

**Hoda Yousry Abdallah**

Lecturer of Medical Genetics

Faculty of Medicine – Suez Canal University

CEO & Founder of Med Predict



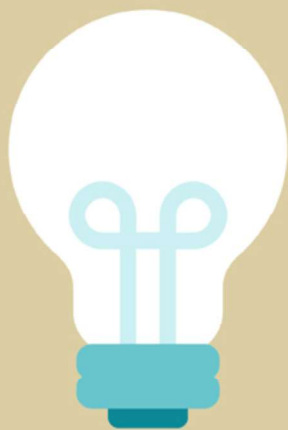
**A Science Start Up:**

**An Extra Ordinary Path for  
the Brave Heart**

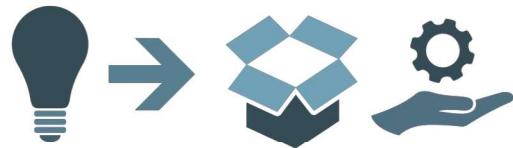


# Entrepreneurship

ريادة الأعمال



# A Science Start Up: An Extra Ordinary Path for the Brave Heart



**Introduction on Entrepreneurship**

**Questions to ask to your self**

**Starting a Science Startup**

**How do you become a Real Company?**



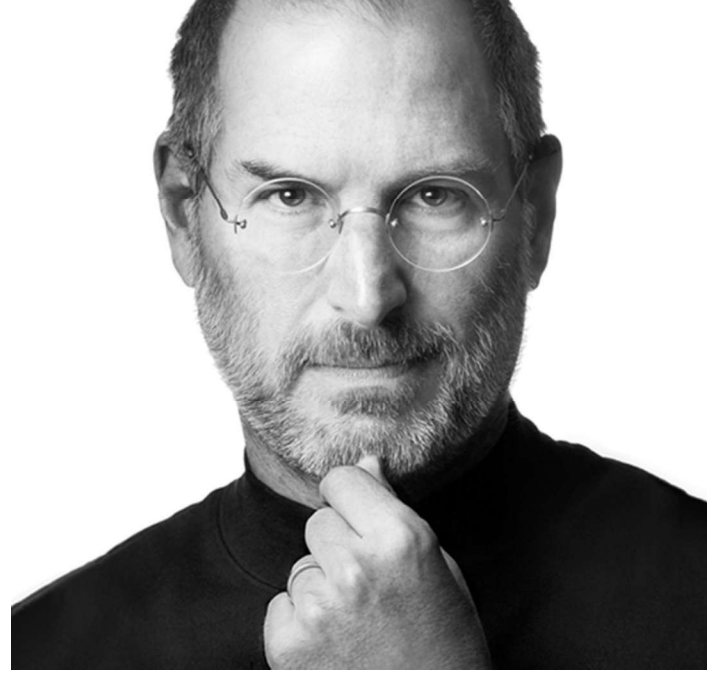
**Take Home Messages**



ENTREPRENEURSHIP

# مفهوم ريادة الأعمال

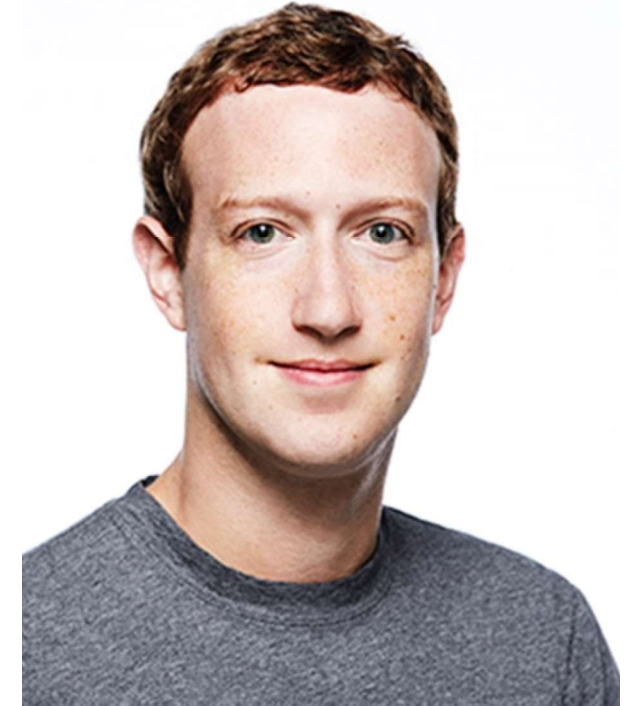
هي عملية تحويل الفكرة  
الابداعية الى مشروع  
ناجح



Steve Jobs



Mark Zuckerberg



# مفهوم ريادة الأعمال

Innovation =



# مفهوم ريادة الأعمال

## Innovation:

- Taking an idea, a method, or a product and making it NEW
  - An improved idea,
  - A new application,
  - A better method,
  - ...

## Invention:

- The original creation of the idea, the method, or the product

## الفرق بين رائد الأعمال والمخترع



### رائد الاعمال

يجمع جميع  
الموارد اللازمة  
(المال، الناس،  
استيراتيجية،  
والقدرة على تحمل  
المخاطر) لتحويل  
الاختراع الى عمل  
ناجح قابل للتطبيق.

### المخترع

يبتكر شيئاً جديداً



يقوم مفهوم ريادة الأعمال على ثلاثة أفكار رئيسية:



الفكرة الأولى: التفكير في حل مشكلة قائمة في السوق



الفكرة الثانية: انتهاز فرصة واحتياج في السوق



الفكرة الثالثة: خلق شركة ناشئة لتقديم منتج أو خدمة لها صداها ووقعها الإيجابي

تقسم ريادة الأعمال الي ثلاثة أنواع:



النوع الأول: ريادة الأعمال في **المجال الربحي**



النوع الثاني: ريادة الأعمال في **المجال المجتمعي**



النوع الثالث: ريادة الأعمال في **المجال السياسي**



أمثلة لرواد أعمال  
مصريين في المجال  
الربحي و الغير ربحي

# أمثلة لمشاريع مصرية في مجال ريادة الأعمال



أمثلة لمشاريع مصرية في مجال ريادة الأعمال

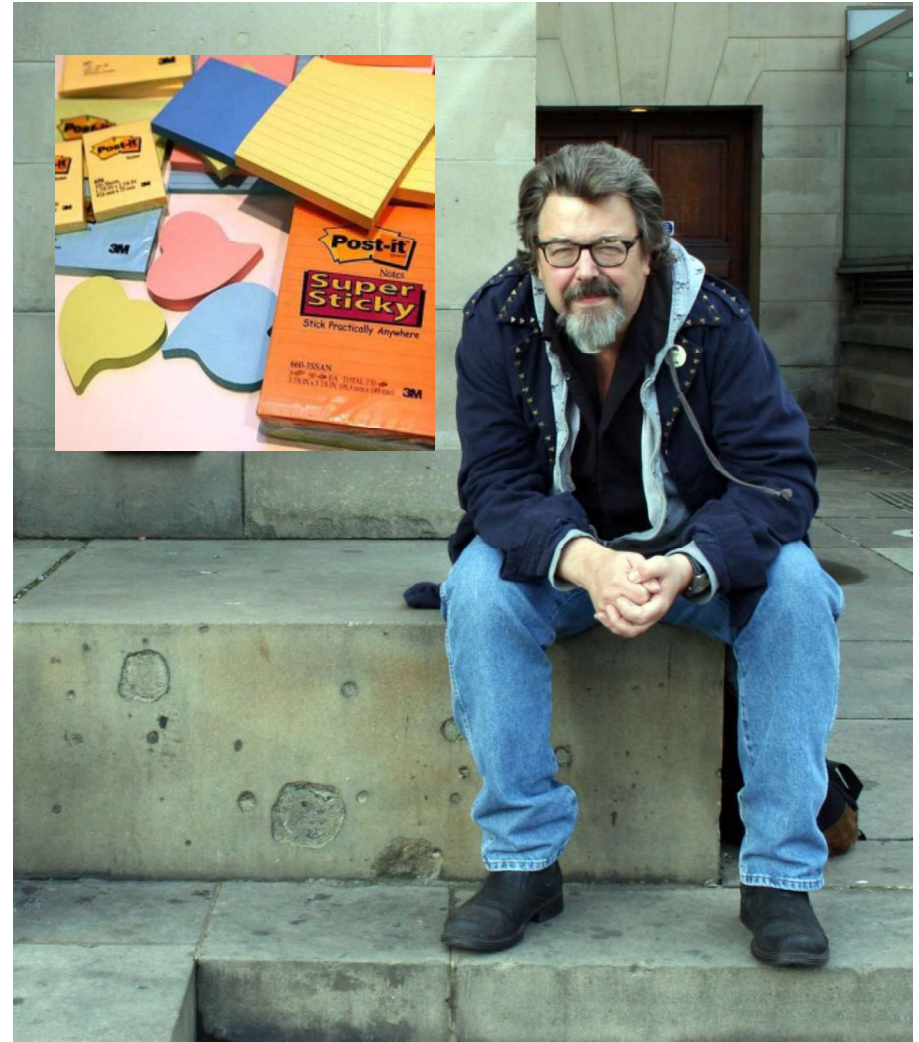




“Research is the transformation of **money** into **knowledge**.”

Innovation is the transformation of **knowledge** into **money**.”

*Geoff Nicholson, Former VP, 3M*





Entrepreneurship = The pursuit of opportunity beyond the resources you currently control..

## التقرير العالمي فيما يخص مجال ريادة الأعمال في مصر

يقوم **60-70%** من الاقتصاد  
المصري علي المشاريع  
المتوسطة و الصغيرة.

## التقرير العالمي فيما يخص مجال ريادة الأعمال في مصر

تقوم المشروعات الصغيرة و  
المتوسطة بتوفير **75-90%**  
من فرص العمل المصرية

يقوم **60-70%** من الاقتصاد  
المصري علي المشاريع  
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## التقرير العالمي فيما يخص مجال ريادة الأعمال في مصر

25% من المصريين يخافوا  
خوض تجربة مشاريع خاصة

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**13%** من الفئة العمرية

**18-64** سنة ابتدوا  
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أكثر معدل للنشاط الريادي في  
الفئة العمرية من 25-34  
سنة

13% من الفئة العمرية  
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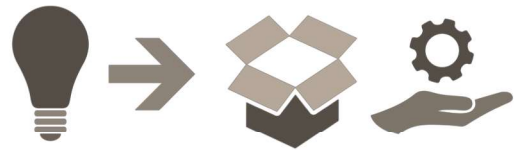
يقوم 60-70% من الاقتصاد  
المصري علي المشاريع  
المتوسطة و الصغيرة.

7,5% من المصريين أخذوا  
دورات في مجال ريادة الأعمال

أكثر معدل للنشاط الريادي في  
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13% من الفئة العمرية  
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# الفرق بين ريادة الأعمال و إدارة الأعمال



رائد الأعمال



رجل الأعمال

وجه المقارنة

فكرة العمل

أسلوب العمل

مستوي المخاطرة

مكانته في السوق

الطموح



تصبح مدير نفسك



تنفيذ حلمك او فكرتك



العائد المادي

لماذا تصبح رائد اعمال

# No gains without pains

## يفوز بالذات كل مُغامر، و يموت بالحسرات كل جبان

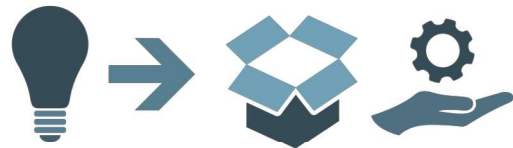
### فوائد ريادة الأعمال

- الاستقلالية
- فرص للتميز
- فرصة لتحقيق الطموحات
- فرصة تحقيق الأرباح
- خلق فرص عمل للآخرين

### مخاطر ريادة الأعمال

- عدم استقرار الدخل
- الإحباط
- ساعات العمل الطويلة
- المعاناة من ضغوط العمل
- المسؤولية الكاملة

