

Commercialization of Research & Development



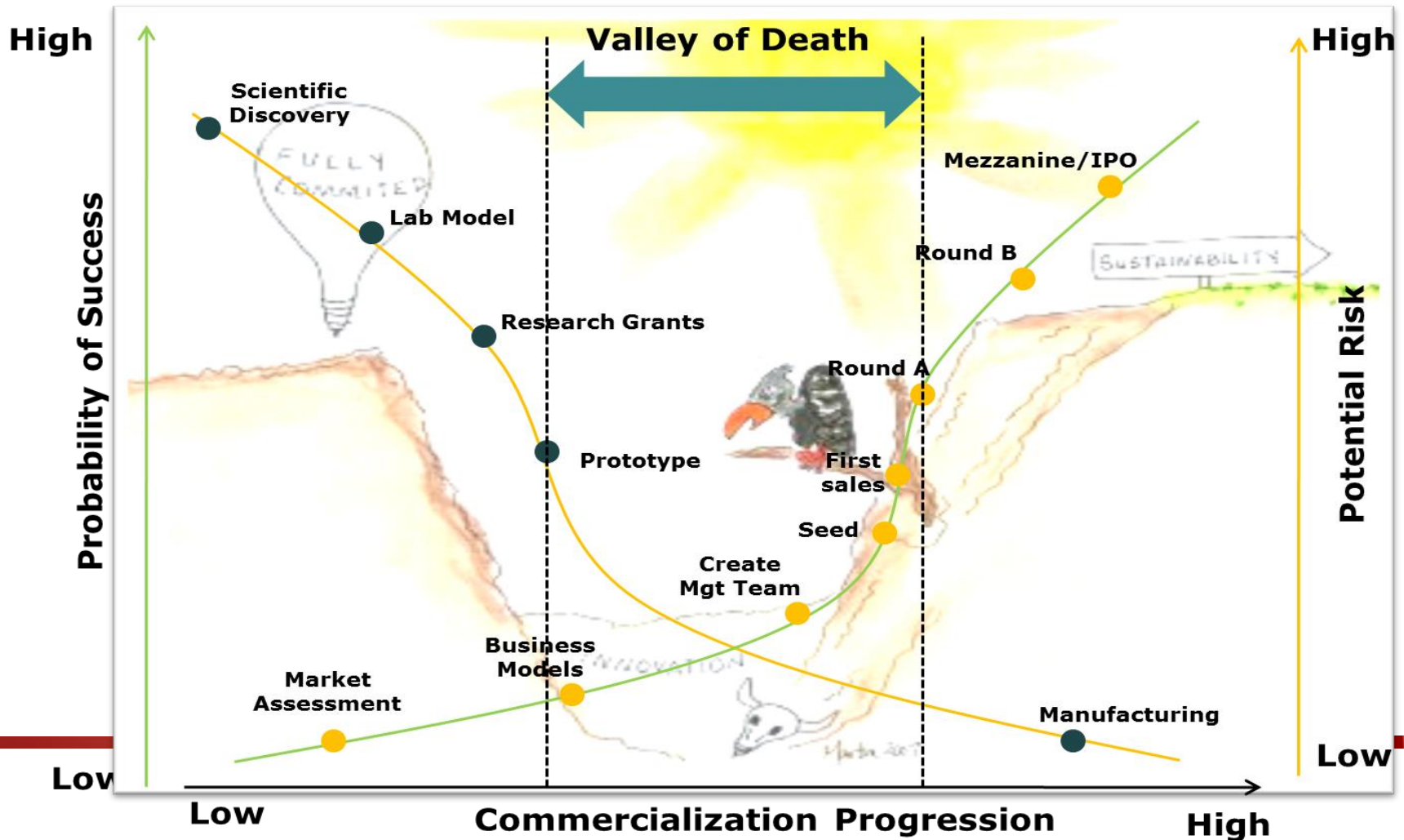
v2

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



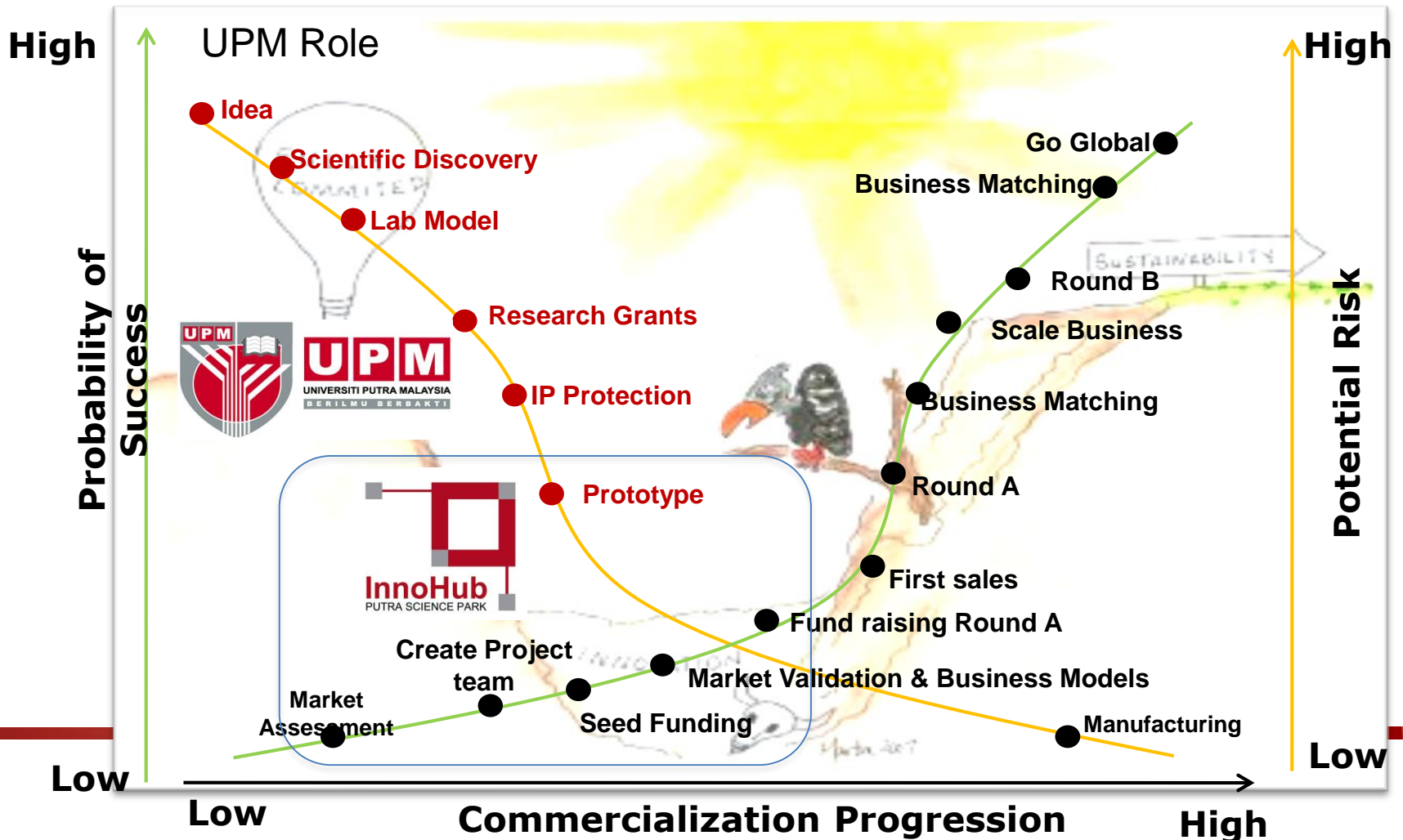
InnoHub's Role

Legend

● UPM currently doing

● New initiatives

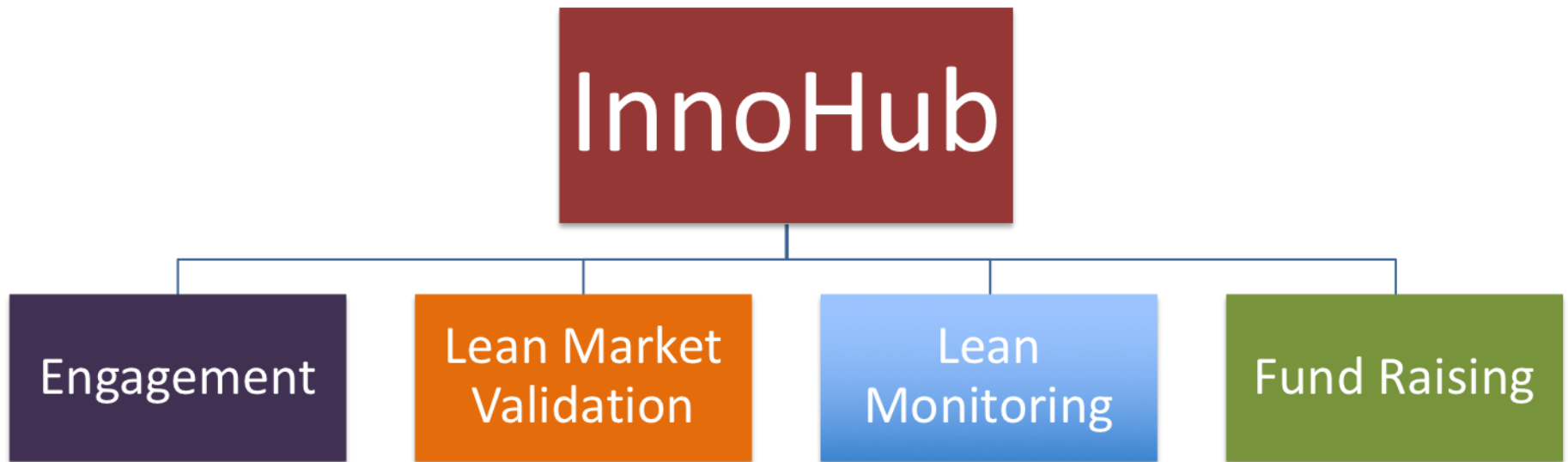
● Gaps



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



Must park somewhere

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

Training on the latest in
startup strategies

