Innovation

Reflections on linking research with society

Dr. Mohammed Aljafari
Director, Intellectual Property Commercialization Office IPCO
Royal Scientific Society of Jordan
iPARK Introduction

Enabling Entrepreneurship and Innovation since 2003
At iPARK
We

Innovators
Entrepreneurs

- Focus on JOB CREATION & deliver ECONOMY EVOLUTION
Since 2003, more than:

- **75** Companies incubated
- **1300** Jobs created
- **85%** Export products & services
- **$1.2 M** First round investments for local and regional deals
- **12k** People participated in awareness and networking activities
- **3.5k** Received in Training
- **20+** IP Policies Drafted and enacted
- **500+** IP Assets Handeled

If iPARK were a company, it would have been among the largest 10 companies in Jordan.
Innovation Support:
Innovation related advisory services

Entrepreneurship Support:
Incubator and incubation operations management
Graduated Companies
iPARK Technology Incubator

• Since 2003, not at KHBP
• Providing infrastructure
• As well as logistical, strategic, legal and networking support

Third-party Incubation Services

• Incubator establishment
• Management and Quality Systems
• Recruitment
• Mentorship
Innovation Services

Innovator Support

• Partnership planning and Route to market
• IP strategy and implementation
• Business and financial planning
• Business development and matchmaking

Strategic services:

• Framework, legal, governance, operational, resource management, financial outlook, sustainability
## Strategic planning services including:

- **Review** of the institutional mission, vision, and objectives, with the institution’s leadership, and how they link up with an operating technology transfer office
- **Mapping** of the institution’s research activities, IP portfolio, and innovation capabilities
- Drawing up the basic success criteria for the new technology transfer office along with enabling initiatives and policies
- Designing an optimal **operational model** along with internal processes and staffing options
- Outlining a five year **operational and financial plan** including sustainability options

## Rollout services including:

- University **IP policy** updating and awareness at the leadership level as to policy implications
- Assistance with the **recruitment** process
- Staff essential **training** including internship or virtual internship at IPCO
- Developing the institutional technology transfer **manual**
- **Awareness** sessions at the researcher level

## Ongoing support:

- Induction into the national **technology transfer network**
- Full **IP services** including patent drafting and registration
- **Business planning/development and commercialization support**
- **Spinout support** including incubation or virtual incubation
- Periodic **training** on innovation, commercialization, and technology transfer
- **Innovation enablement** initiatives targeted at the academic researchers
- **Entrepreneurship enablement** initiatives targeted at the student body

---

Dr Mohammed Aljafari,
 m.aljafari@iPARK.jo
The Technology Transfer Network

A centralized network with IPCO as its central office

~15 members, growing to 20

Free accession, but the institution must “name” a technology transfer office and officer

Complementary services to network partners

• engagement and brainstorming session with leadership
• capacity building and engagement for researchers on innovation and commercialization, IP, … etc
• Drafting an IP policy that serves the strategic needs of the university
• Any quick consultation

3/14/2016
Dr Mohammed Aljafari, m.aljafari@iPARK.jo
A Model University Program: pre incubation + innovation support
Strengthen the Jordan Technology Transfer Network

Create a National Deal flow Catalogue and Portal

Review, update and enact IP and innovation policies

Enabling and Supporting Innovation and Entrepreneurship in Jordan - 2015
Innovation & Commercialization

*Trends, tools and the role of IP*
The Old General Model

R&D / Innovation

New Product / service

Offer to customer
The Old General Model

Closed Innovation

Dr Mohammed Aljafari,
m.aljafari@iPARK.jo
Traditional Technology Value Outlook

Value accumulates as a project develops.
The New Innovation Model
Open Innovation

Smallest innovator in smallest institution in smallest economy can find a role
Value accumulates as risk drops
As risk drops partners become more accessible

Value accumulates as risk drops
As risk drops partners become more accessible

Dr Mohammed Aljafari,
m.aljafari@iPARK.jo
### Global Paradigm Shifts

<table>
<thead>
<tr>
<th>Open innovation</th>
<th>Gaps are everywhere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation as a production element</td>
<td>They are dynamic</td>
</tr>
<tr>
<td>Tools/links/borders from globalization</td>
<td>Those who are quicker at adaptation, have improved success potential in the long run</td>
</tr>
<tr>
<td>New technological/social/communication tools</td>
<td>Success is never guaranteed</td>
</tr>
<tr>
<td>The rapid rate of change</td>
<td>Knowledge economy? Green economy? Commodity economy? Agile economy!</td>
</tr>
</tbody>
</table>
# Emergent gaps

## National
- Strategies
- Laws and regulations
- Centralized funding initiatives & incentives

## Institutional
- Strategies
- Policies
- Mobility
- Focus
- Culture
- Network

## Individual
- Knowhow
- Culture
- Reward

3/14/2016
Dr Mohammed Aljafari, m.aljafari@iPARK.jo
Odd Valuations

Have we reached 'peak food'? Shortages loom as global production rates slow

Staples such as wheat, chicken and rice are slowing consequences

AGRICULTURE

Social Responsibility

Sustainability as Business Excellence
How much must an innovator invest?