# A Science Start Up: An Extra Ordinary Path for the Brave Heart



**Introduction on Entrepreneurship**

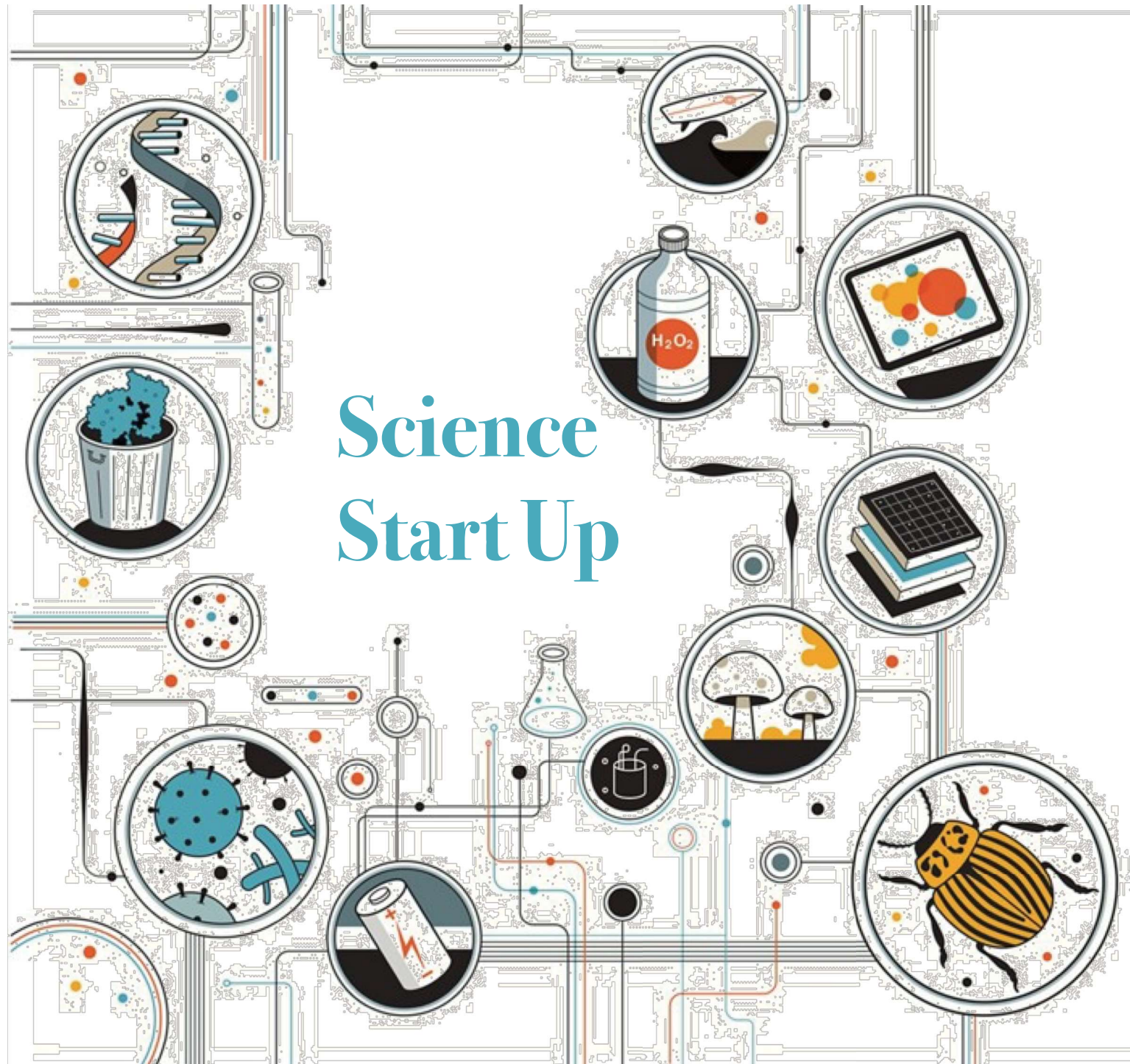
**Questions to ask to your self**

**Starting a Science Startup**

**How do you become a Real Company?**



**Take Home Messages**



# Science Start Up

**WHAT?**

**WHY?**

**WHO?**

**WHEN?**

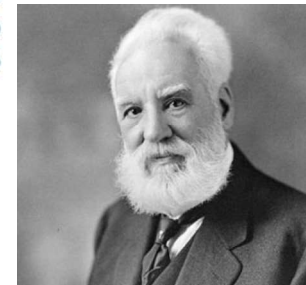
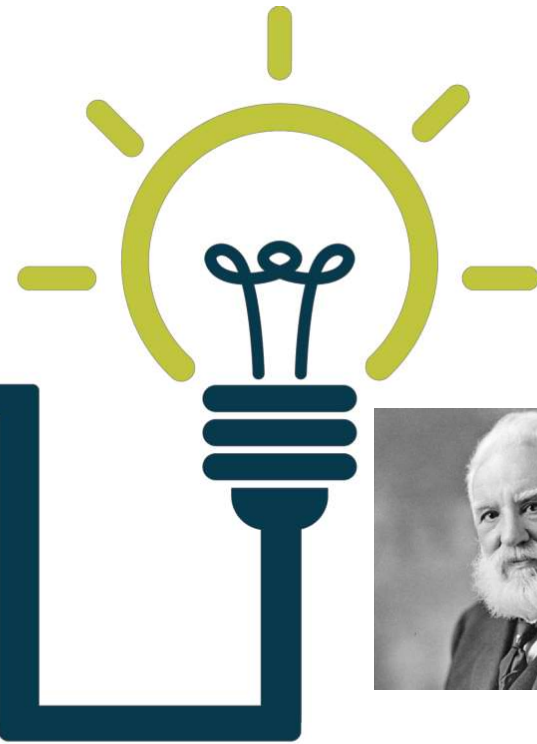
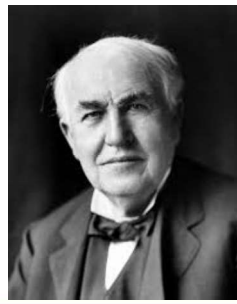
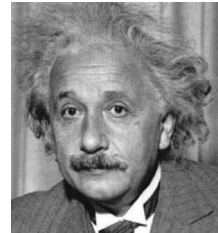
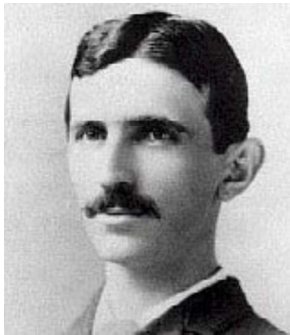
**HOW?**

**WHERE?**

**WHAT?**



# Want to Start A Science Startup? Find A Problem, Not A Discovery



WHAT?

**WHY?**





In the world of Science entrepreneurship, you have got to be able to convince yourself and others that there is a **pot of gold** at the end of this particular rainbow.

**WHY?**

**WHO?**



Stay at present position

**Part-time**

Company CEO, CTO, etc

**Full-time**

**License technology to another company**

Board of Directors

Scientific Advisors

Consultant



**WHO?**

**WHEN**  
**&**  
**WHERE?**



**When** you had your great idea?

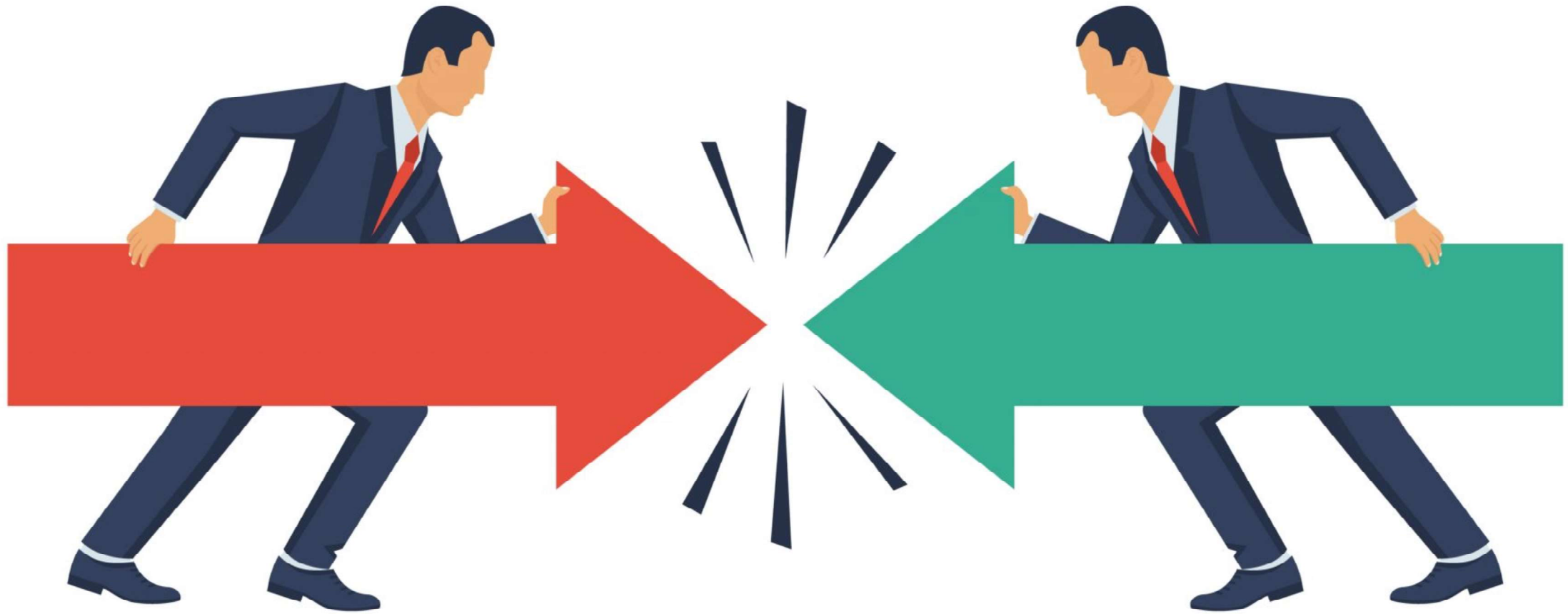
**Where** were you employed?

Ownership often lies with your employer, including universities and companies.

**Owns my brain !!!**

**WHEN  
&  
WHERE?**





**Conflict of Interest**

**WHEN  
&  
WHERE?**

HOW?





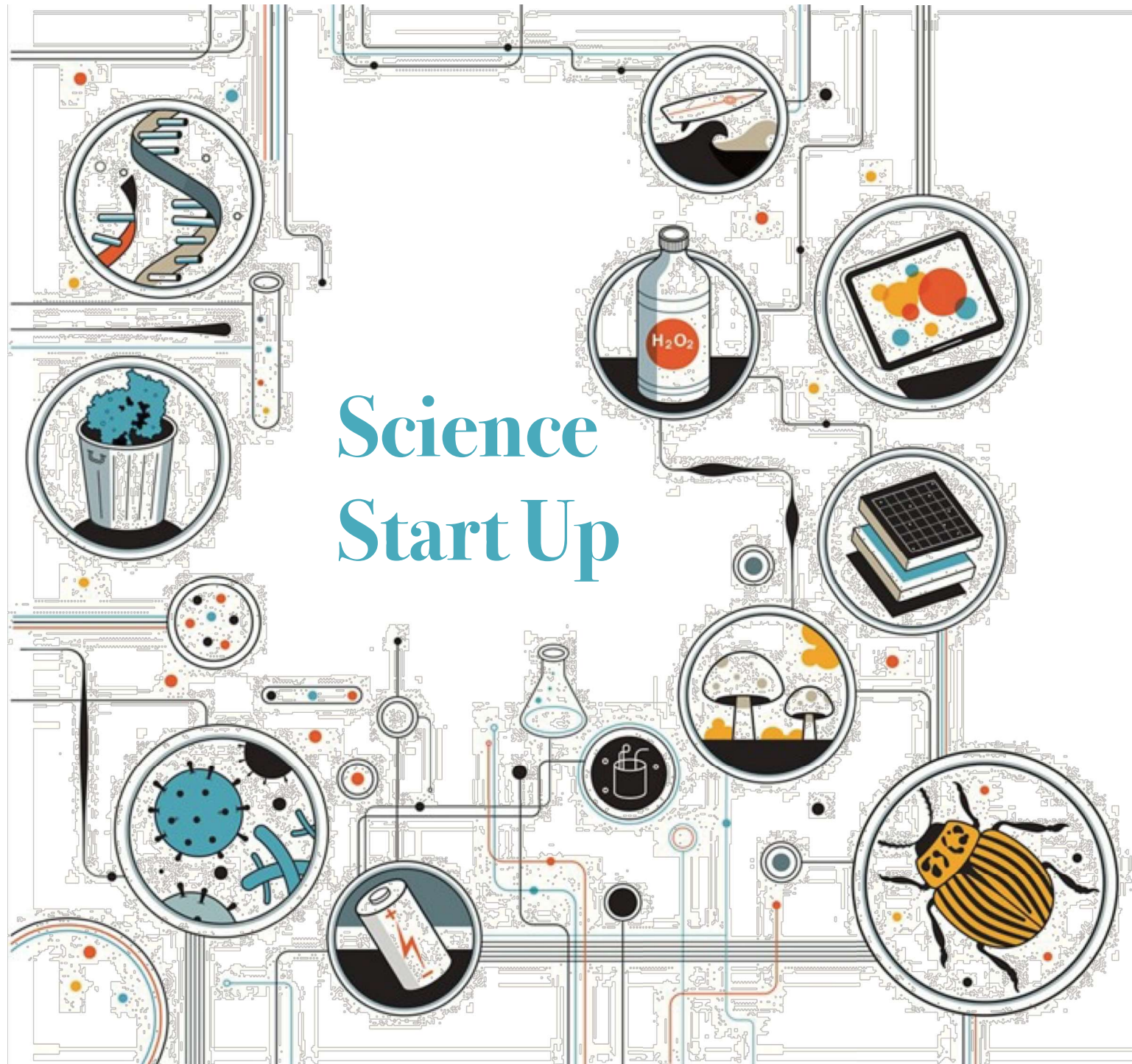
“Scientists have a reputation for failing to appreciate the **difference** between a science, a technology, a product, and a company”

**HOW?**



“To be true entrepreneurs, scientists must learn to put **business ahead of science** when developing a commercialization strategy”

**HOW?**



# Science Start Up

**WHAT?**

**WHY?**

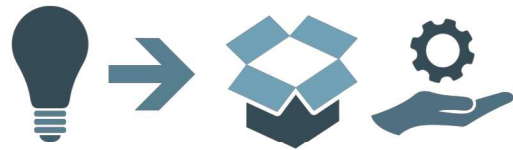
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**Take Home Messages**

# Starting A Science Startup

- **Do you have what it takes?**
- **Management?**
- **Who will be your first employee?**
- **Incorporating the company**
- **Issue Stock?**
- **Agreements?**
- **Board of Directors**



# Do you have what it takes?

## What makes a Science start-up entrepreneur?

”Creating an economic organization under conditions of **risk**”

”A person that understands marketing, financial, business, tech & science”



# Do you have what it takes?

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# Starting A Science Startup

- Do you have what it takes?
- **Management?**
- Who will be your first employee?
- Incorporating the company
- Issue Stock?
- Agreements?
- Board of Directors



# Company Management

## Possible Management Positions

**CEO:** Chief Executive Officer - Final authority; reports to board

**COO:** Chief Operating Officer Operations

**CFO:** Chief Financial Officer - Finance

**CMO:** Chief Marketing Officer - Marketing, Sales, Business, Development

**CTO:** Chief Technical Officer - Often in Engineering

**CSO:** Chief Scientific Officer Often in biotech



# Company Management

## Possible Management Positions

- **Must haves:**

**CEO or COO** to head company

**CSO or CTO:** to direct science or technology

**Board of Directors**

- **Necessary haves:**

**Financial or Business (CFO) person**

**(part-time or full time)**

**Scientific Advisory Board (at some point)**



# Starting A Science Startup

- Do you have what it takes?
- Management?
- **Who will be your first employee?**
- Incorporating the company
- Issue Stock?
- Agreements?
- Board of Directors



# Who will be your first employee?

Find a good Lawyer - "The first hire"

