Commercialization of Research & Development
WHY – Univ Startup Company

• Unlock Univ Assets
• Old model is losing traction
• Request by Researchers on the increase
• Learning from failures of Tech Transfers
Valley of Death

- Scientific Discovery
- Lab Model
- Research Grants
- Prototype
- First sales
- Seed
- Create Mgt Team
- Business Models
- Market Assessment
- Manufacturing
- Mezzanine/IPO
- Round B
- Round A
InnoHub’s Role

Legend
- UPM currently doing
- New initiatives
- Gaps

Commercialization Progression
- Market Assessment
- Create Project team
- Seed Funding
- Market Validation & Business Models
- Fund raising Round A
- First sales
- Round A
- Scale Business
- Business Matching
- Round B
- Go Global

Probability of Success
- Idea
- Scientific Discovery
- Lab Model
- Research Grants
- IP Protection
- Prototype

Potential Risk
- High
- Low
Risks for Startups

- Business is fluid and dynamic
- So many risks

- Business Plan not longer effective
- But we are getting better in managing risks
InnoHub Programme

InnoHub

- Engagement
- Lean Market Validation
- Lean Monitoring
- Fund Raising
InnoHub is an entity under the Putra Science Park (PSP).

**Incubation Space**
- Provide space of growth
- Provide sufficient support system for growth

**Incubation Program**
- To equip, educate and empower entrepreneurs to successfully commercialize
InnoHub Program

**Educate**
- Training on the latest in startup strategies
- Workshop sessions
- Group learning

**Empower**
- Up to RM 100k for market validation expenses and operational expenses
- Opportunities to pitch to funding bodies and investors

**Equip**
- Space for working and growth
- Networked of University shared facilities
Benefits

• Startup companies get:
  – training in latest methods
  – To work with world class mentors
  – space to work, meeting amenities, shared facilities
  – Funding to kickstart process
  – Opportunity to pitch to funding bodies and private equity partners
  – Access to UPM’s network of investors and partners
• UPM Putra Science Park will pay for the cost of patenting of all research coming out of UPM.
• Startups in the InnoHub will be required to sign a term sheet and a license agreement.
• This agreement will give the startup non exclusive rights over the IP for a limited time period.
• The startups will be required to pay a one off license fee of
• A portion 10% of the license fee will be due within the first 60 days of signing the agreement. The remainder can be paid upon successful fund raising.
• UPM will also have a royalty payment of between 5-10%. This amount will be stipulated in the license agreement.
• In the of unsuccessful commercialization or failure to pay full license fee or startup up company facing legal proceedings, UPM reserves the rights to revoke exclusivity of IP rights and will be able to license out the IP to another startup/company.
InnoHub Roadmap Summary

Form Startup → Year 1 → Evaluation by InnoHub → Pitch x 50

Year 2 → Evaluation by InnoHub → Graduate

END → Exit Business

Enter Industry
Enter Private Incubators
Find industry partner
Activities – Market Validation

InnoHub Program*

- Y0M2 - Y0M1 - Y1M1 Y1M2 Y1M3 Y1M4 .... .... .... .... .... Y2M12

Application Submission

InnoHub Application & Pre-Comm Research Grant Submission

Onboarding Moving in Inno Hub

Start of InnoHub Classes & every Tuesday Feedback Session

Monitoring

Practice Pitch & External Funding Applications

CEO, Researcher & InnoHub Meetup Session

LMC Market Validation

Completed InnoHub Program

Offboarding Moving out & Graduation

*Duration depending on InnoHub Startup Multiple LMC – minimum 6 months and maximum 2 years
Applying Requirements - considerations

• Basics of your company formation
• Why form a company? – commitment to Incubator program
• Basic Intellectual property information
• Basic Market Information.
• An entity that creates and delivers new customer value in the marketplace with a sustainable business model

• Why startup? – the technology is proven, we need to find validate what the customer values.
• Each participant of Incubator will be required to form a “Sdn Bhd”
• SSM Guideline to follow
• Understand University policy for Researcher to own a company
• Risks involved
Startup Board

• Startup will be required to form a Board of Directors (BOD)
• Startup BOD must include the lead inventor of the IP.
• Startups make amendments to the BOD via a co. circular, if co. already formed, to include PSP member as a non-executive board member (non-voting) as advisor to the co. activities.
• The management of the startup will be required to submit progress reports to the BOD every BOD meetings (P&L, Balance Sheet, KPIs Report, T1 & T2)
• Startups is required to have BOD meetings every 3 months for the first year. After 1st year till 3rd year, startups are required to have BOD meeting every 6 months
Startup Board - consideration