Workshop sessions

Group learning

Educate

Space for working and
growth

Networked of University
shared facilities

Up to RM 100k for
market validation
expenses and
operational expenses

Opportunities to
pitch to funding
bodies and investors

Empower

Equip

Services

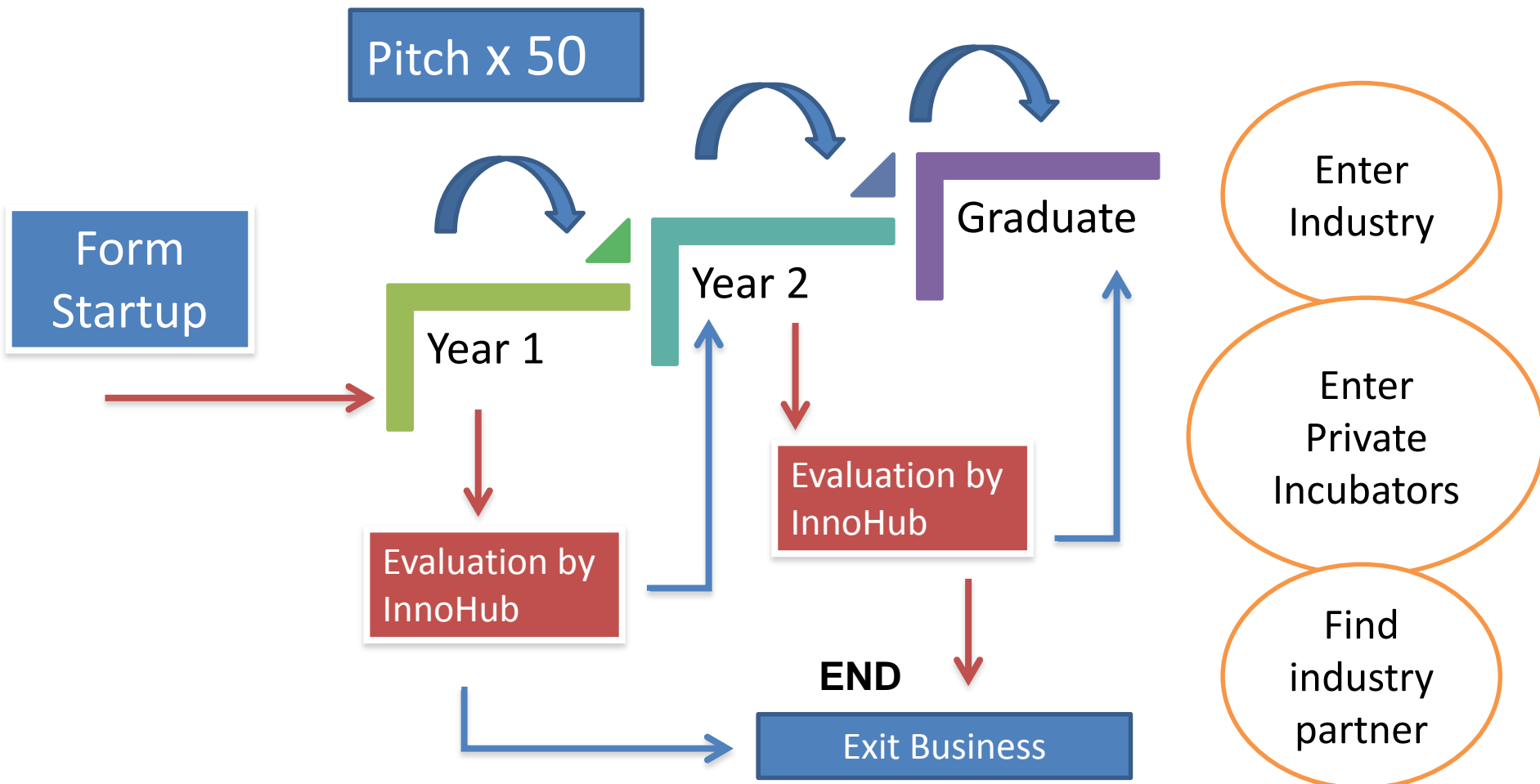


Benefits

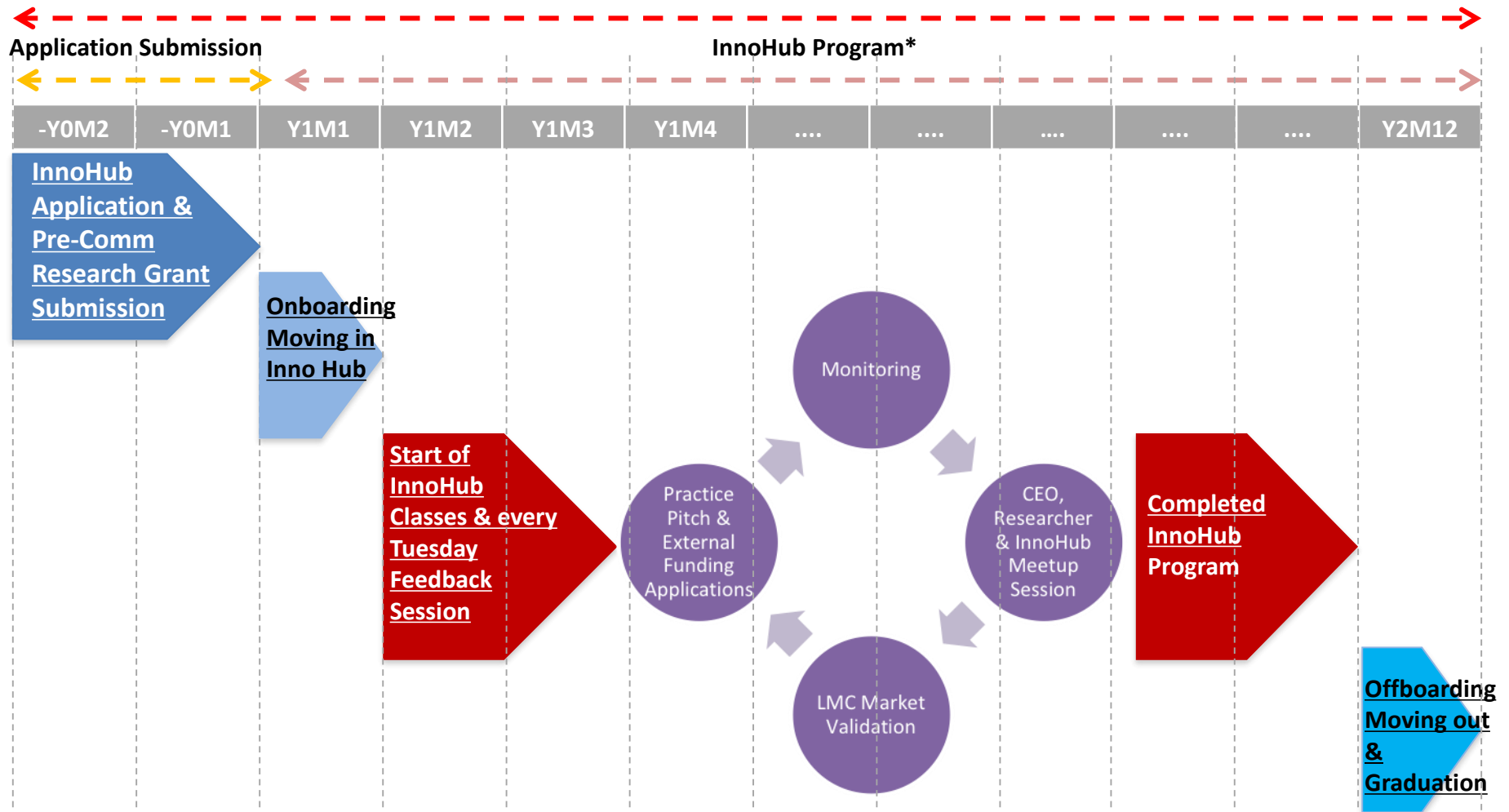
- Startup companies get :
 - training in latest methods
 - To work with world class mentors
 - space to work, meeting amenities, shared facilities
 - Funding to kickstart process
 - Opportunity to pitch to funding bodies and private equity partners
 - Access to UPM's network of investors and partners

- 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



Activities – Market Validation



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

- Basics of your company formation
- Why form a company? – commitment to Incubator program
- Basic Intellectual property information
- Basic Market Information.