## Corporate Law:

Business law practice specializing in start-up biotech, taxes

## Patent Law Intellectual property (IP):

Patent filings, patent litigation

## Securities Law:

Raising capital, complying with security laws

## Regulatory Law

e.g. FDA-knowledgeable attorney



# Who will be your Second employee?

Find a good accountant (s) “The second hire”

- **Government Specialist:**

**Government does accounting in their own way**

- **Angel, VC Specialist:**

**May be suggested by your investors**



# Starting A Science Startup

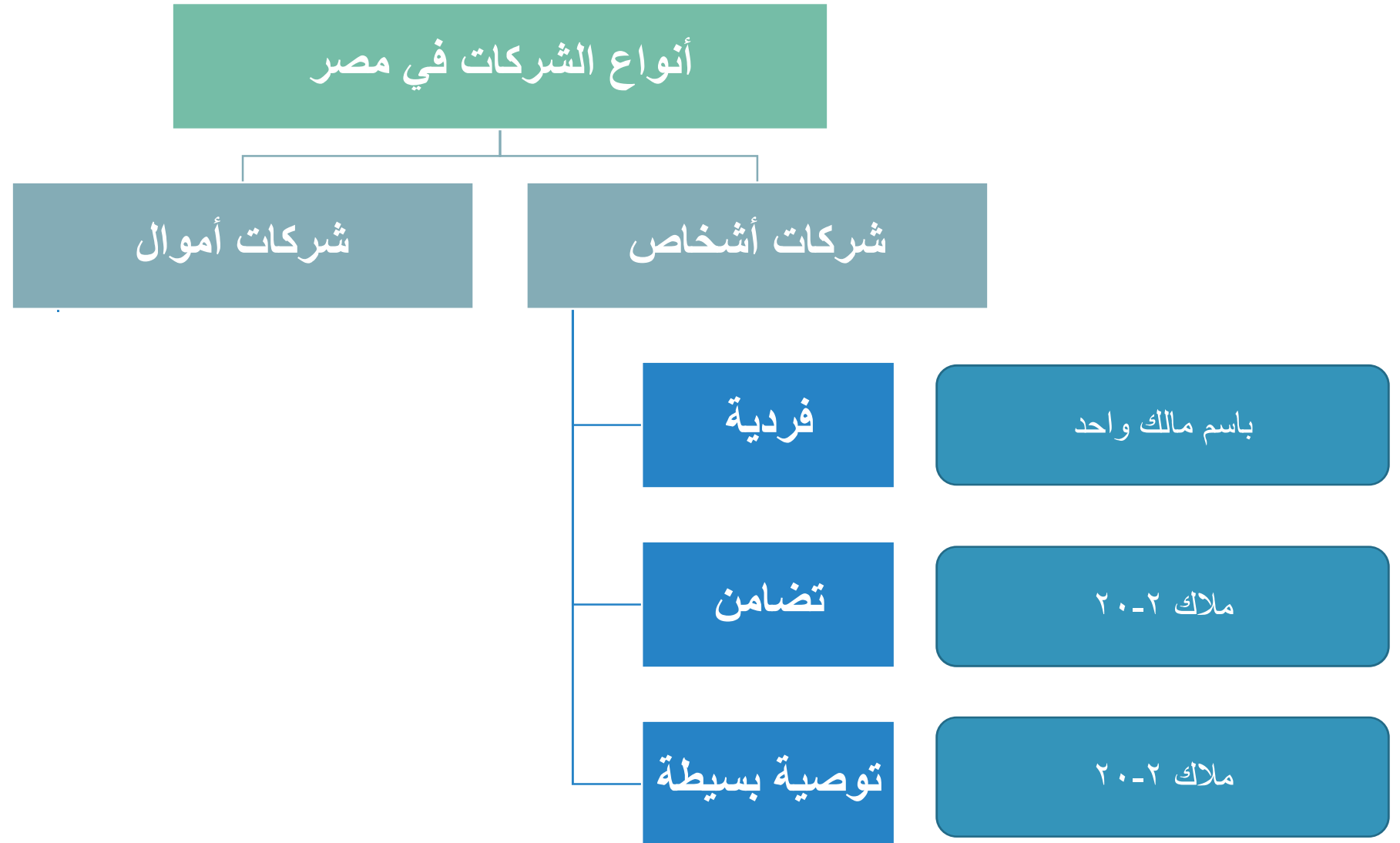
- Do you have what it takes?
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# Incorporating the Company (Egypt)



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# Incorporating the Company (Egypt)

أنواع الشركات في مصر

شركات أموال

شركات أشخاص

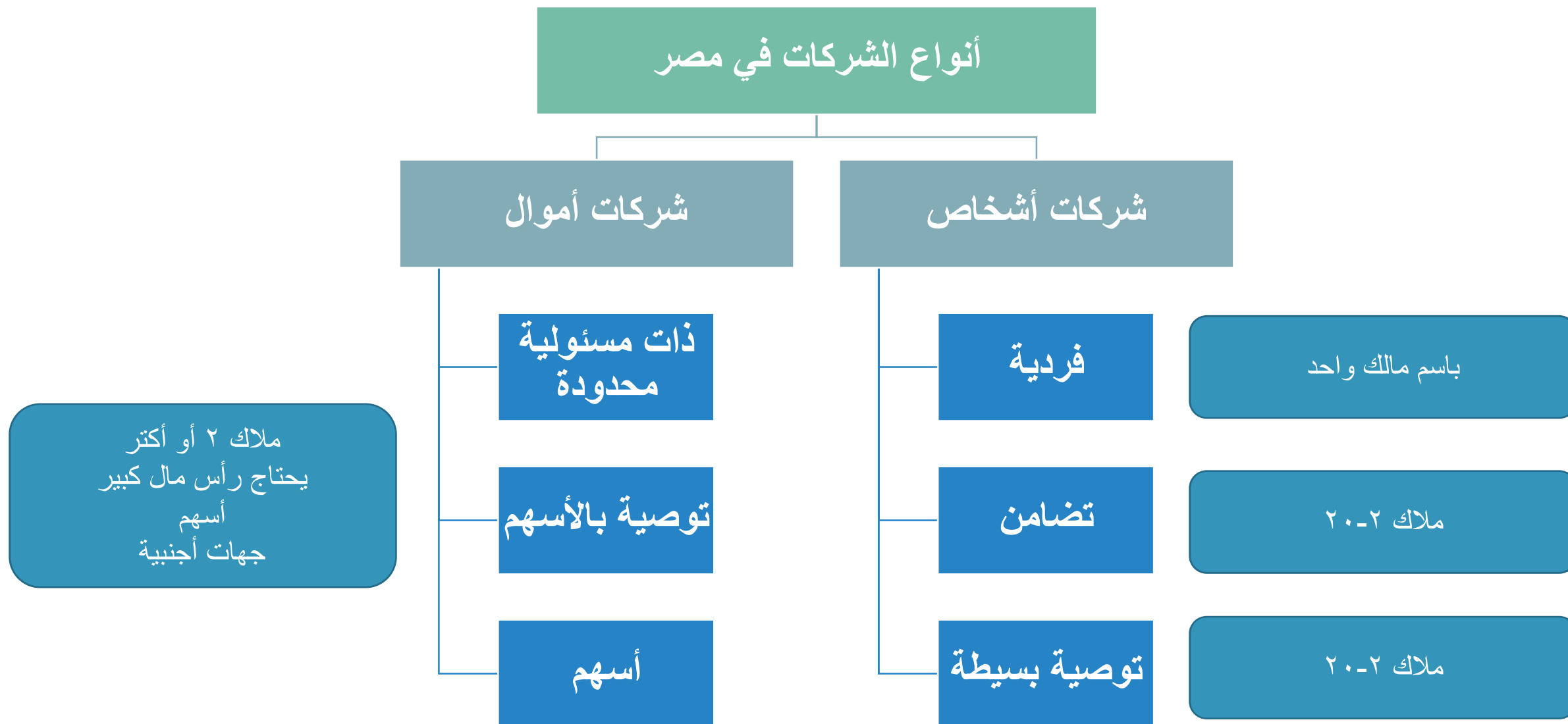
ذات مسؤولية  
محدودة

توصية بالأسهم

أسهم

ملاك ٢ أو أكثر  
يحتاج رأس مال كبير  
أسهم  
جهات أجنبية

# Incorporating the Company (Egypt)



# Starting A Biotech Startup

- **Do you have what it takes?**
- **Management?**
- **Who will be your first employee?**
- **Incorporating the company**
- **Issue Stock?**
- **Agreements?**
- **Board of Directors**



# Other initial tasks

## **Agreements:**

- **Founder's agreement**
- **Non-disclosure agreement**
- **Invention assignment agreement**
- **Non-compete agreement**
- **Employment agreement**
- **Directors & Officers Insurance**

## **Others:**

- **Establish a Board of Directors**
- **Set up a Scientific Advisory Board (at some point)**
- **Set up a Clinical Advisory Board (at some point)**

# Starting A Science Startup

- **Do you have what it takes?**
- **Management?**
- **Who will be your first employee?**
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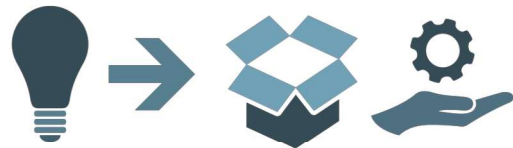


# Congratulations

## You Have A Virtual Company



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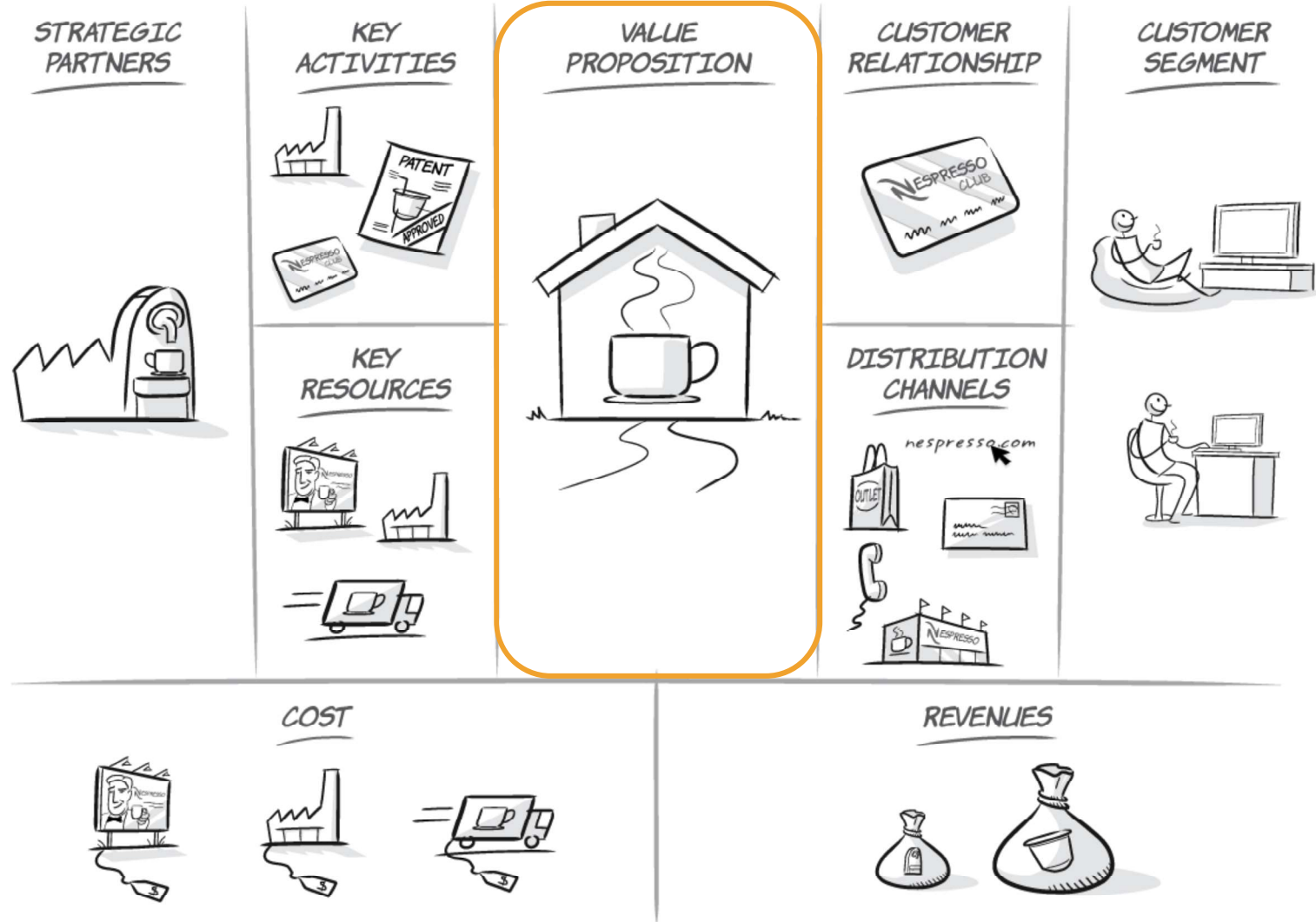
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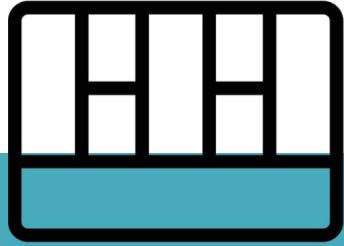
# How Do You Become A Real Company?