Chairman

Inventor

Sec

*incentives for CEO/PM
**non equity holder

Director

CEO*

Mentor**

Optional Entrepreneur PSP Rep
Roles

CHAIRMAN / LEAD RESEARCHER
• Runs the BOD meeting
• Monitors co. development thro KPIs & assigned Roles
• Agrees and approves plans, budget
• Hires and fires CEO/COO
• Discuss overall strategy
• Interfaces with PSP & other Directors
• Plans strategy with BOD

CEO/ENTREPRENEUR
• Passion, committed and hands-on
• Runs the day-to-day operations
• Has executive power to make decisions day-to-day operations
• Role: Hires and fires staff
• Role: Handle Co. expenses & revenue
• Executes strategy
• Interfaces with the customer, team and partners
Startups responsibility

1. Participate actively in program
2. Commit to achieving the goals and procedures set out
3. Commit to meetings
4. Act professionally at all times.
5. Use to resources given with integrity
6. Commit time and focus to developing a business that is commercializable
7. Understand what you put in is what you get
Definition of Graduation

• Define clearly milestones to Graduate
• Startups will be given 1 years worth of support to raise sufficient funding to proceed with the commercialization of their IPs.
• Incubator will provide sufficient opportunity to do so.
• Startup can graduate once they raise the sufficient funds
• Startups which may require extension to the program
80% biz tutup – SSM 400++ s/t

Why?

Company fail b/c of mgmt but specifically....

No customers

- Complexity got supply no demand like new Felda
- Complexity got demand no supply like
- Complexity many variables: BMC components
My Goal as a Startup

• Find Problem
• Solve Problem with Product
• Scale
• MAKE MONEY
• MAKE MORE MONEY
• MAKE LOTS OF MONEY
Challenges for a Startup

- Time
- Money
- Focus
Goal of BMC is to get you from PLAN A to a PLAN THAT WORKS! (B,C,D..........Y,Z...) 

StartUps are hard!

- Only a few succeed, many fail
- Traditional models talk about developing products and rarely about developing buyers / customers. Startups wait too late to find their customers.
- Finally you can’t just ask customers directly, you must have some vision.
“If I had asked people what they wanted, they would have said faster horses.”
—Henry Ford
Why Business Model Canvas

• Fast compared to writing a business plan

• Concise, clear and short

• Visual

• Portable – you can carry it around
Running Lean is about:

- Speed, Learning, Focus
- Testing a vision by measuring it to how customers behave.
- Engaging your customers throughout the development cycle
- Product and Market Validation
- Disciplined and rigorous process
Key Terms

- Customer Development – developed by Prof Steve Blank
  - Main Point
    - GET OUT OF THE BUILDING!
    - Most of your answers lie outside the building not inside your lab!
• Lean Startup by Eric Ries
  – Main Point
  • Lean is NOT Cheap
  • Lean is about ELIMINATING WASTE and USING THE MOST OF RESOURCES GIVEN
  • MAXIMUM LEARNING

Startups that succeed are those that manage to iterate enough times before running out of resources - Eric Ries
Key Terms

• Bootstrapping
  – Main Point
  • Funding yourself through customers revenues
  • Startups are chaotic!
  • Focus on one goal at a time
Your Product is NOT YOUR PRODUCT

YOUR PRODUCT

YOUR BUSINESS MODEL
The figure illustrates the Technology Adoption Lifecycle with four distinct stages: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards. The area under the curve represents the number of customers at each stage.

Innovators: The smallest segment, representing the first to adopt the technology.

Early Adopters: A slightly larger segment than Innovators, following closely after the first adopters.

Early Majority: The largest group, comprising a significant portion of the adopters.

Late Majority: A smaller group, consisting of those who adopt later in the lifecycle.

Laggards: The smallest segment, representing the last to adopt the technology.

"The Chasm" refers to the gap between Early Adopters and Early Majority, highlighting the challenge in transitioning from early adopters to the majority market.
Lean Model Canvas

Project Name:  
Company Name:  
Date:  
Designed By:  

Problem
List Top 3

Existing Alternatives

Solution

Key Metrics

Unique Value Proposition

Unfair Advantage

Channel

Customer

Early User

Cost

Revenue

Breakeven

Putra Science Park
Figure 14.2. The Running Lean methodology

Lean Canvas is adapted from The Business Model Canvas (http://www.businessmodelgeneration.com)

- Brainstorm customers
- Create Lean Canvases
- Prioritize risks
- Business Model Interviews
- Find Prospects
- Problem Interviews
- Build Demo
- Solution Interviews
- Build MVP
- Build Dashboard
- MVP Interviews
- Realize UVP
- Validate full lifecycle
- Constrain features
- Measure progress
- Achieve early traction
- Identify engine of growth
- Scale
Key Validation Tools Used
Key Validation Tools Used

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<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Propositions</th>
<th>Customer Relationships</th>
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I am pleasantly surprised to see so many teams from UPM participate in the SUPERB pitching. I see the passion and determination towards commercialization. BiotechCorp is interested to have the biotech related technologies to apply for BioNexus status and be a part of our systems.