Startup/Spinoff definition

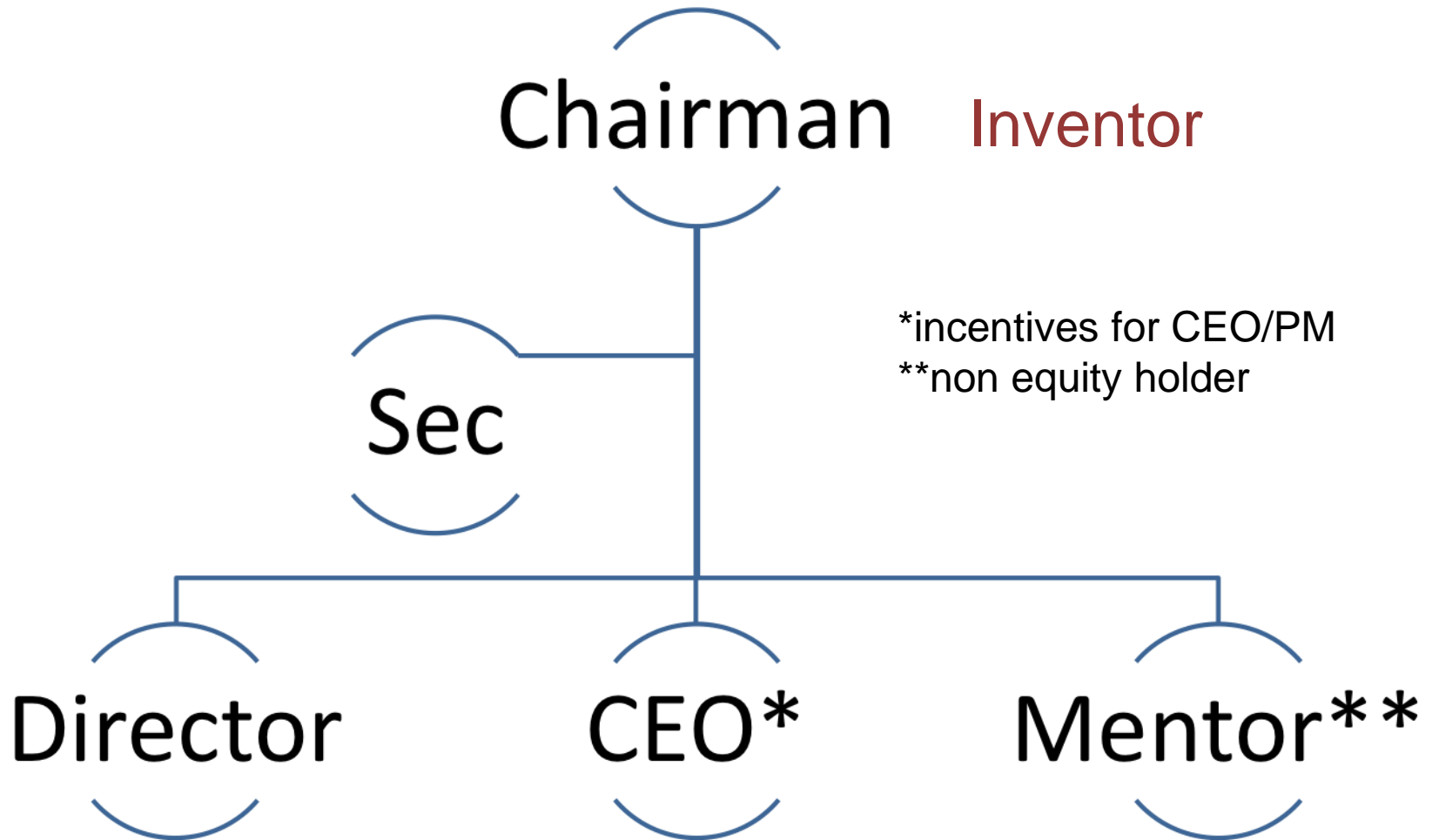
- An entity that creates and delivers new customer value in the marketplace with a sustainable business model
- Why startup ? – the technology is proven, we need to find validate what the customer values.