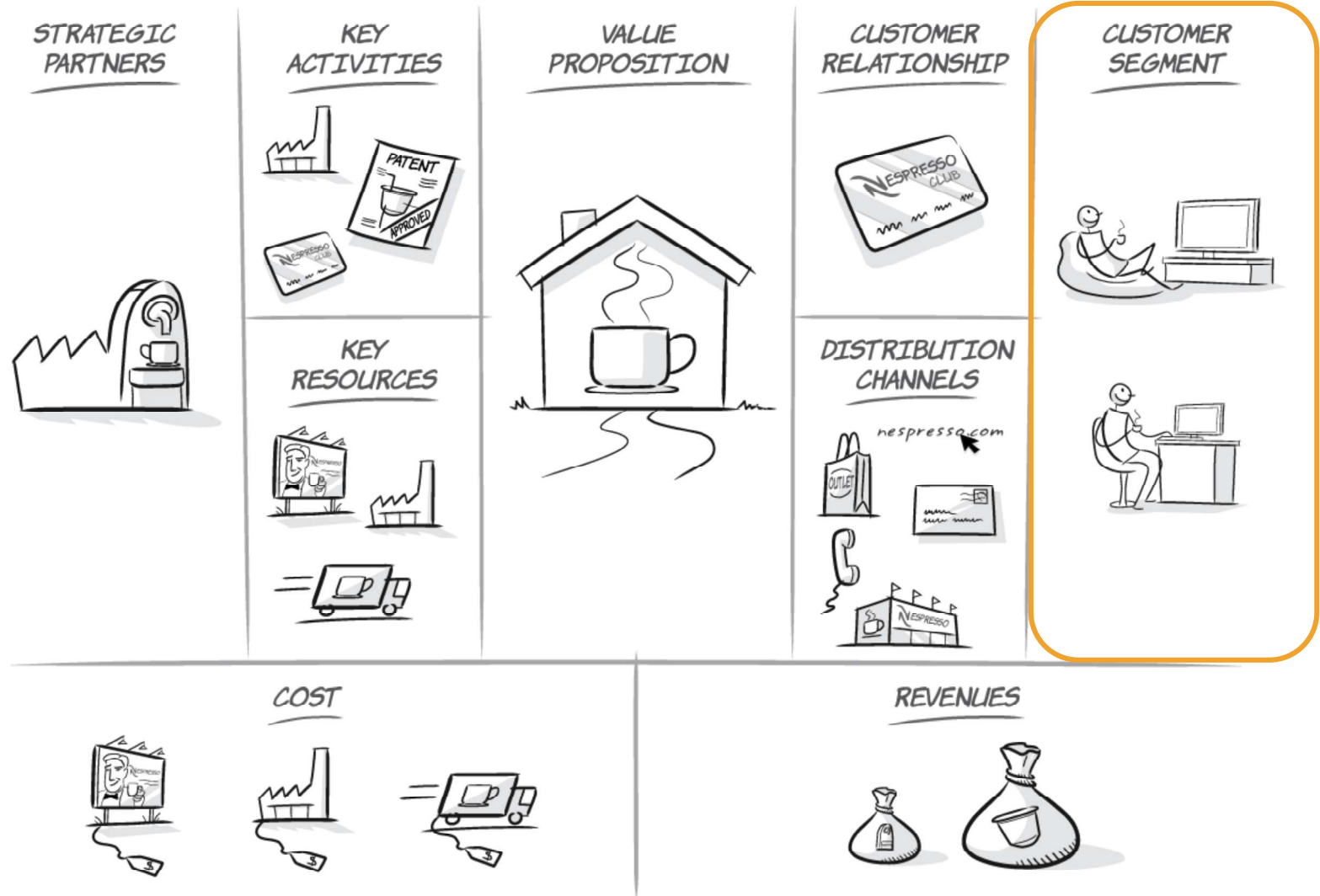


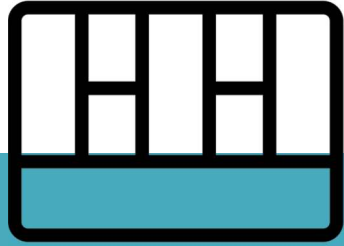
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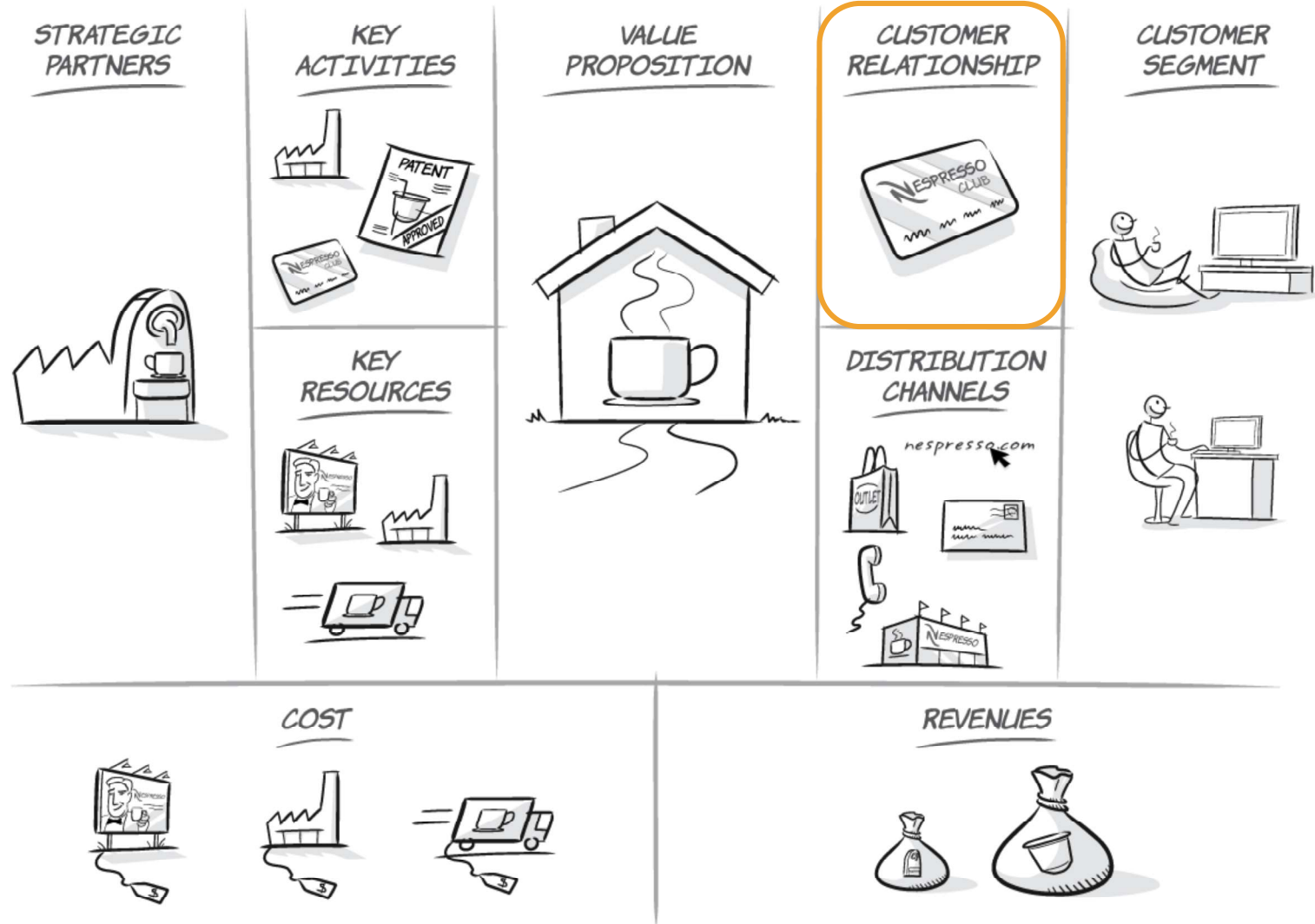


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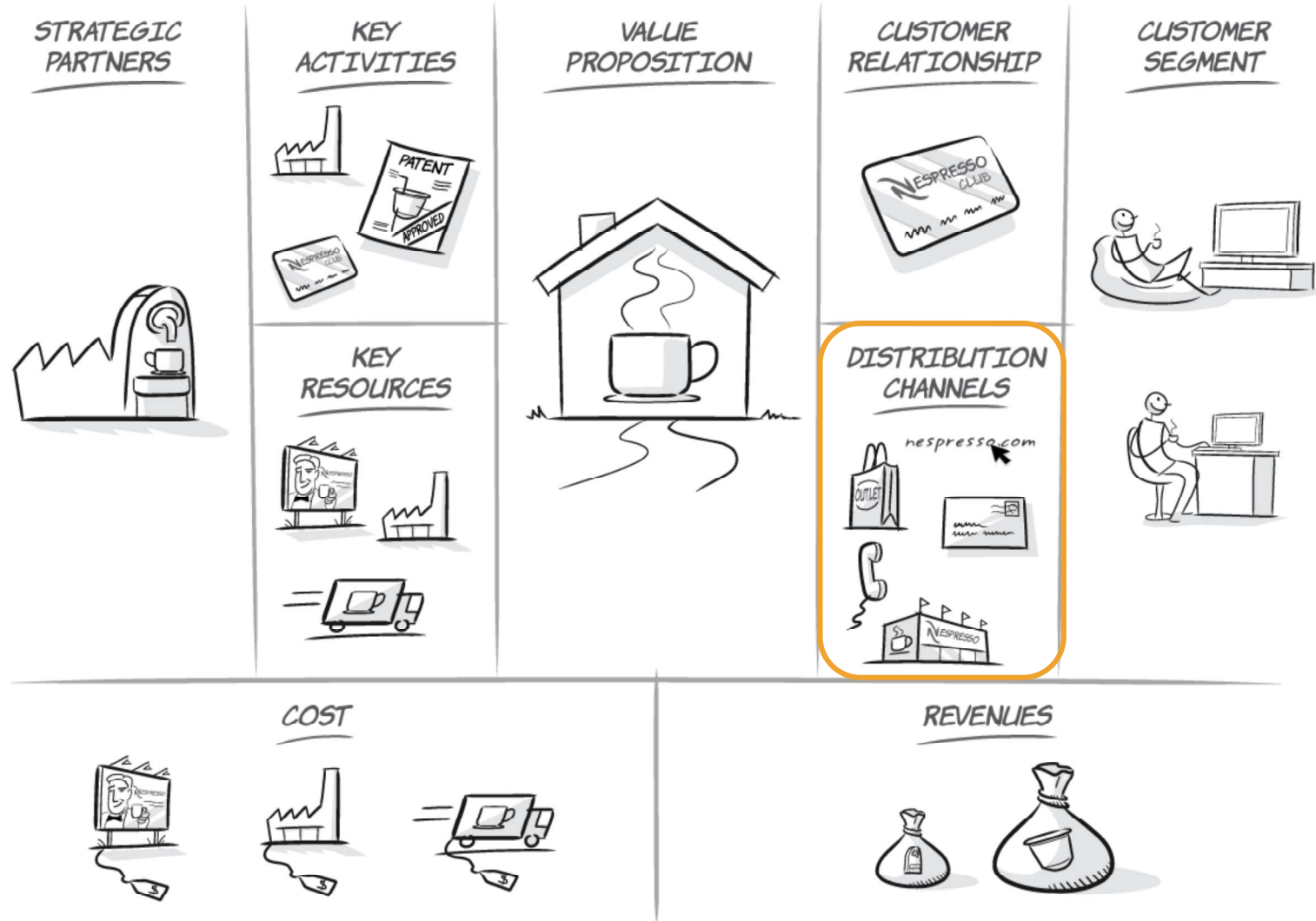


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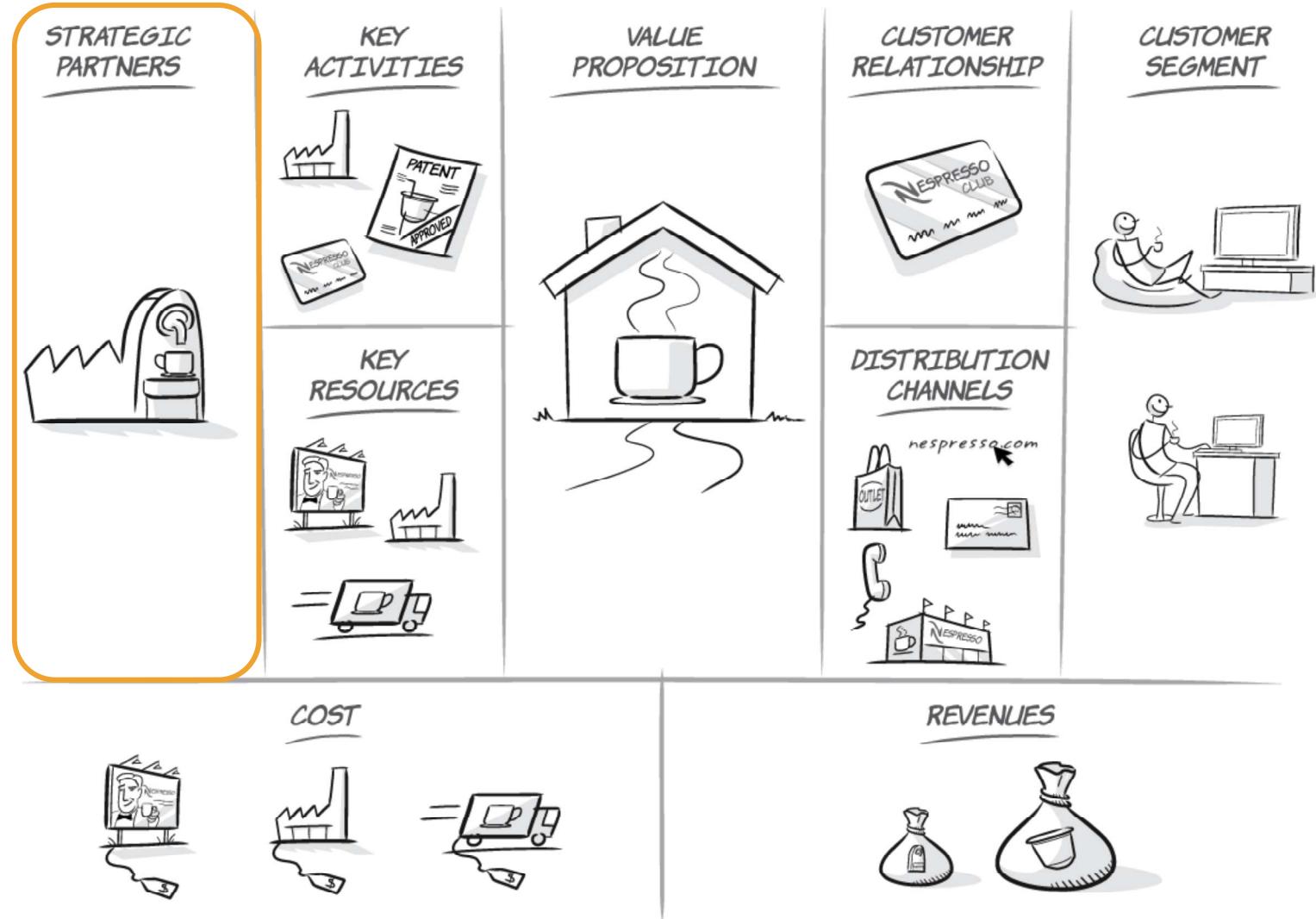


