Comercialización de Innovaciones

Dr. Jose I. Vega Torres
Dra. Moraima De Hoyos Ruperto
Dr. Jordi Maura
Lizabel Rivera, Estudiante Graduada ADEM
SEMINARIO DE INTEGRACIÓN
COMERCIALIZACIÓN DE INNOVACIONES

RECURSOS:
DR. JOSÉ I. VEGA TORRES Y
DRA. MORAIMA DE HOYOS RUPERTO
COLEGIO DE ADMINISTRACIÓN DE EMPRESAS
UNIVERSIDAD DE PUERTO RICO, RENOVACIÓN

DR. JORDI MAURA
FACULTAD DE ADMINISTRACIÓN DE EMPRESAS
UNIVERSIDAD DE PUERTO RICO, RENOVACIÓN

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LUGAR:
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Para inscribirse, comunicarse a:
inas.uprrp@gmail.com - Ext. 86745
Introducción
Conceptos pertinentes
Proceso de Comercialización
Ecosistemas empresariales
Herramientas:
  - Business Model Canvas
  - Technology Driven Marketing Intelligence
Introducción
“…to accelerate the commercialization of products and services by UPRM scientists, derived from either patent protected intellectual property and/or innovations to existing products or services.”
OBJETIVOS INSTRUCCIONALES

Al finalizar del taller el participante podrá:

• Ampliar sus conocimientos sobre la comercialización de innovaciones.

• Utilizar técnicas de investigación empresarial para conceptualizar productos o servicios, analizar mercados y desarrollar planes de negocio.

• Integrar en sus cursos metodologías de investigación para apoyar la comercialización de innovaciones.
Quienes somos y que conocemos...

- Presentaciones-Recursos
- Participantes
- Pre Prueba ZIP
Conceptos pertinentes
Como se define innovación?

- Reflexione y escriba su respuesta.
- Compárela con la de su vecino.
- Desarrollen una respuesta común.
- Tienen 3 minutos.
- Compartan su definición con el grupo.
Innovación: algunas definiciones

• Actividad imaginativa que produce resultados que son originales y tienen valor comercial. Institute for Innovation and Productivity

• Proceso que persigue comercializar o extraer valor de las ideas. Rogers

• Cambio que añade valor. La Salle
Tipos de Innovación:

- Incrementales
- Radicales o disruptivas (game changer)
Innovaciones

What’s next?
Innovation Driven vs SMEs

**Entrepreneurship**

**SME**
- (Small Medium Enterprise)
- Regional Markets
- Restaurants
- Dry Cleaners
- Services

- $\Delta t$ is short
- Linear growth
- Less investment required

**IDE**
- (Innovation-Driven Entrepreneurship)
- Global Markets
- Products for Export
- Sustainable Competitive Advantage at Core

- $\Delta t$ is long
- Exponential growth
- A lot of investment required

DISCIPLINED ENTREPRENEURSHIP
Ciclo de vida de la Empresa
Risks and Stages of Funding

Source: Entrepreneurship for Scientists & Engineers

Revenue

Seed
- Self Funding
- Friends and Family
- Private Investors
- SBIR/STTR

Early Stage
- Private investors
- Some Venture Capital
- Strategic Partners
- SBA Loans
- SBIC
- Bank Debt

Growth and Mezzanine
- Venture Capital
- Public Equity
- Strategic Partners

First Customer

Initial Public Offering

R&D Risk

Manufacturing Risk

Marketing Risk

Management Risk
What is Intellectual Property?

Intellectual Property (IP) refers to creations of the mind:

• Inventions and discoveries;
• Literary and artistic works;
• Symbols, names, images, and designs used in commerce; and
• Any type information that has economic value and competitive advantage to its owner, while is kept secret.
<table>
<thead>
<tr>
<th>Type of IP</th>
<th>Rights covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patents</td>
<td>The use, manufacture or the sale of inventions</td>
</tr>
<tr>
<td>Copyrights</td>
<td>Use or performance of original works of art, literature, music, drama or any other type of expression</td>
</tr>
<tr>
<td>Trademarks</td>
<td>The use of symbols, words, names, pictures, designs or a combination thereof used to identify particular products, brands or services.</td>
</tr>
<tr>
<td>Trade Secrets</td>
<td>The privacy of data, documents, formulas or anything that is to be maintained as confidential information.</td>
</tr>
</tbody>
</table>
El IP que es útil para atender un “dolor” en el mercado hace posible la comercialización.
Proceso de Comercialización
1 Discovery
   - Invention Innovation

2 Opportunity Recognition
   - Invention Disclosure
   - Concept Development

3 Feasibility
   - Technology Feasibility
   - Market Feasibility
   - Initial Financials
   - Rework concept

   - Refine & Redesign

4 Intellectual Property & Regulatory Requirements
   - Provisional patent decision
   - Non-provisional patent filing
   - Other intellectual property
   - Regulatory Requirements

5 Prototype Development
   - Platform Applications
   - Testing Pre-clinicals

6 Market/Customer Test
   - Field test Applications
   - Testing Clinical Trials

7 Launch Strategy
   - License
   - Start a Business
   - Sell or joint venture

8 Business Plan
   - Execution Strategy
   - Develop operations plan
   - Develop marketing plan
   - Secure needed management
   - Identify funding needs & sources

LAUNCH

Source: Entrepreneurship for Scientists & Engineers
En la UPR...