- 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



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

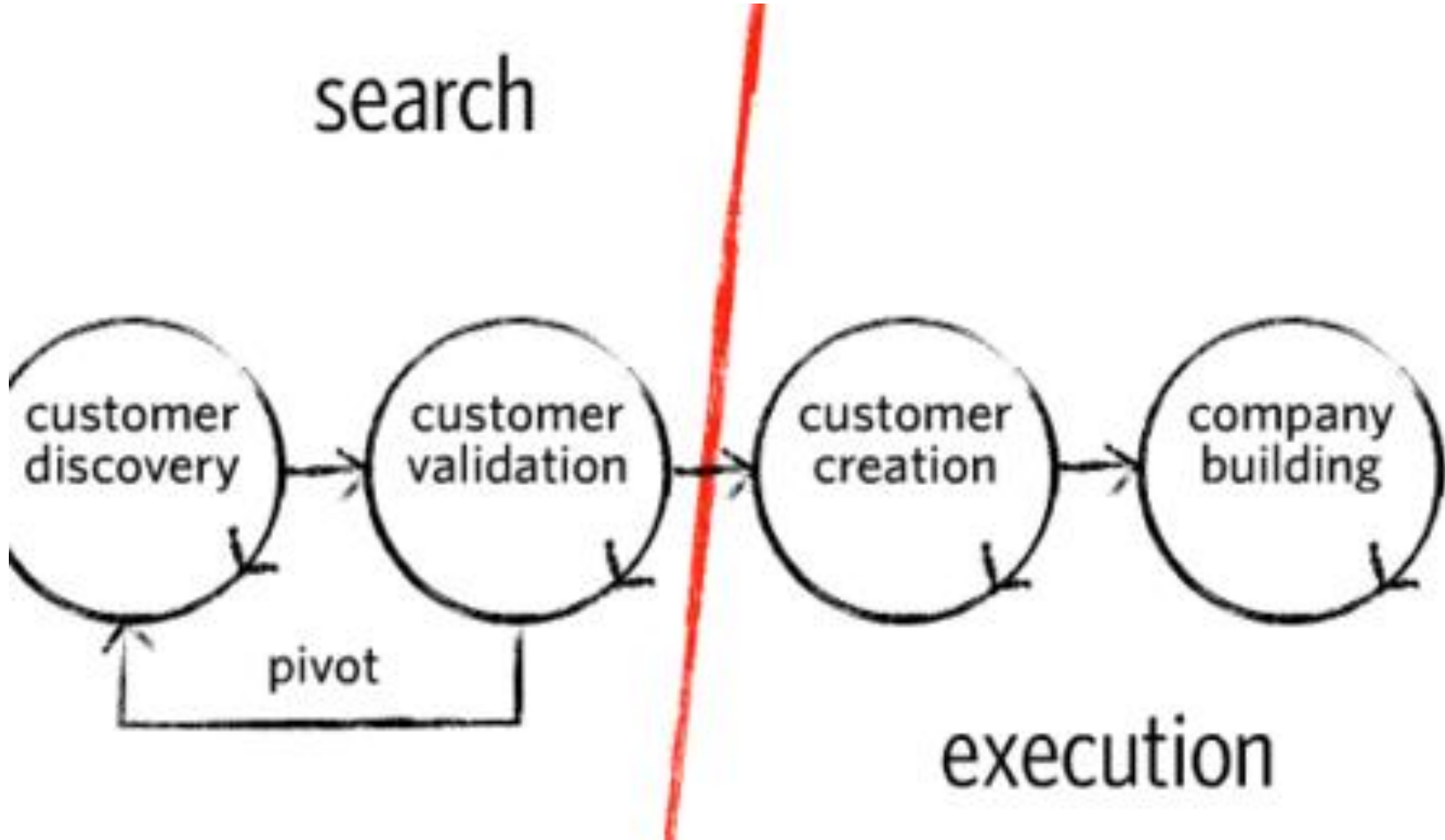
Startups responsibility

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

Customer Discovery Lean Startup



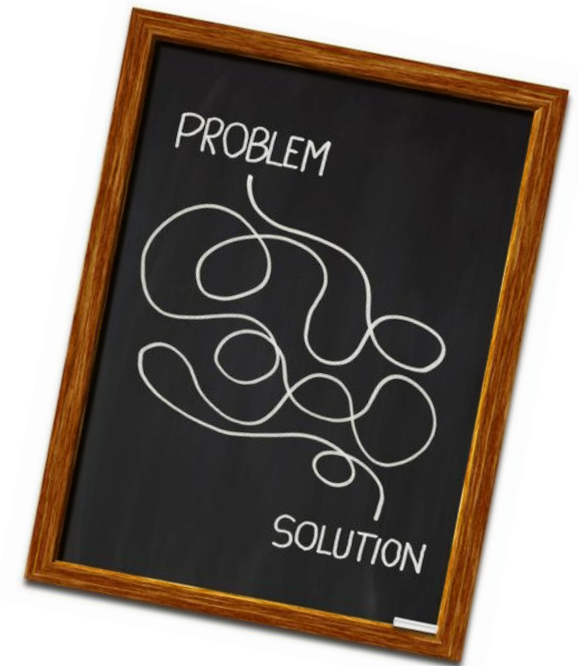
- 80% biz tutup – SSM 400++ s/t
- Why?
- Company fail b/c of mgmt but specifically....



No customers

- Complexity got supply no demand like new Felda
- Complexity got demand no supply like
- Complexity many variables : BMC components

- Find Problem
- Solve Problem with Product
- Scale
- MAKE MONEY
- MAKE MORE MONEY
- MAKE LOTS OF MONEY

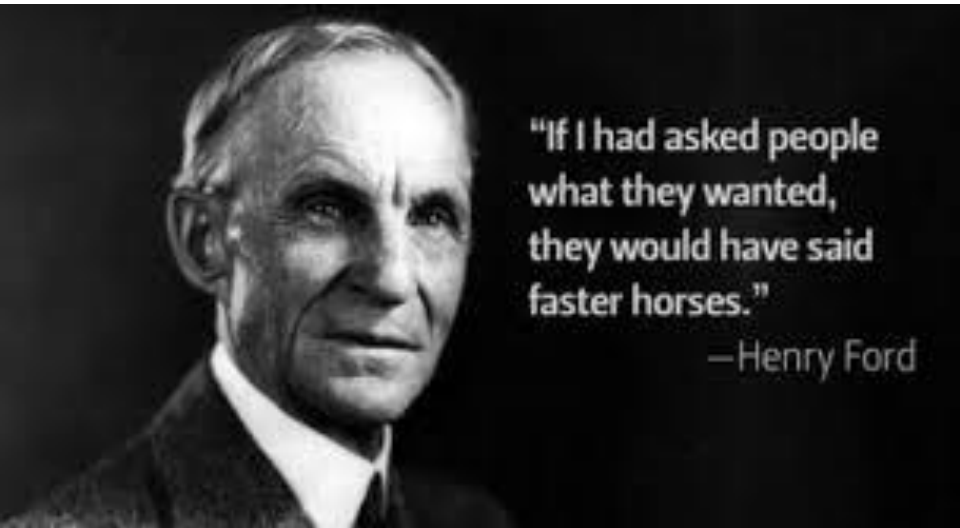


Challenges for a Startup

- 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.





Why Business Model Canvas

- Fast compared to writing a business plan
- Concise, clear and short
- Visual
- Portable – you can carry it around

TIME IS MONEY!

- 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

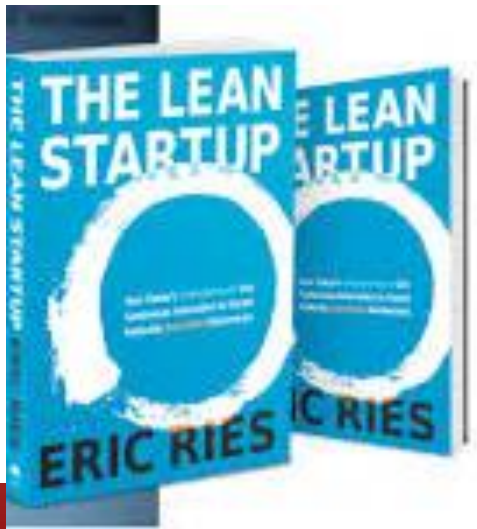




- Customer Development – developed by Prof Steve Blank
 - Main Point
 - GET OUT OF THE BUILDING !
 - Most of your answers lie outside the building not inside your lab !



- 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*

- Bootstrapping

- Main Point

- Funding yourself through customers revenues
- Startups are chaotic!
- Focus on one goal at a time



The Business Model Canvas

Designed for:

Designed by:

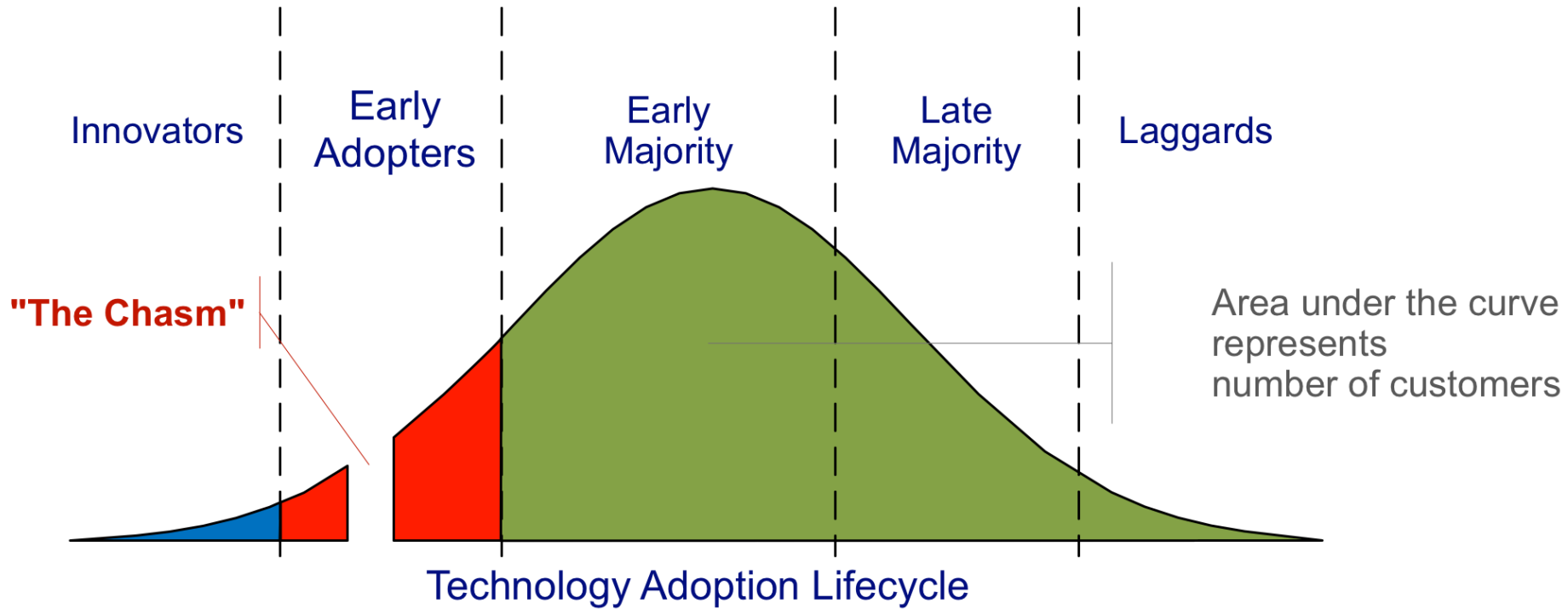
Date:

Version:



DESIGNED BY: Business Model Foundry AG
The makers of Business Model Generation and Strategyzer

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Lean Model Canvas

Putra Science Park

Project Name:

Date:

No:

Company Name:

Designed By:

Problem

List Top 3

Solution

Unique Value Proposition

Unfair Advantage

Customer

Existing Alternatives

Key Metrics

Channel

Early User

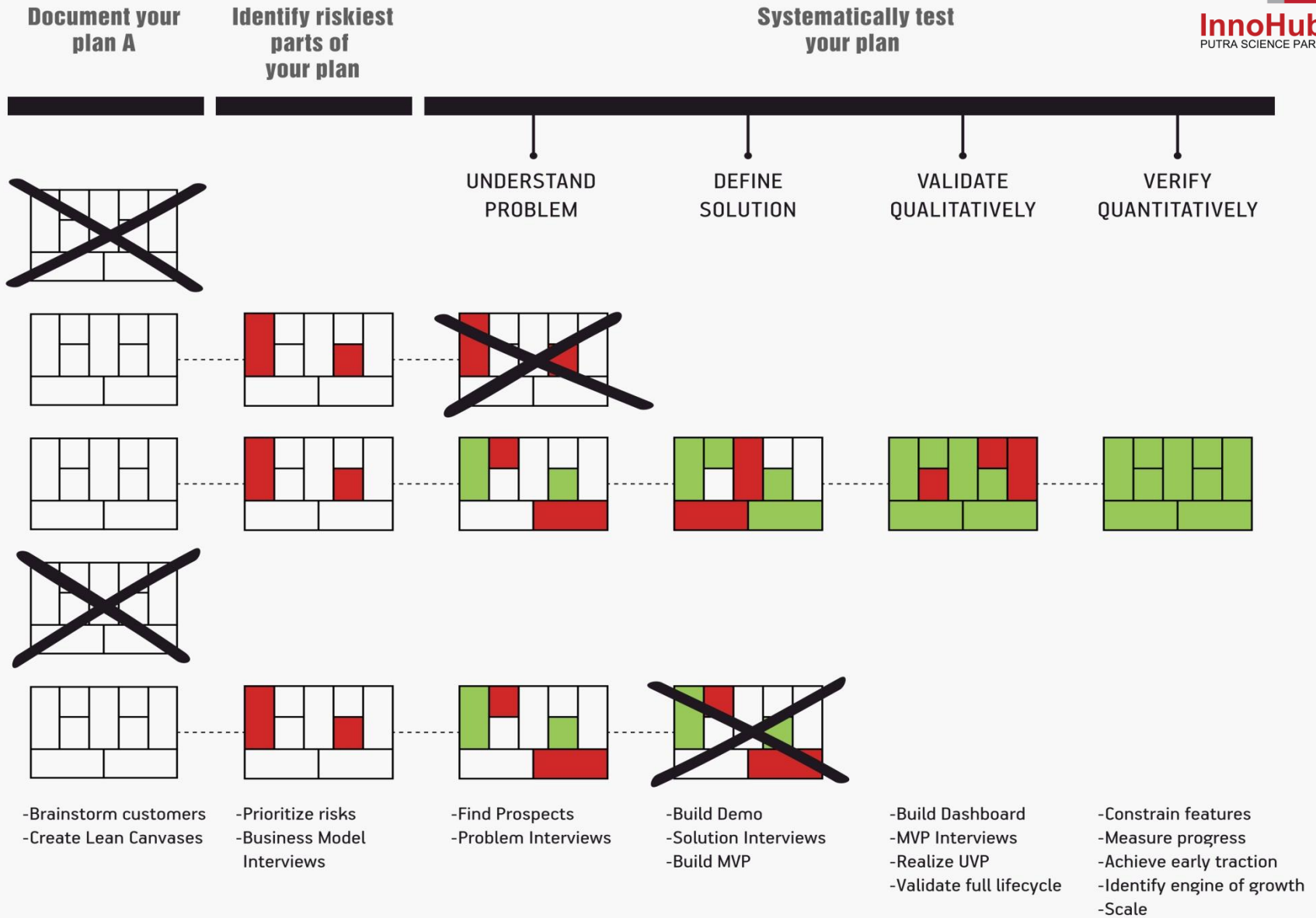
Cost

Breakeven

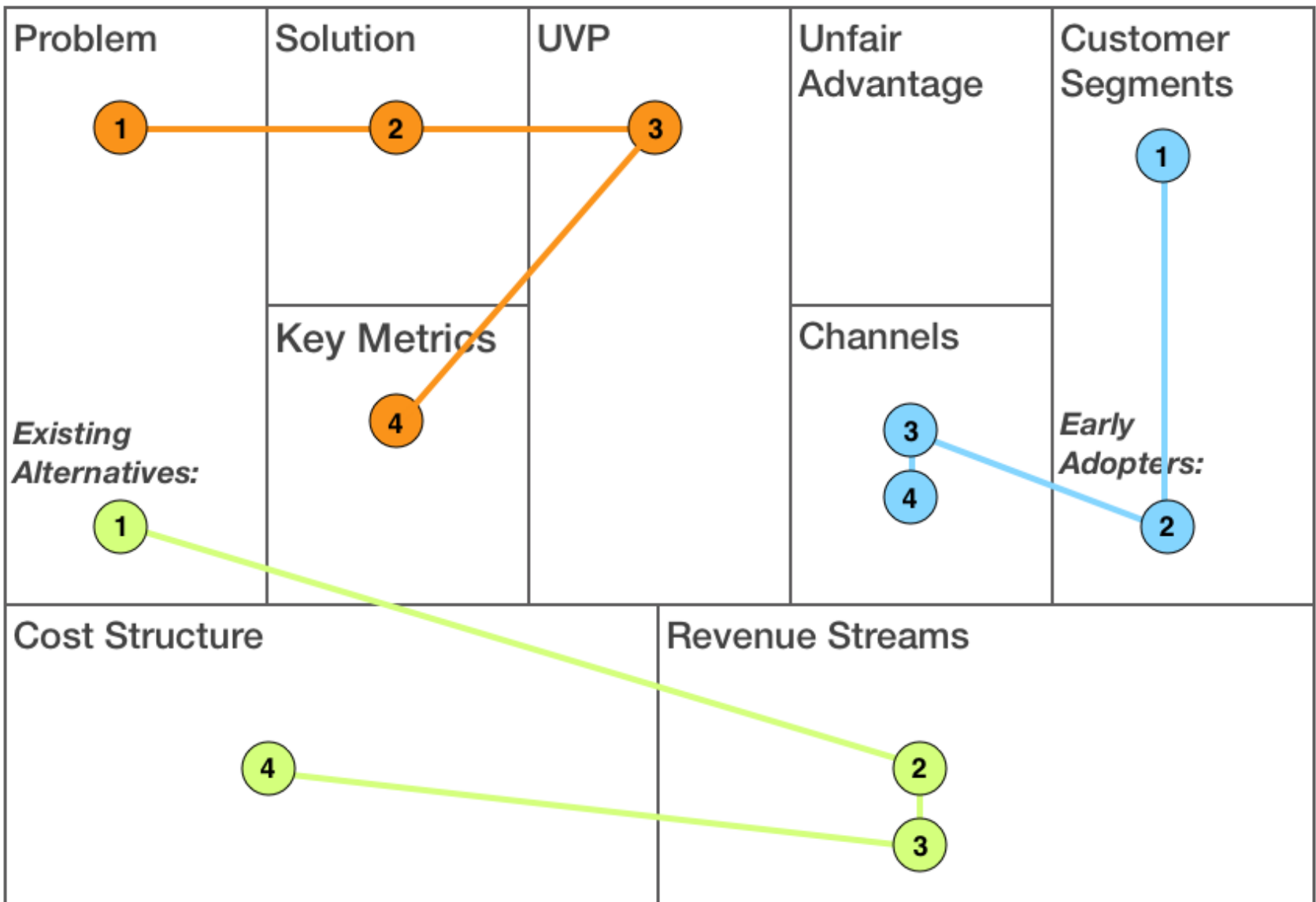
Revenue



Figure 14-2. The Running Lean methodology



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



- Product Risk
- Customer Risk
- Market Risk

Key Validation Tools Used

Lean Model Canvas



No:

Customer Segment:

Date:

Company Name:

Designed By:

Problem

List Top 3

Solution

Unique Value Proposition

Unfair Advantage

Customer

Key Metrics

Channel

Early User

Existing Alternatives

Cost

Breakeven

Revenue

Key Validation Tools Used









Business Model Canvas

Project Name:

Version

Designed By:

Date:

<p>Key Partners </p> <p>Who are our key partners? Who are our key suppliers? Which key resources are we acquiring from partners? Which key activities do partners perform?</p> <p>KEY PARTNER CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>	<p>Key Activities </p> <p>What key activities do our value propositions require? Our distribution channels? Customer relationship? Channel creation?</p> <p>KEY ACTIVITIES CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>	<p>Value Propositions </p> <p>What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundle of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</p> <p>VALUE PROPOSITIONS CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>	<p>Customer Relationships </p> <p>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they aligned with the rest of our business model? How costly are they?</p> <p>CUSTOMER RELATIONSHIPS CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>	<p>Customer Segments </p> <p>For whom are we creating value? Who are our most important customers?</p> <p>CUSTOMER SEGMENTS CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>	