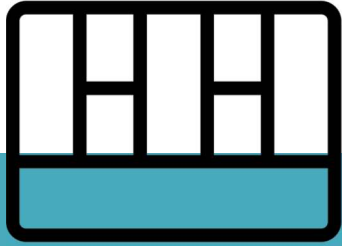
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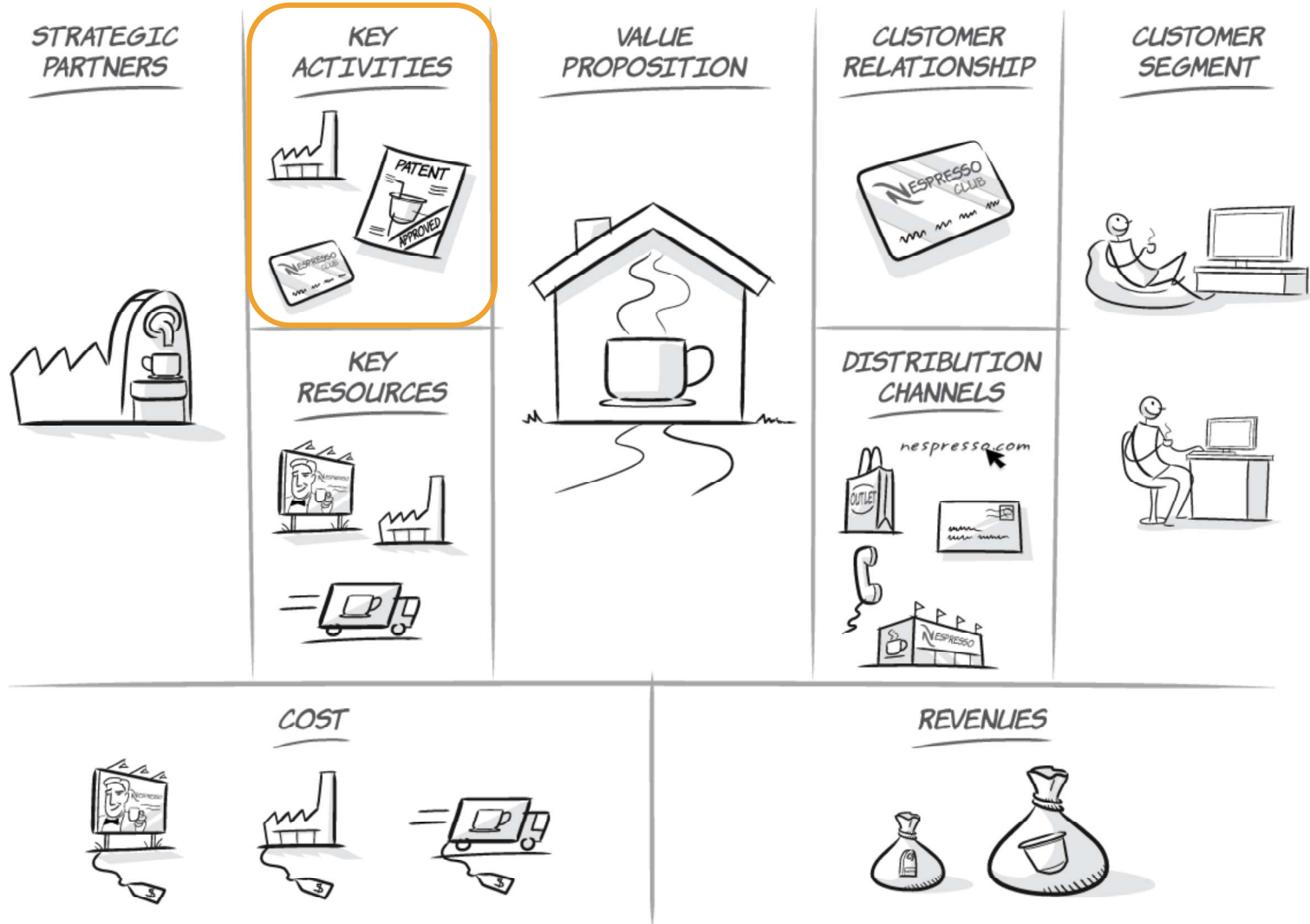


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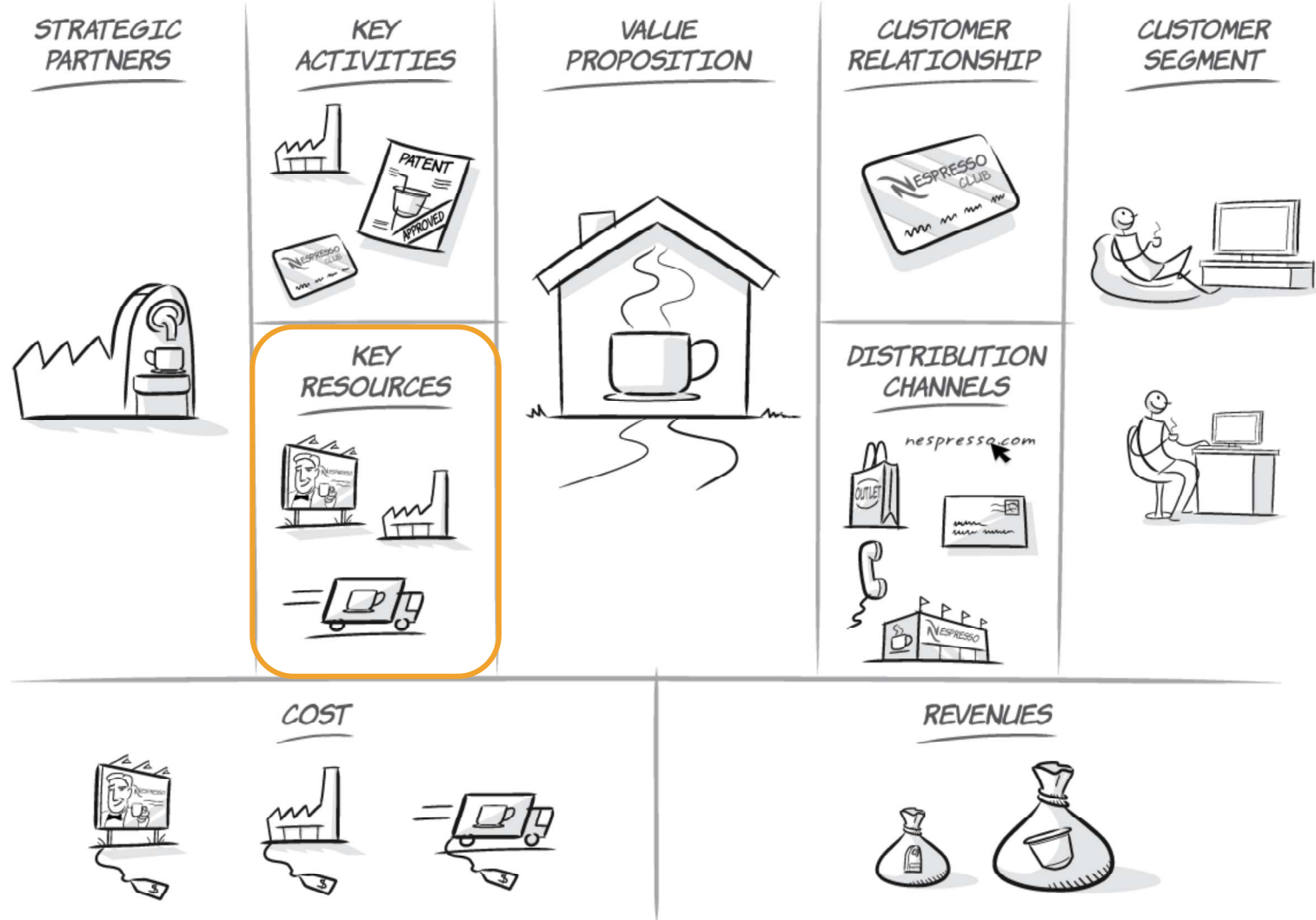


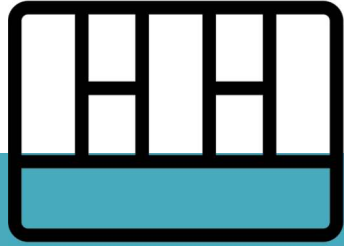
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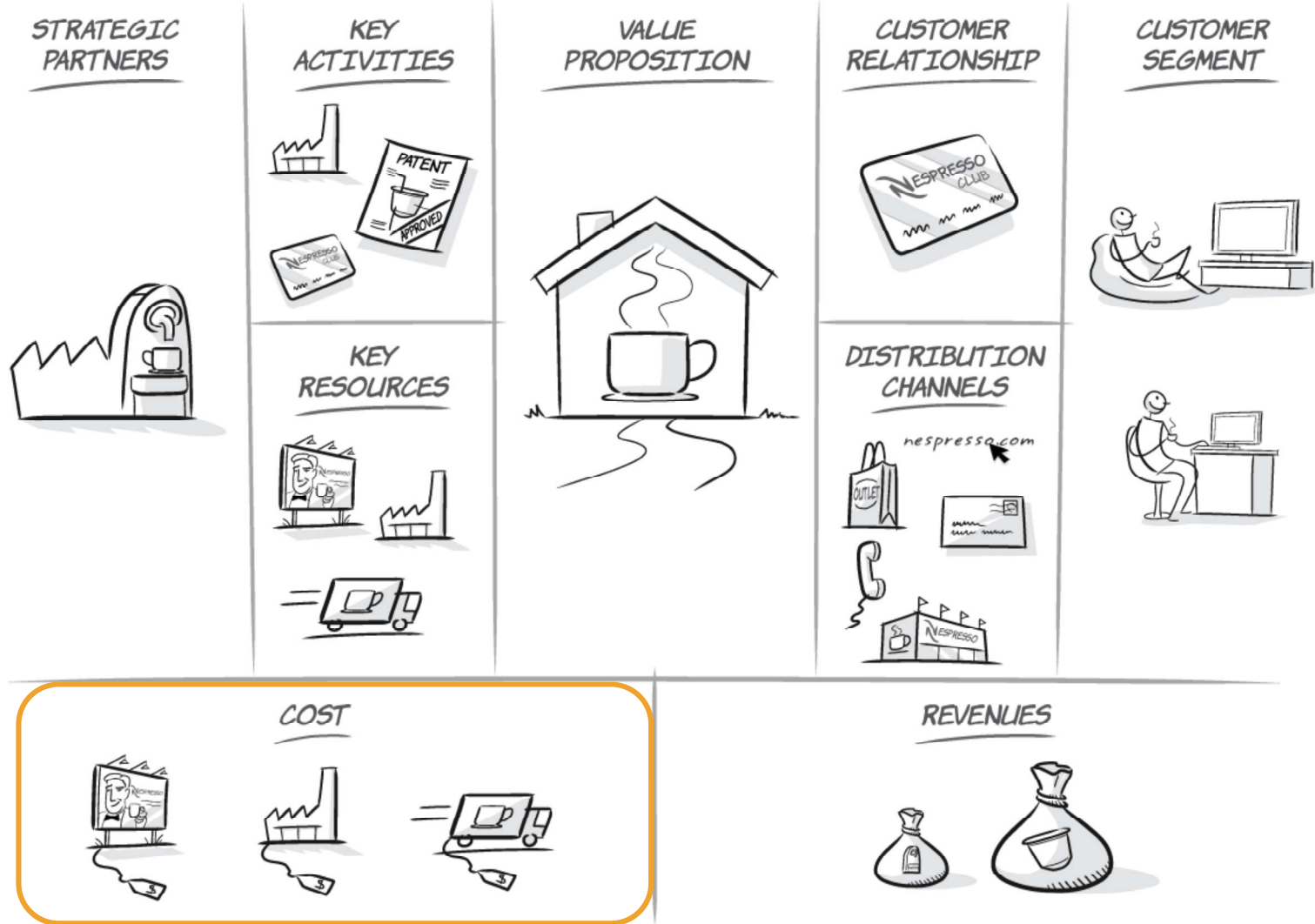