PATENTING AND COMMERCIALIZATION PROCESS

INNOVATION PROCESS

Invention or intellectual product → Invention disclosure → Initial Evaluation by the Office of Intellectual Property

 Patent lawyer evaluates the disclosure

UPR claims jurisdiction over the invention

Submission to US Patent and Trademark Office

Not patentable

Patent is granted → UPR patent commercialization

UPR initiates commercialization process

Licenses → Royalties or licensees

COMMERCIALIZATION
Plan de Comercialización
Deciding on a Launch Strategy

- **License the technology**
  - Transfer rights to further develop, manufacture, or distribute

- **Sell the technology**
  - Works if the technology does not fit the company’s core capabilities or mission
  - Potential buyer is better positioned to commercialize

- **Start a company**
  - Good when the technology is not easily licensed or there are no companies capable of further development

- **Form a strategic alliance**
  - Gain access to resources, skills, and knowledge too costly to develop
  - Consider vertical alliances up and down the value chain or horizontal with companies in same position on the value chain
Ecosistemas Empresariales
Domains of the Entrepreneurship Ecosystem

Leadership
- Unequivocal support
- Social legitimacy
- Open door for advocate
- Entrepreneurship strategy
- Urgency, crisis and challenge

Government
- Institutions e.g. Investment, support
- Financial support e.g. for R&D, jump start funds
- Regulatory framework Incentives e.g. Tax benefits
- Venture-friendly legislation
- e.g. Bankruptcy, contract enforcement, property rights, and labor

Financial Capital
- Micro-loans
- Angel investors, friends and family
- Zero-stage venture capital
- Venture capital funds
- Private equity
- Public equity markets
- Debt

Success Stories
- Visible successes
- Wealth generation for founders
- International reputation

Societal norms
- Tolerance of risk, mistakes, failure
- Innovation, creativity, experimentation
- Social status of entrepreneur
- Wealth creation
- Ambition, drive, hunger

Early Customers
- Early adopters for proof-of-concept
- Expertise in productizing
- Reference customer
- First reviews
- Distribution channels

Networks
- Entrepreneur’s networks
- Diaspora networks
- Multinational corporations

Labor
- Skilled and unskilled
- Serial entrepreneurs
- Later generation family

Educational Institutions
- General degrees (professional and academic)
- Specific entrepreneurship training

Infrastructure
- Telecommunications
- Transportation & logistics
- Energy
- Zones, incubation centers, clusters

Support professions
- Legal
- Accounting
- Investment bankers
- Technical experts, advisors

Non-Government Institutions
- Entrepreneurship promotion in non-profits
- Business plan contests
- Conferences
- Entrepreneur-friendly associations
Del laboratorio al mercado

**Valle de la Muerte**
*Why technologies don’t make it to market*
Ecosistema del RUM
Trivia empresarial

Mencione algunas competencias de ideas o planes de negocios para empresarios de Puerto Rico.

• Grupo Guayacán/ Enterprize Competition- www.enterprizepr.com
• HIT3001- hit3001.com
• Justas Empresariales Universitarias
• INNOVENTURE, PR Small Business & Technology Development Center, www.prsbtdc.org
Herramientas para cursos y actividades co-curriculares
Business Model Canvas

AYUDA PARA:

• Modelo de negocios
• MVP, Product Market Fit, Pitching
• Competencias Empresariales
Technology Driven Market Intelligence (TDMI)

AYUDA PARA:

• Viabilidad Comercial
• Plan de Comercialización
• Plan de Negocios
• Propuestas SBIRs/STTRs
Ejercicio de Business Model Canvas

Caso: TOS Sampling Device

Tienen tres minutos para leer el caso y trabajaremos en grupos atendiendo varios aspectos del BMC para este proyecto
Workshop: Business Model Canvas

Based on the Book of:
Alexander Osterwalder & Yves Pigneus
Technology Driven Market Intelligence (TDMI)
USES of TDMI:
Enterprize Competition Requirements: submit your participation in a maximum of 1,800 words:

- **Summary** (This section will be used for public disclosure of your business proposal) - 100 words

- **Product/Service description** - 300 words

- **Target Market and Customer** - 300 words

- **Competitive Landscape** - 200 words

- **Execution** - 300 words

- **Management Team** - 200 words

- **Risk Analysis** - 100 words

- **Financial Projections** - 300 words
USES of TDMI:

The Market Opportunity (recommended length: 2 to 4 pages)

- Describe the market and addressable market for the innovation. Discuss the business economics and market drivers in this industry.
- How has the market opportunity been validated?
- Describe your customers and your basic business model.
- Describe the competition. How will the competitive landscape change by the time your product/service enters the market?
- What are the key market risks in bringing your innovation to market?
- What support or resources do you envision needing from outside partners, in order to bring this innovation to market? What is the timeline and plan to secure this support?
Technology Driven Marketing Intelligence