<p>Key Resources </p> <p>What key resources do our value propositions require? Our distribution channels? Customer relationship? Channel creation?</p> <p>KEY RESOURCES CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>		<p>Channels </p> <p>Through which channels do our customer segments wish to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer relationship?</p> <p>CHANNELS CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>			<p>Revenue Streams </p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each revenue stream contribute to overall revenues?</p> <p>REVENUE STREAMS CAN HELP US: Reduce our cost structure Improve our margins Reduce our risk Reduce our time to market Reduce our risk of failure</p>

Cost Structure 

What are the most important costs drivers in our business model?
Which key resources are most expensive?
Which key activities are most expensive?

COST STRUCTURE CAN HELP US:
Reduce our cost structure
Improve our margins
Reduce our risk
Reduce our time to market
Reduce our risk of failure

Revenue Streams 

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each revenue stream contribute to overall revenues?

TYPE	UNIT PRICE	ESTIMATED QUANTITY
Subscription	RM 100	1000
Product Sales	RM 50	2000
Service Fees	RM 20	5000
Licensing	RM 10	10000
Advertising	RM 5	20000

Feedback



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

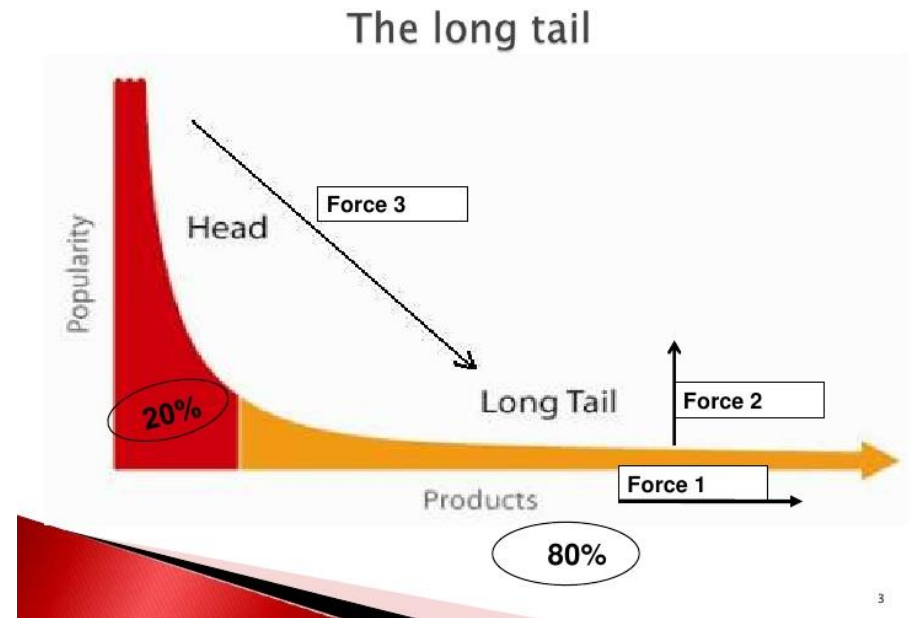
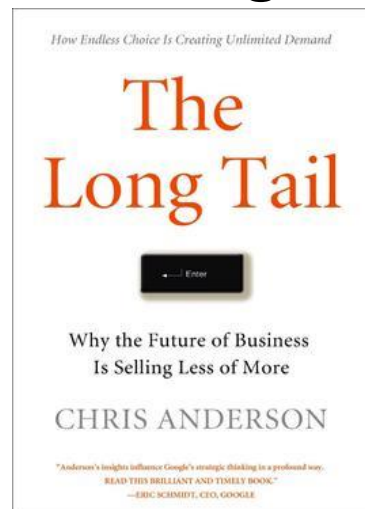
- Different Universities many policies
- Different Universities different structures
- But commercialization game same nature
- But IP game same nature
- Future: Autonomy will create more divergences of policies & structures between Univ but adaptable to meet new requirements