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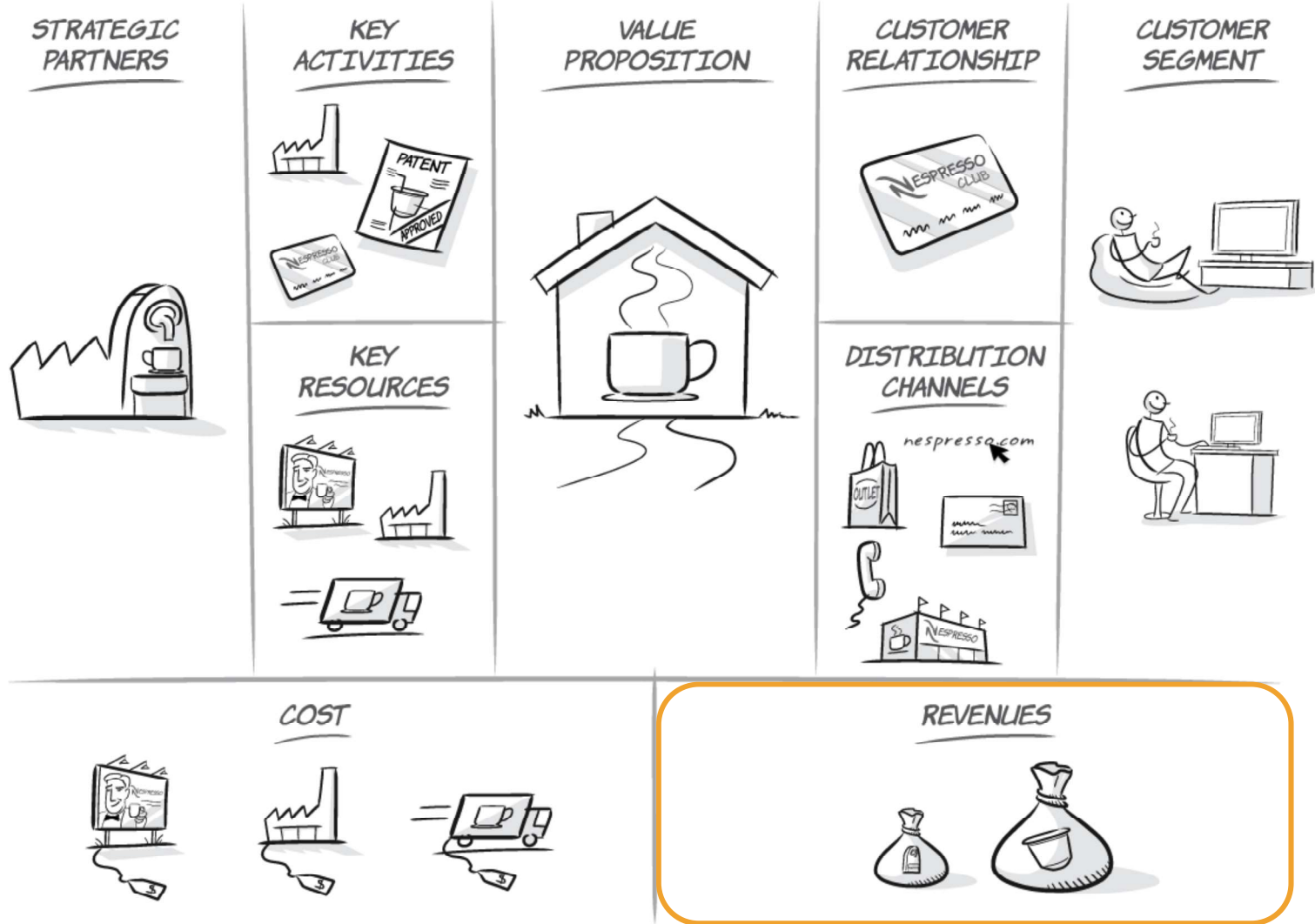


# مصفوفة ريادة الأعمال





# مصنوفة ريادة الأعمال



## سمات المشروع الناجح

نموذج عمل  
متميز يولد  
قيمة مضافة

الاستمرارية  
والاستدامة

القابلية  
للنمو

المرونة

# Tips to become a REAL company?

- **Is there IP protection? (Freedom to Operate)**
- **Is there a market?**
- **Is there a Business Model for generating profit?**
- **Does management have the skills to implement the business plan?**
- **How to finance?**



# Tips to become a REAL company?

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# Is there IP (Intellectual Property) protection?

The cumulative know-how to making a product

- **Patents:**

20 years from date of filing

- **Trade Secrets:**

known by only certain individuals

- **Trademarks:**

Identifies and distinguishes the product of one party from another

# Is there IP (Intellectual Property) protection?

- **Novelty:** New
- **Not previously disclosed:** No prior art
- **Non-obviousness:** Not obvious to someone skilled in the art
- **Utility:** Has some useful purpose
- **Enablement:** Some proof that it works

# Tips to become a REAL company?

- Is there IP protection? (Freedom to Operate)
- **Is there a market?**
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# Is there a market? (Market share)

What do real customers want?

Total annual sales for a market, factoring in:

- **Competition Market Share**
- **Price of product**
- **Sales force**
- **Growth rate of market**
- **Switching frequency (customer loyalty)**

# Is there a market? (Market share)

## Total annual sales for a market, factoring in:

- Matching business with product & company
- Market Demand
- Market pull vs push
- Management
- Leadership Scientific Team
- Estimation of Risks
- Regulatory hurdles

# Tips to become a REAL company?

- Is there IP protection? (Freedom to Operate)
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# The Business Model

Does business model match product? "A goal without a plan is a Wish"

## Fully Integrated Pharmaceutical Company

- We do it all. R&D to product positioning & Marketing
- e.g. bio-based drugs

## Drug Repositioning Model

- e.g. moving a "shelved" drug forward

# The Business Model

Does business model match product? "A goal without a plan is a Wish"

## **Molecular Testing Model with Platform Instruments**

- e.g. **Diagnostics**

## **Virtual Company (outsource almost everything)**

- **Limit what is done in house & farm everything else out**

## **Contract Services**

- **Perform tasks on a fee-for-service basis**

# Tips to become a REAL company?

- Is there IP protection? (Freedom to Operate)
- Is there a market?
- Is there a Business Model for generating profit?
- **Does management have the skills to implement the business plan?**
- How to finance?



# Does Management have skills to implement plan?

- Is **CEO** experienced?
- How **seasoned** is the team?
- Who has **previous** experience?
- Are there **gaps** in the management team?
- Can the management team **execute** the business plan?

# Tips to become a REAL company?

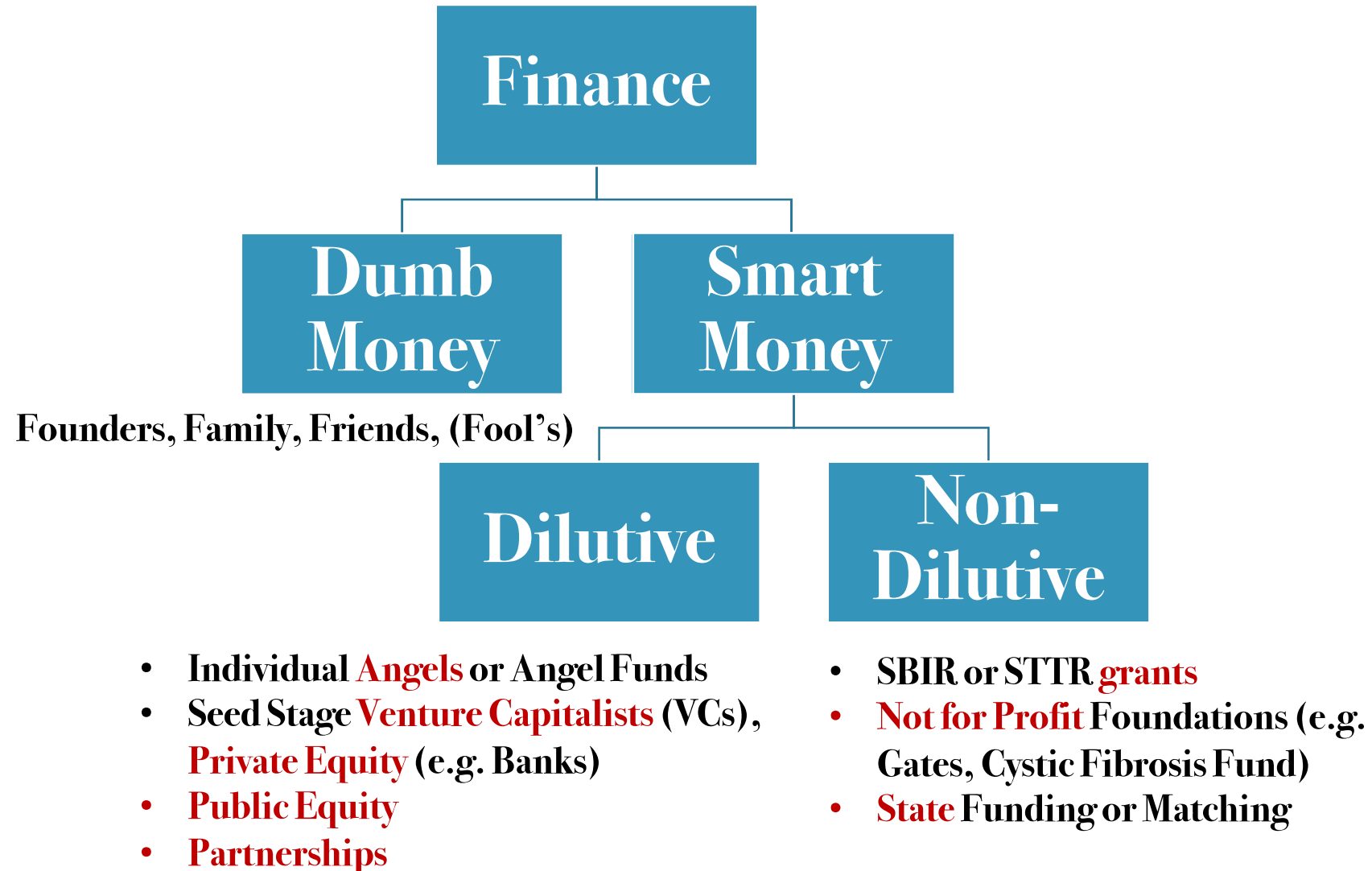
- Is there IP protection? (Freedom to Operate)
- Is there a market?
- Is there a Business Model for generating profit?
- Does management have the skills to implement the business plan?
- **How to finance?**



# How to finance a start-up company?

- **Getting Started Money**
- **Incorporation, etc.**
- **Money for R&D**
- **Burn rate?**
- **Employees?**
  - **Money for administration, record keeping, software, etc.**
  - **Attorney Fees**
  - **Patent, Corporate, etc.**
  - **Regulatory Agencies**
  - **Travel**

# How to finance a start-up company?

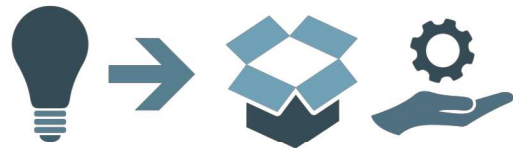


# Tips to become a REAL company?

- **Is there IP protection? (Freedom to Operate)**
- **Is there a market?**
- **Is there a Business Model for generating profit?**
- **Does management have the skills to implement the business plan?**
- **How to finance?**



# A Science Start Up: An Extra Ordinary Path for the Brave Heart



**Introduction on Entrepreneurship**

**Questions to ask to your self**

**Starting a Science Startup**

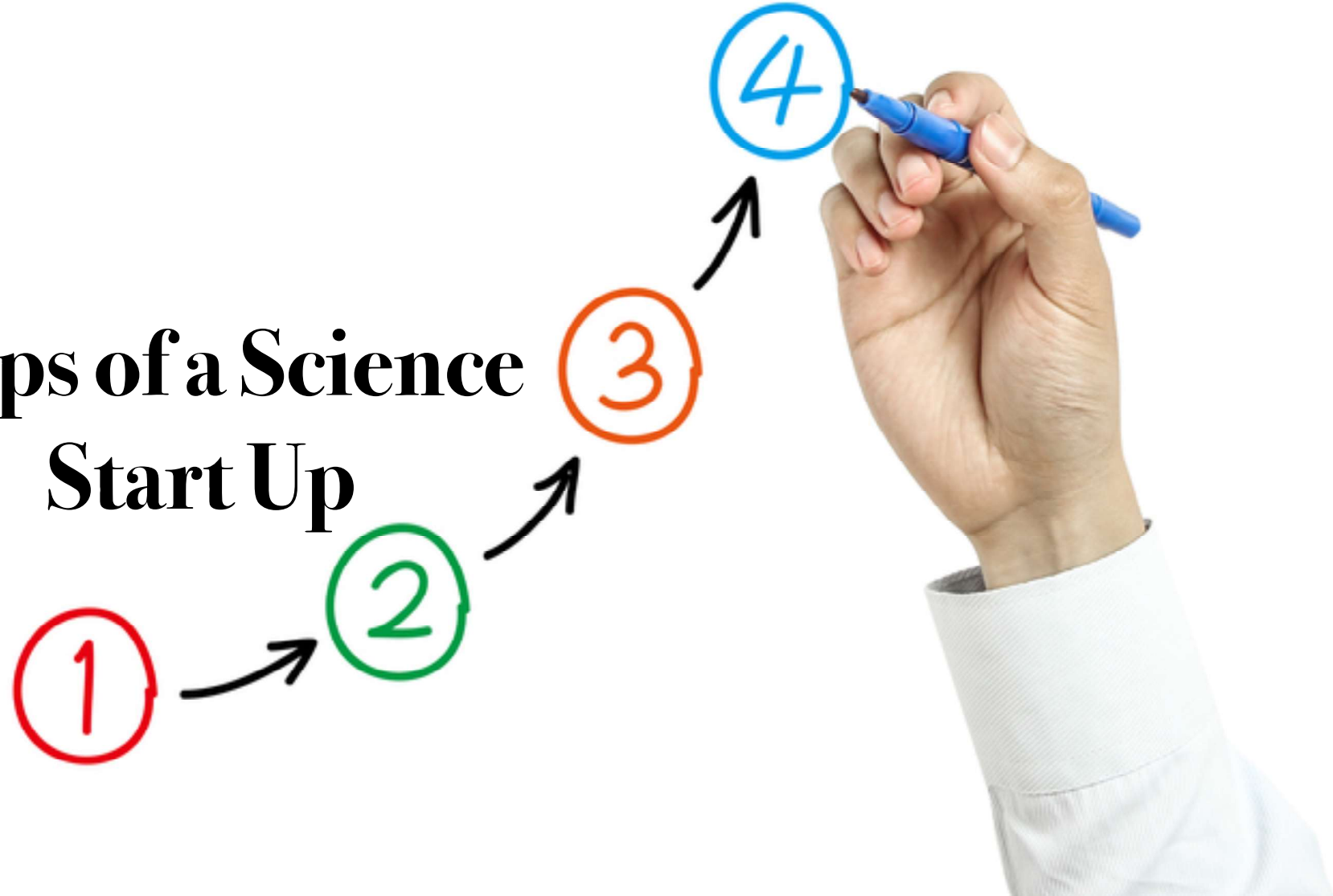
**How do you become a Real Company?**



**Take Home Messages**

# Take Home Message

**Steps of a Science  
Start Up**



افكار خاطئة عن  
رائد الاعمال



رواد الاعمال يولدون لا يصنعون



رواد الاعمال يحبون المخاطرة



الدافع الرئيسي لرواد الاعمال هو المال



رائد الاعمال يجب ان يكون شابا وفى كامل  
طاقته وتركيزه

1



experienced  
executives



advisors



founders

team  
formation

# Life of a Science Start Up

1



experienced  
executives



advisors



founders

team  
formation

# Life of a Science Start Up

scientific  
risk reduction



experiments



data

2

1



experienced executives



advisors



founders

**team formation**

3

Does this solution address your pain point?

