+32 2 772 95 74</td>
</tr>
</tbody>
</table>

**BELGIUM**

---

**NORTH AMERICA**

**UNITED STATES OF AMERICA**

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI CALIFORNIA</td>
<td>2522 Chambers Rd., Suite 204</td>
<td>+1 714 58 40 63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tustin CA 92780 - USA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI WASHINGTON D.C.</td>
<td>1050 17th Street, NW, Suite 600</td>
<td>+1 202 87 29 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washington DC 20036 - USA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI CHINA</td>
<td>e-Mail: <a href="mailto:spichina@spi.com">spichina@spi.com</a></td>
<td>+86 105 982 21 44/45</td>
<td>+86 105 982 21 44</td>
</tr>
<tr>
<td></td>
<td>F: +86 105 982 21 43/45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ASIA**

**CHINA**

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI BEIJING</td>
<td>10268, Floor 16, Tower A, Top Electronic Cty, No.3</td>
<td>+86 105 982 21 43/45</td>
<td>+86 105 982 21 44</td>
</tr>
<tr>
<td></td>
<td>Haidian Avenue, Haidian District, Beijing - CHINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI MACAO</td>
<td>Avenida da Prata Grande, nº 759, 5º andar</td>
<td>+86 105 982 21 44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Macau - CHINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e-Mail: <a href="mailto:spichina@spi.com">spichina@spi.com</a></td>
<td>+86 105 982 21 44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F: +86 105 982 21 44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SINGAPORE**

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI SINGAPORE</td>
<td>Science Park Road Block/Building No 21, Unit No 02 - 02</td>
<td>+65 67 74 40 48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Aquarius - SINGAPORE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**www.spieurope.eu**