- 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

- 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.

- 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.



Suruhanjaya Sekuriti
Securities Commission
Malaysia



MTDC

TERAJU

PENERAJU BUMIPUTERA

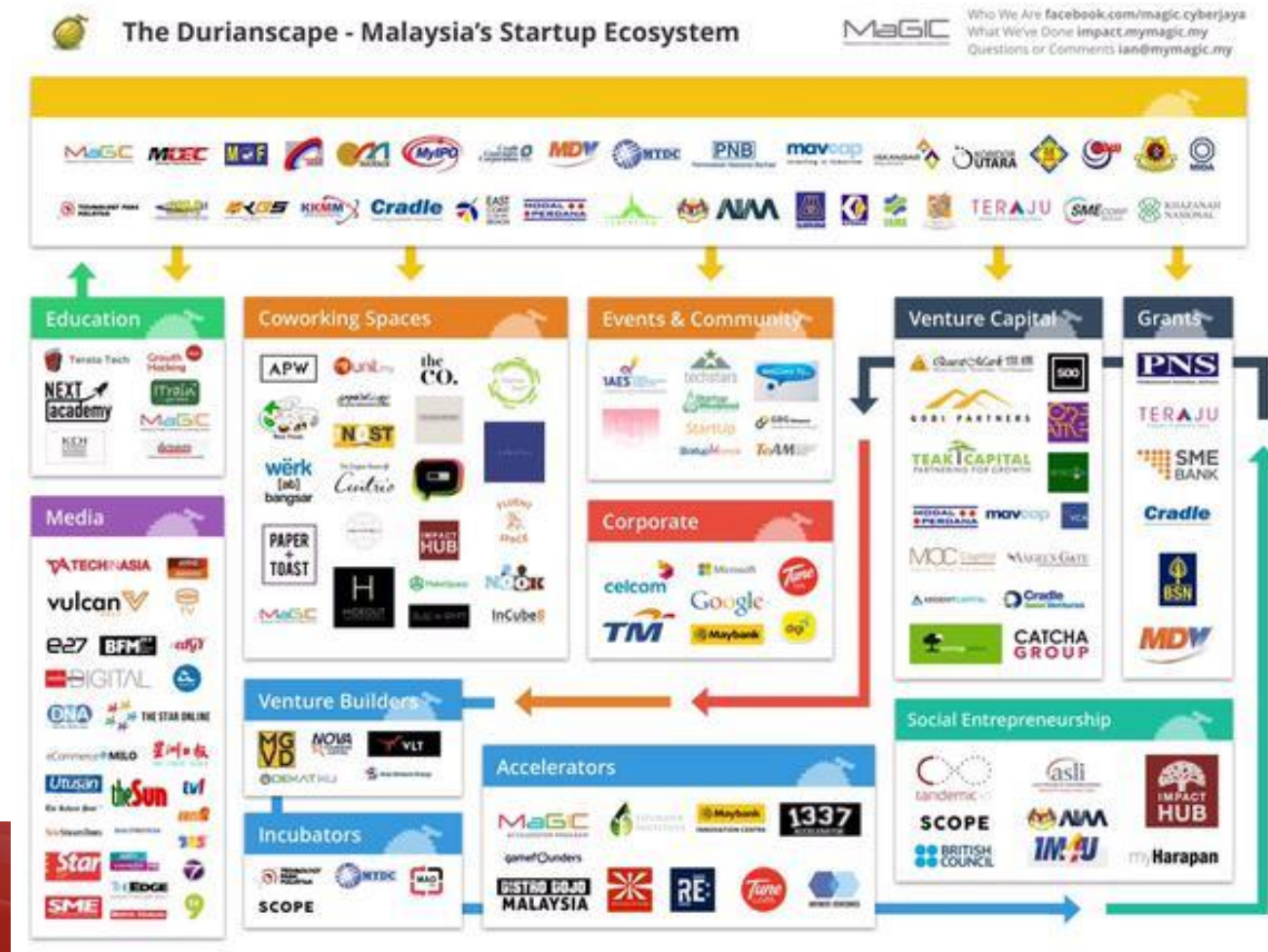
MAGIC

Malaysian Global Innovation & Creativity Centre



- Researcher wants to participate more in own commercialization

Eco System
for Startup
Co. getting
more est.



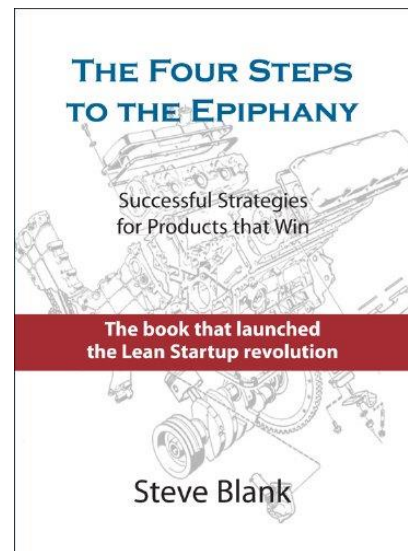
- Researcher wants to participate more in own commercialization



“It’s harder to tech transfer to someone’s company than my own company and I can gain more”

- 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

by PUTRA SCIENCE PARK

- 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



InnoHub
by PUTRA SCIENCE PARK

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



Activities – Market Validation

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



Future take

- More researchers will quickly move into entrepreneurship
- More business incubator/market validation hub within universities - owned IP or outside IP



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

Thank You

Terima Kasih