YES!!



**business model generation**

# Life of a Science Start Up

scientific risk reduction

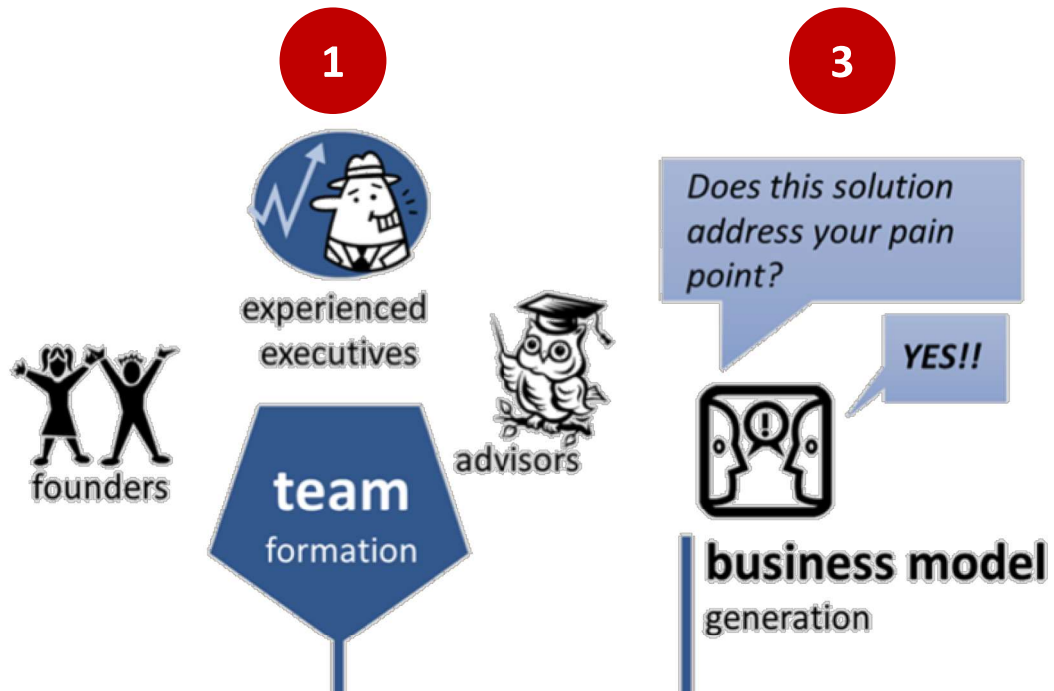


experiments

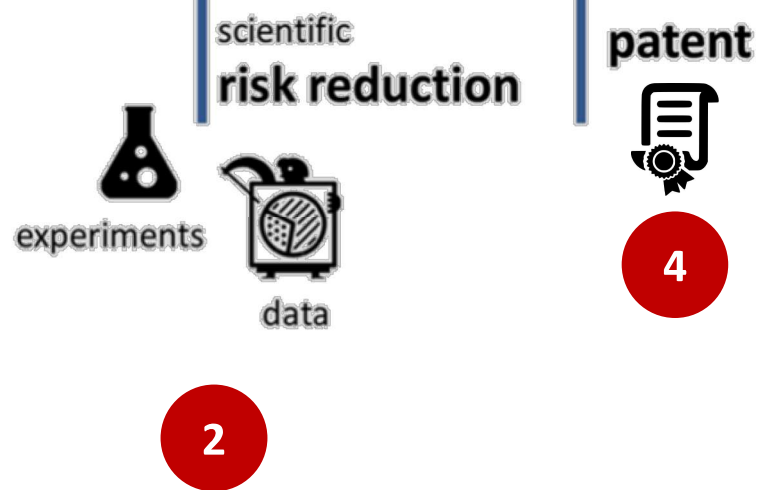


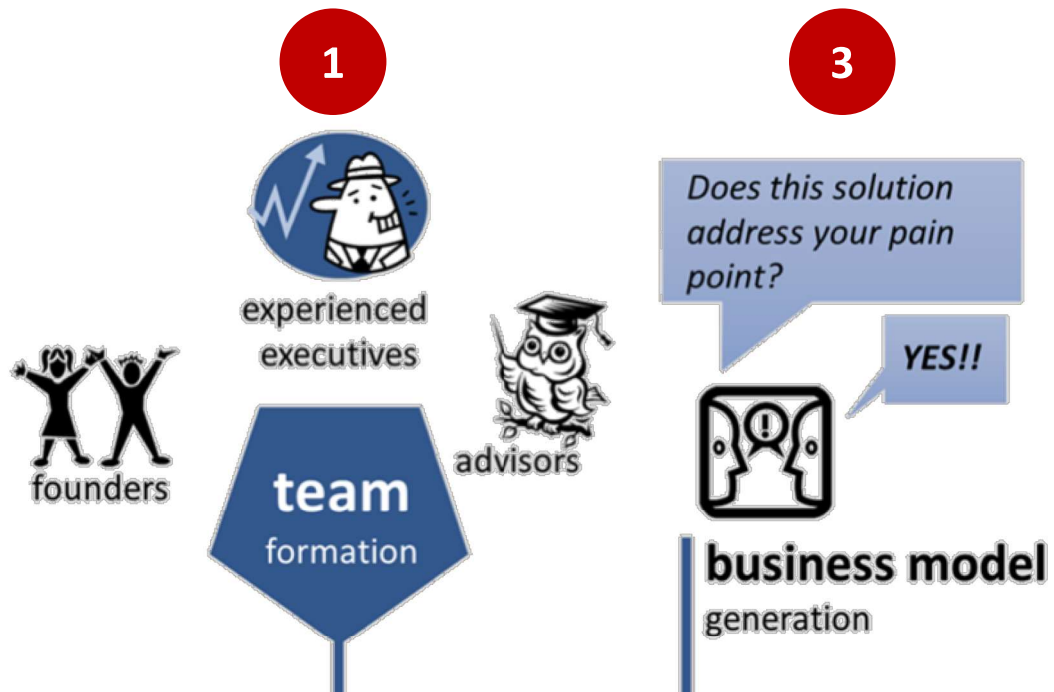
data

2

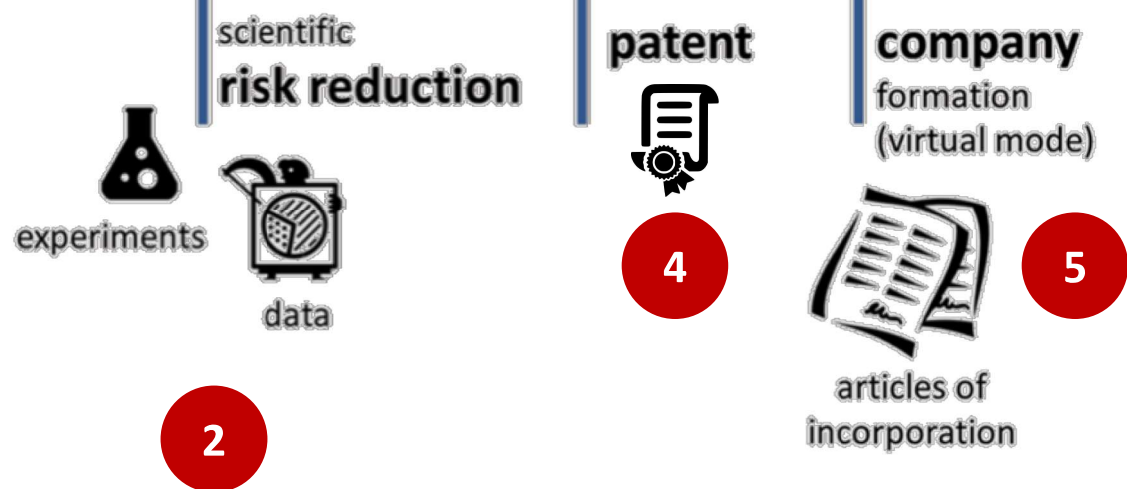


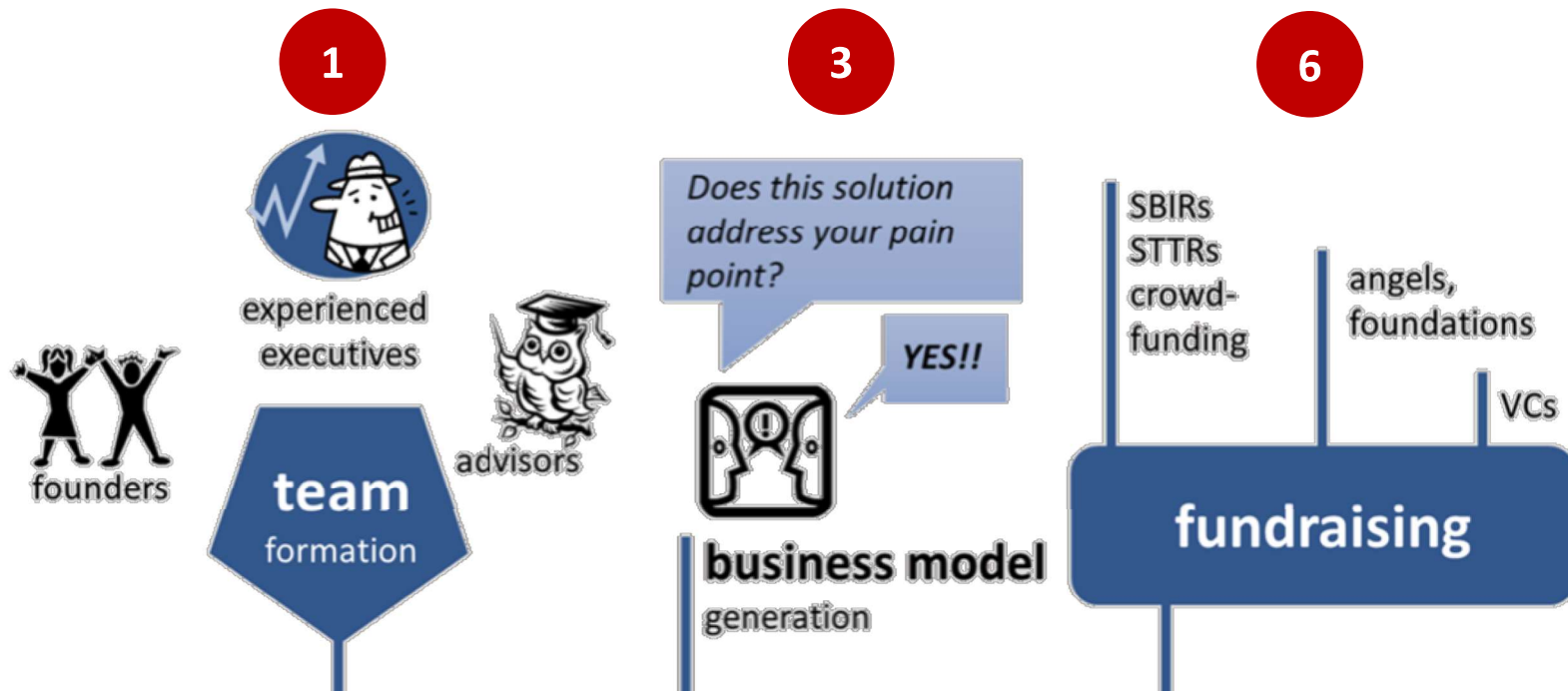
# Life of a Science Start Up





# Life of a Science Start Up

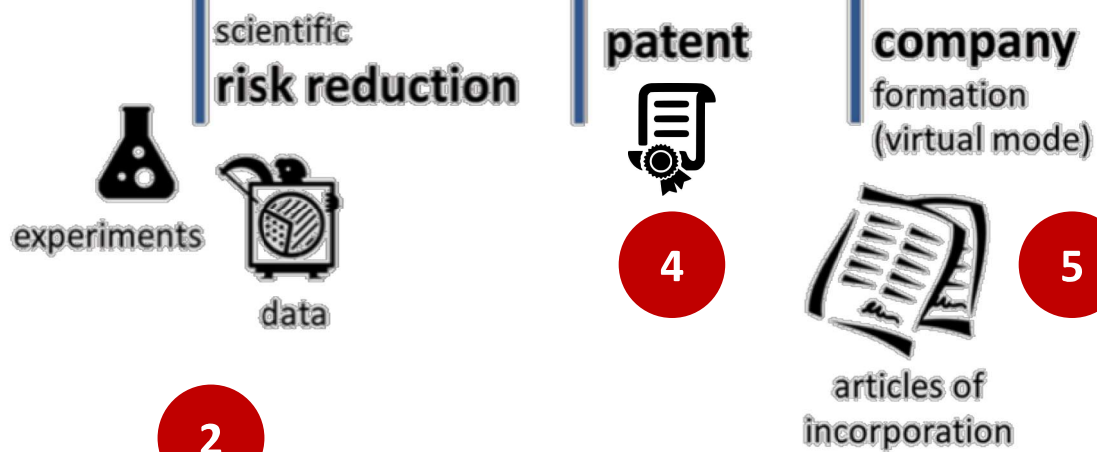


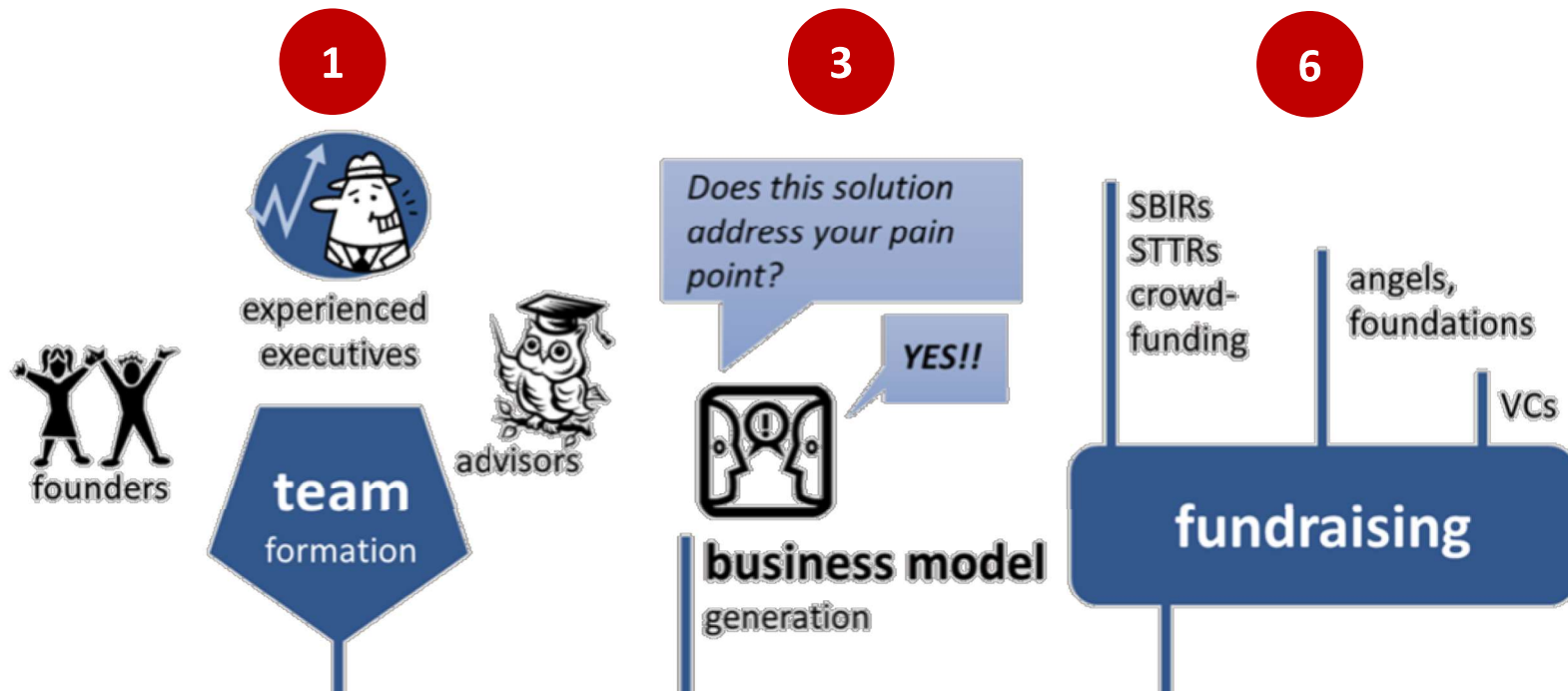


# Life of a Science Start Up



## Funding Event

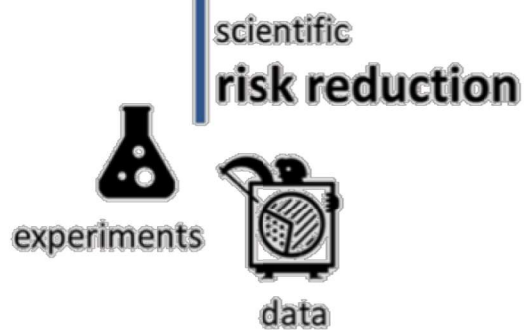




# Life of a Science Start Up



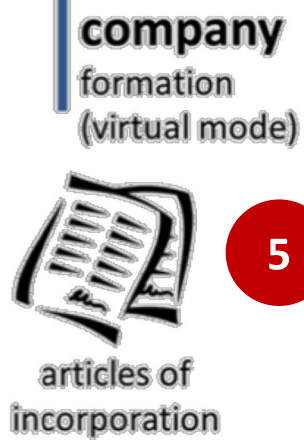