Caso: TOS Stream Sampler Device para propuesta STTR
Step 1: Meeting with Client

• What questions would you ask? At least four.
• Working in groups you have 5 minutes.
  • Technology description, visualizing product.
  • Learn about R&D timeline. How much time it takes (on average) for new products to hit market (release).
  • Identify possible benchmarks to prove business case.
  • Identifying areas where profit is more significant (other than initial product sale).
  • How FDA regulations affect R&D process.
  • Discuss commercial price.
Step 1: Meeting with Client

- Chemistry professor at UPRM.
- Site leader for the NSF Engineering Research Center on Structured Organic Particulate Systems (ERC-SOPS) at Mayagüez.
- Sampling and analysis of pharmaceutical blends.
Step 2: Plan your internet research

- Identify key words
- Synthesize baseline knowledge
- What tools can you/your team use? Boolean search?
### Operadores boléanos

<table>
<thead>
<tr>
<th>Boolean Operator</th>
<th>Examples</th>
<th>Retrieves</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AND</strong></td>
<td><em>children and television</em></td>
<td>Retrieves records containing both terms</td>
</tr>
<tr>
<td></td>
<td><a href="#">rodgers AND hammerstein</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>children AND poverty</em></td>
<td></td>
</tr>
<tr>
<td><strong>OR</strong></td>
<td><em>television or television viewing</em></td>
<td>Retrieves records containing either one or both terms</td>
</tr>
<tr>
<td></td>
<td><em>sixties OR 60s OR 1960s</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>labor OR labour</em></td>
<td></td>
</tr>
<tr>
<td><strong>NOT</strong></td>
<td><em>television not movies</em></td>
<td>Excludes records containing the second term</td>
</tr>
<tr>
<td></td>
<td><em>caribbean NOT cuba</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>s1 NOT s2</em></td>
<td></td>
</tr>
</tbody>
</table>
Keywords Search

- Powder tablet drug pharmaceutical
- Compliance powder sampling and pharmaceutical industry
- Reduce powder stream sampling errors pharmaceutical
- Powder blending technology
- Pharmaceutical companies new products 2015
- List of best selling tablet drugs 2014
Step 3: Through your internet search, identify relevant Secondary Sources

- Useful data obtained:
  - Pharmaceutical companies and sales
  - Pharmaceutical industry news
  - Drugs sales lists
  - Pharmaceutical companies research pipelines (new products to be released)
  - Pharmaceutical market reports
  - Pharmaceutical companies with presence in Puerto Rico
Step 3: Through your internet search, identify relevant Primary Sources

- Identify key players in PR companies (Leadership team and above)?
  - PACIV: Jorge Rodríguez González, Owner & CEO
  - Janssen (?)
  - BMS (?)
  - FDA regulator (is it possible?)
  - Pharmaceutical Industry Association of PR (PIAPR)
Step 4: Interview People

• Select top three prospects.
• What to do before the interview?
  • Know more about them beforehand
  • Draft specific questions
Step 5: Summarize your Market Intelligence Data and present to team/client

• Summarize all the gathered data in two (2) slides.
• Be prepared to pivot and iterate constantly.
Estamos terminando…

- Los equipos presentan sus slides resultado del TDMI.
- Post trivia test
Market Intelligence Data Summary

• **Describe the market for the innovation**
  
  • Puerto Rico presents a major opportunity for adoption of the solution by market leaders with potential for international deployment in a short period of time.
  
  • Adopt the strategy used by PACIV in its marketing of validation services to multinational pharmaceutical companies starting with their subsidiaries in Puerto Rico.

• **Market opportunity validation**
  
  • Research by project team found that some of the best selling drugs (in tablet form) are proprietary to manufacturing companies with presence in Puerto Rico.

• **Describe customers and basic business model**
  
  • Initial customers will be pharmaceutical manufacturing companies with presence on the Island with proprietary drugs requiring powders blends.
  
  • Licensing of intellectual property rights to sampling devices and methodologies developed within the researchers STL in UPRM to allied companies.
Market Intelligence Data Summary

• Describe the competition
  • It would compete with small companies that manufacture sample thieves such as Globe Pharma.
  • Has the potential to be disruptive to current solutions, since it would be the only scientifically justified system for sampling of powder based pharmaceutical formulations.

• Key market risks
  • The major risk relates to the uncertainty of the regulatory framework.

• Support and resources
  • Develop a strong team with technical expertise, access to Puerto Rico’s pharmaceutical manufacturing industry, access to major pharmaceutical research labs, and eventually expertise in seeking venture capital.
Success

what people think it looks like

Success

what it really looks like
Anuncios

- ICORPS II PR en progreso
- JUSTAS EMPRESARIALES UNIVERSITARIAS en progreso
- H3 conference en noviembre
Gracias por venir!
Additional References

• BMC: www.buisnessmodelcanvas.com
• TDMI: http://www.nist.gov/mep/upload/TDMI.pdf
• UPR’s Policies: Intellectual Property & Technology Transfer Office UPRM