Adrian Abd Ghani, Sr Vice President
BioNexus Division
BiotechCorp Sdn Bhd

At CRADLE we are constantly looking for the best technology innovations from all over Malaysia. I am happy to note that through our evaluations, UPM submissions have been excellent. The InnoHub program managers and lead researchers show both passion and in depth understanding of the needs of developing and bringing technology market. UPM has both the highest submissions to Cradle and the highest success rate among any other university in Malaysia in commercialization.

Pn Syazwani Ismail
Manager Initiatives and grants
Feedback

Commercializing innovation from university is tough. I am happy to see UPM efforts to find ways to build bridges between industry and academia via programs such as InnoHub and Symbiosis.

Prof Dr Zainul F. Zainudiin
Director, Business Advisory, MTDC

I applaud UPM’s effort via InnoHub to undertake the responsibility of nurturing startups towards commercialization. MTDC is glad to help more projects become commercial for the benefit of Malaysia.

Dato’ Norhalim Yunus
CEO, MTDC
I am happy to see UPM taking the efforts to support the commercialization value chain via Putra Science Park IP and InnoHub commercialization activities. Aim is happy to work with such an organized institution.

Dr. Viraj Perera
Former Sr Vice President of Commercialization at National Innovation Agency (AIM) and current Executive Director of plaTCOM Ventures Sdn Bhd (a joint venture between AIM and SME Corp)
INNOVATION

"The best way to predict the future is to create it."

- Alan Kay

LET NOT YOUR INNOVATION Hibernate in the lab BUT RELEASE TO THE WORLD AND BRING FORTH positive change for the benefit of all
Challenges managing Science Park, InnoHub
Different Field but Same Game

• Different Universities many policies
• Different Universities different structures
• But commercialization game same nature
• But IP game same nature
• Future: Autonomy will create more divergences of policies & structures between Univ but adaptable to meet new requirements
• New requirements by industry - with IP
  – Request for knowledgeable workforce
    • PhD Students as part of process manufacturing
    • More Researcher’s input through out tech transfer
  – Request accessibility of Univ resources
    • Labs
    • Research Officers/Assistants
  – Request space/land facility within reach of resources above
Services of UPM Science Park

• Land/Space for rent within UPM
• PhD students tenure part of Licensing
• Researcher’s consultation part of Licensing
• Accessibility of UPM Labs part of Licensing
• Industry needs more
  – More awareness Univ role - Co. in developed nations vs. Co. in Malaysia
  – More hand holding – complexity but income gen.
  – More hand holding – more trade secrets, patents getting hard to come by but income gen.
  – Future:
    • More research collaboration
    • More collaboration towards partnership find best biz model go to market.
Challenges of Commercialisation Part 3

• Researcher wants to participate more in own commercialization
  – Long Tail - easier to move into entrepreneurship, the tail becoming fatter
• Researcher wants to participate more in own commercialization
  – Strong support by government for Startup Co.
• Researcher wants to participate more in own commercialization Eco System for Startup Co. getting more est.
• Researcher wants to participate more in own commercialization

“It’s harder to tech transfer to someone’s company than my own company and I can gain more”
Challenges of Commercialisation Part 3

• Researcher wants to participate more in own commercialization

But risks in business still exists new ways to lessen Risks thro Lean Methodology Customer Discovery
IDENTIFY KEY NEEDS / DEMANDS OF THE POTENTIAL CLIENT / CUSTOMER

“ If you don’t work on important problems, it’s not likely that you’ll do important work”

Richard Hamming
InnoHub – Market Validation Hub

A place for the project managers to learn and validate the market
SERVICES PROVIDED BY INNOHUB

- Shared Space
- Shared Facilities
- Matching
- IP Advisory
- Mentoring & Coaching
- Education & Training
- Business Support
- Fund Raising
Championing UPM’s R&D IPs to Market by training and nurturing young entrepreneurs to fill the commercialization gap. As to date 33 startups. Raised external funds $2.5 million from 1st batch after 18 months.
Engagement with customers to learn and solve their problems involves commitment of time and efforts: Only Startups can provide that kind of attention
Market Validation

- Dynamic process
- Involves multiple engagements
- Many different sectors
- As to date over 430 problem interviews
Customer Discovery

- Guided process
- Managed with the help of entrepreneurs
• Pre-research – prior research grant

• Post-research – IP granted
• More researchers will quickly move into entrepreneurship
• More business incubator/market validation hub within universities - owned IP or outside IP
Thank You

Terima Kasih