## Funding Event



**2**



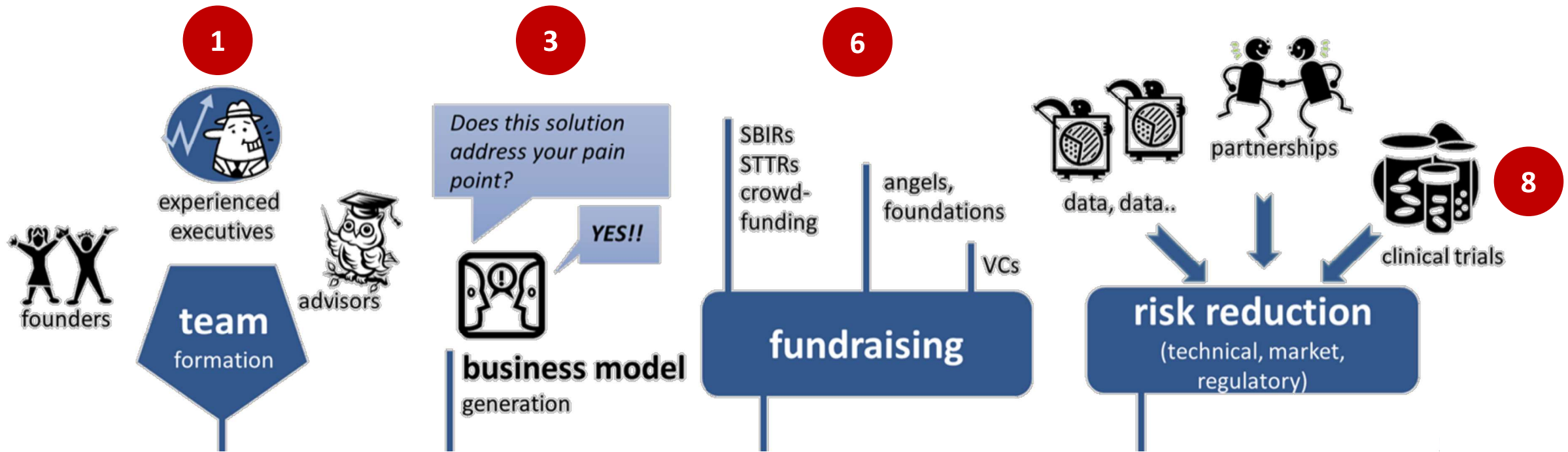
**4**



**5**



**7**



# Life of a Science Start Up



Funding Event



scientific risk reduction

experiments

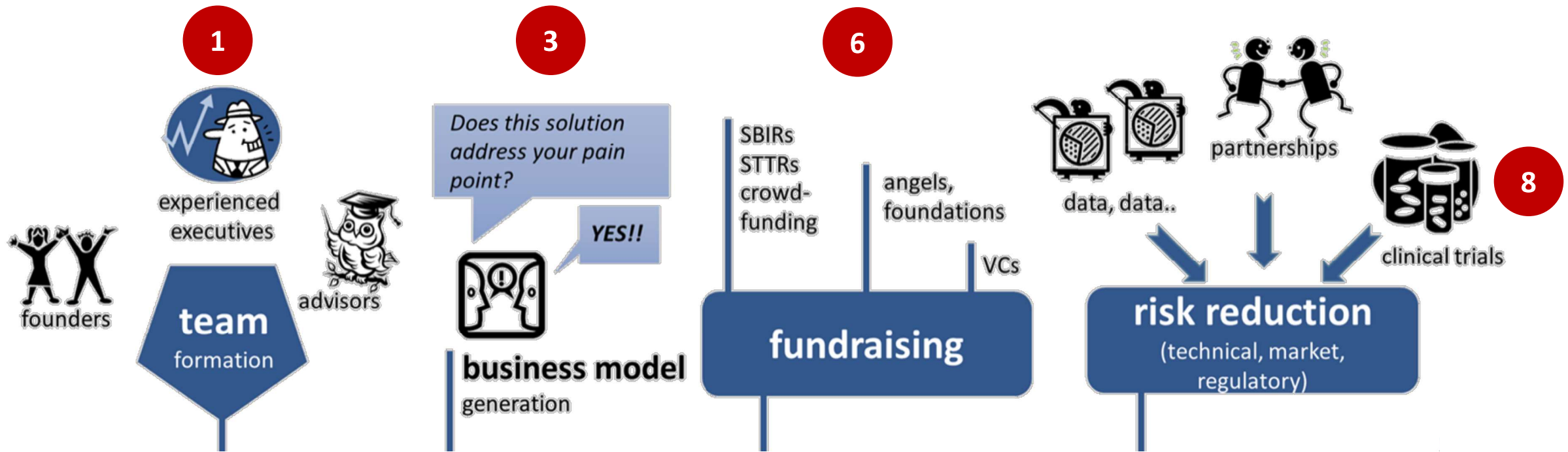
data

patent

company formation (virtual mode)

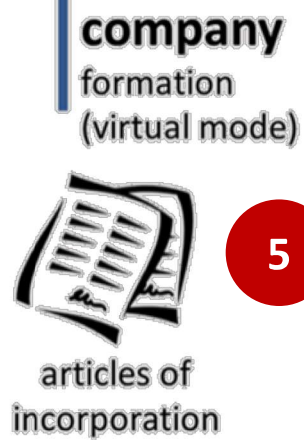
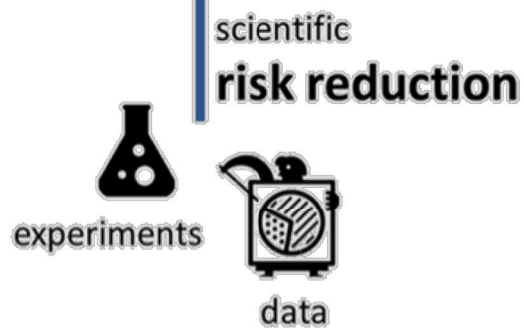
articles of incorporation

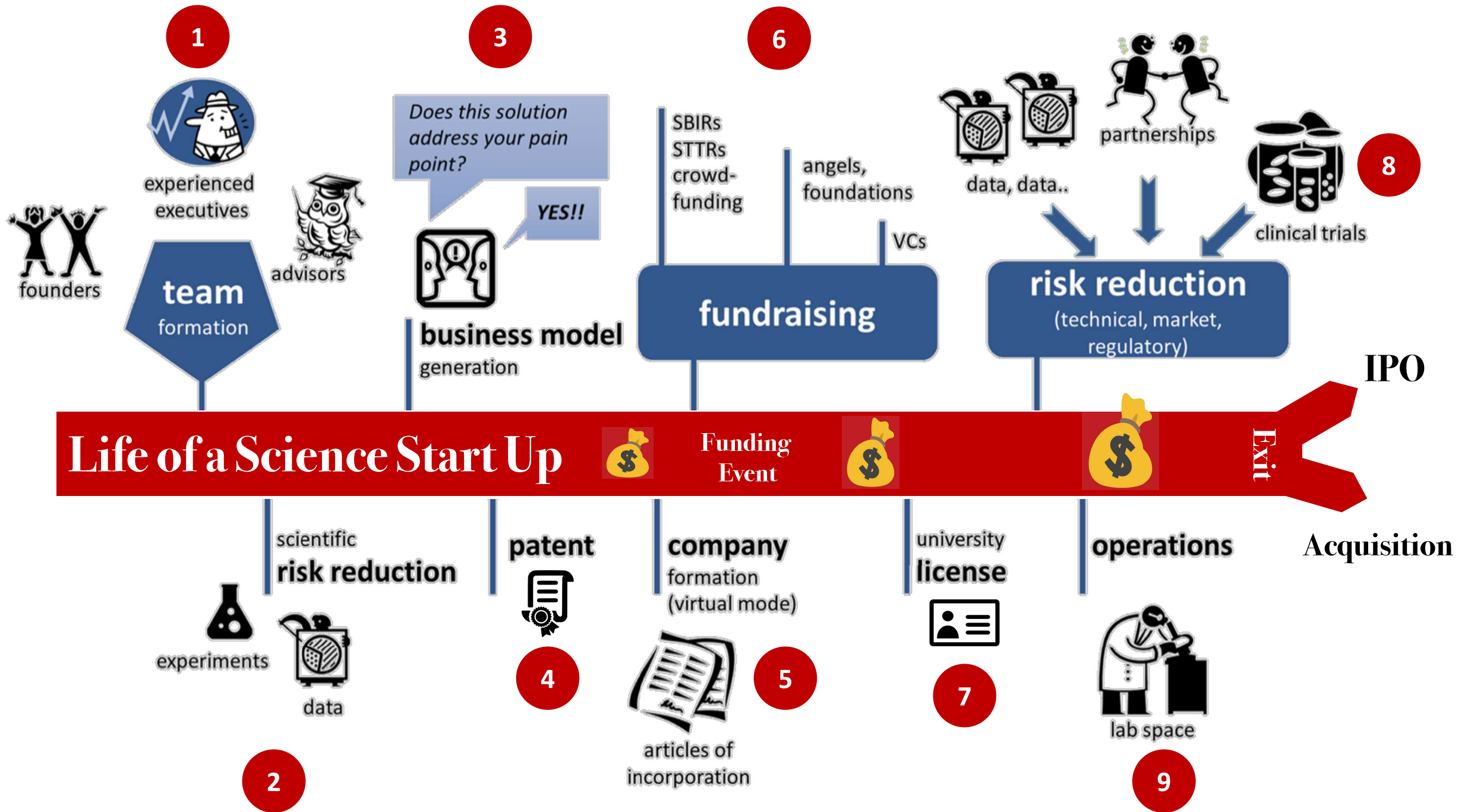
university license



# Life of a Science Start Up

## Funding Event







*it's*  
**YOUR TURN**

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Facebook: <https://www.facebook.com/hoda.usry>

Twitter: <https://twitter.com/HodaYousry1>



<https://medpredict.weebly.com>