Projects start with a small team
Projects develop into needing more resources
Significant capital is only required close to commercialization
The question of when is more important than the question of how much
Value Creation Vs Value Capture

Value Creation
- Develop
- Build
- Acquire
- Seed
- Invest
- Patent
- Innovate

Value Capture
- Harvest
- Cash-out
- Sell
- License

Conclusion

The world is changing, and so must we and so must our institutions

A culture, policy and talent gap is present and widening

Innovation is driven by people, not cash

Commercialization is a network-centric activity

Industry of innovation is no longer an A-Z story

Innovation and its projects are incremental
The Exploitation of Research Results

Perspectives and Success Factors
Value Creation Vs Value Capture

Value Creation
- Develop
- Build
- Acquire
- Seed
- Invest
- Patent
- Innovate...

Value Capture
- Harvest
- Cash-out
- Sell
- License...

Value Creation

1- Innovation
2- Technology Development
3- Market analysis
4- Exploitation plan
5- IP protection
Value Capture Activities
1- Creativity Vs. Innovation

Creativity
• Something new and in some way valuable is created
• Largely intangible

Innovation
• Products, process… etc
• Largely tangible
1. Invention vs. Innovation

**Invention**
- Happens once
- No clear commercial aspect

**Innovation**
- Incremental Development
- Clear Commercial Aspect
Generally speaking, what can be exploited?

**Valuable**
- Product
- Equipment
- Technology
- Program, script
- Interface
- Prototypes
- Algorithms
- Processes
- Business models
- Management models
- Brands

**Generally not ready yet**
- Idea
- Theory
- Lab result
## 2- From idea to product, Technology Readiness Level (TRL)

<table>
<thead>
<tr>
<th>TRL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>basic principles observed</td>
</tr>
<tr>
<td>2.</td>
<td>technology concept formulated</td>
</tr>
<tr>
<td>3.</td>
<td>experimental proof of concept</td>
</tr>
<tr>
<td>4.</td>
<td>technology validated in lab</td>
</tr>
<tr>
<td>5.</td>
<td>technology validated in relevant environment</td>
</tr>
<tr>
<td>6.</td>
<td>technology demonstrated in relevant environment</td>
</tr>
<tr>
<td>7.</td>
<td>system prototype demonstration in operational environment</td>
</tr>
<tr>
<td>8.</td>
<td>system complete and qualified</td>
</tr>
<tr>
<td>9.</td>
<td>actual system proven in operational environment</td>
</tr>
</tbody>
</table>
The New Innovation Model
Open Innovation
Traditional Technology Value Outlook

Value accumulates as a project develops.
The longer you hang-on...
...the higher the accumulated risk you take.
3- Market Study

- Competing technologies
- Competing systems
- Uptake barriers
- Operational considerations
- Legal/regulatory questions
- Analysis tools (PEST… etc.)
- Size
- Competition profile
- Etc. etc. etc. etc. etc.
4- Exploitation Plan

Value Creation

Value Capture

Map your Partners!!!!!!!!!!
The New Innovation Model
Open Innovation

Internal R&D, Funnel Approach

Dr Mohammed Aljafari, m.aljafari@iPARK.jo
5- Protection

The basic truth on IP protection (e.g. patenting)

- Seeking IP protection is a commercial decision
- Seeking IP protection is not a technical decision
Risk Implication of Innovation and Value

Risk Management is Name of the Game
Intellectual Property

Creations of the mind: Inventions; Literature, Arts, Music, designs, symbols, names, images (used in commerce).

IP is proprietary, generally speaking, somebody owns it

The right to use certain IP may be protected by law
Intellectual property rights are the rights given to persons over the creations of their minds.

They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.
General Kinds of IP Rights

- Patent
- Design
- Copyright
- Trademark
- Trade secret
- Geographical indication
Other Basic IP Protection Truths

temporarily blocks competition

reduces the risk of exploitation

achieved in different ways (country / law / technology)

one domicile at a time
Basic IP Protection Questions

What do I gain?

Where do I want it

How is it linked to exploitation?

How do I achieve it?
## Pathways for Capturing Value

<table>
<thead>
<tr>
<th>Exploitation, commercialization, capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>License out</td>
</tr>
<tr>
<td>Spin out</td>
</tr>
<tr>
<td>Industry Collaboration (supporting Research Students)</td>
</tr>
</tbody>
</table>
Get Help!

- University Licensing Officer
- Business/Technology Consultant
- Patenting Professional
- Business Advisor
- Industry Specialist
- Your Dear Mother

Be Discreet!!!!!!

- Intellectual Property stops being yours the moment you start telling it to anyone, including your mother!

Dr Mohammed Aljafari,
m.aljafari@iPARK.jo
Part 3: Critical Success Factors

Trying not to guarantee failure
Critical Exploitation Success Factors

- IP policy? What IP policy?
- 1st partner is essential
- Ask strategic “why”s
- Bureaucracy is a potential killer, on both sides
- Corporate Project Leadership
- Simpler early cooperation (co-development)
- Contractual resolution of IP, ownership, licenses, expenses, rewards..