



Dynamic Business Modeling – developing smartship use cases

Beneficiary: smartship training

Presenter: Alon Rozen



The SmartShip project has received funding from the European Union's Horizon 2020 research and Innovation programme under the Marie Skłodowska-Curie grant agreement No 823916

DYNAMIC BUSINESS MODELING LEAN(ER) INNOVATION

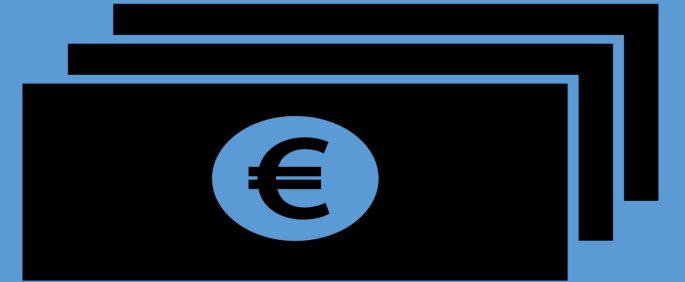
PROF. ALON ROZEN

ÉCOLE DES PONTS BUSINESS SCHOOL

INNOVATION



IDEA



MARKET

WHY IS INNOVATION
SO DIFFICULT???

TYPES OF INNOVATION

Supply chain
Radical
Experience
Business model
Sustainable
Red ocean
Outside In
Inside Out
Incremental innovation
Process innovation
Service
User led
Frugal
Crowdsourcing
Blue ocean
Disruptive
Open source

Innovation STRATEGY

WHERE TO PLAY

SERVE EXISTING MARKETS
AND CUSTOMERS

ENTER ADJACENT MARKETS,
SERVE ADJACENT CUSTOMERS

CREATE NEW MARKETS,
TARGET NEW CUSTOMER NEEDS

CORE

Optimizing existing
products for existing
customers

ADJACENT

Expanding from
existing business
into “new to the
company” business

TRANSFORMATIONAL

Developing breakthroughs
and inventing things for
markets that don't yet exist

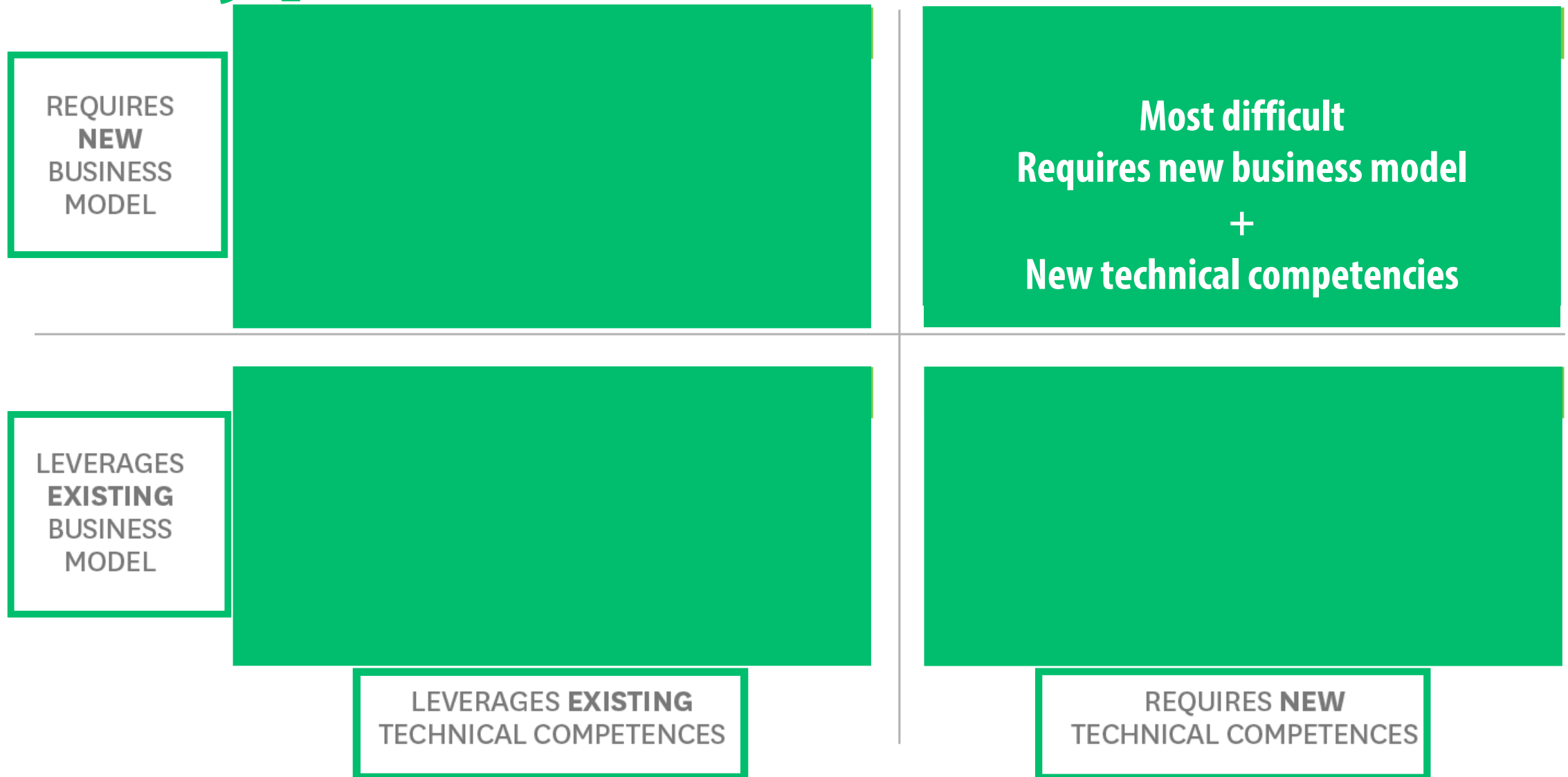
USE EXISTING PRODUCTS
AND ASSETS

ADD INCREMENTAL
PRODUCTS AND ASSETS

DEVELOP NEW PRODUCTS
AND ASSETS

HOW TO WIN

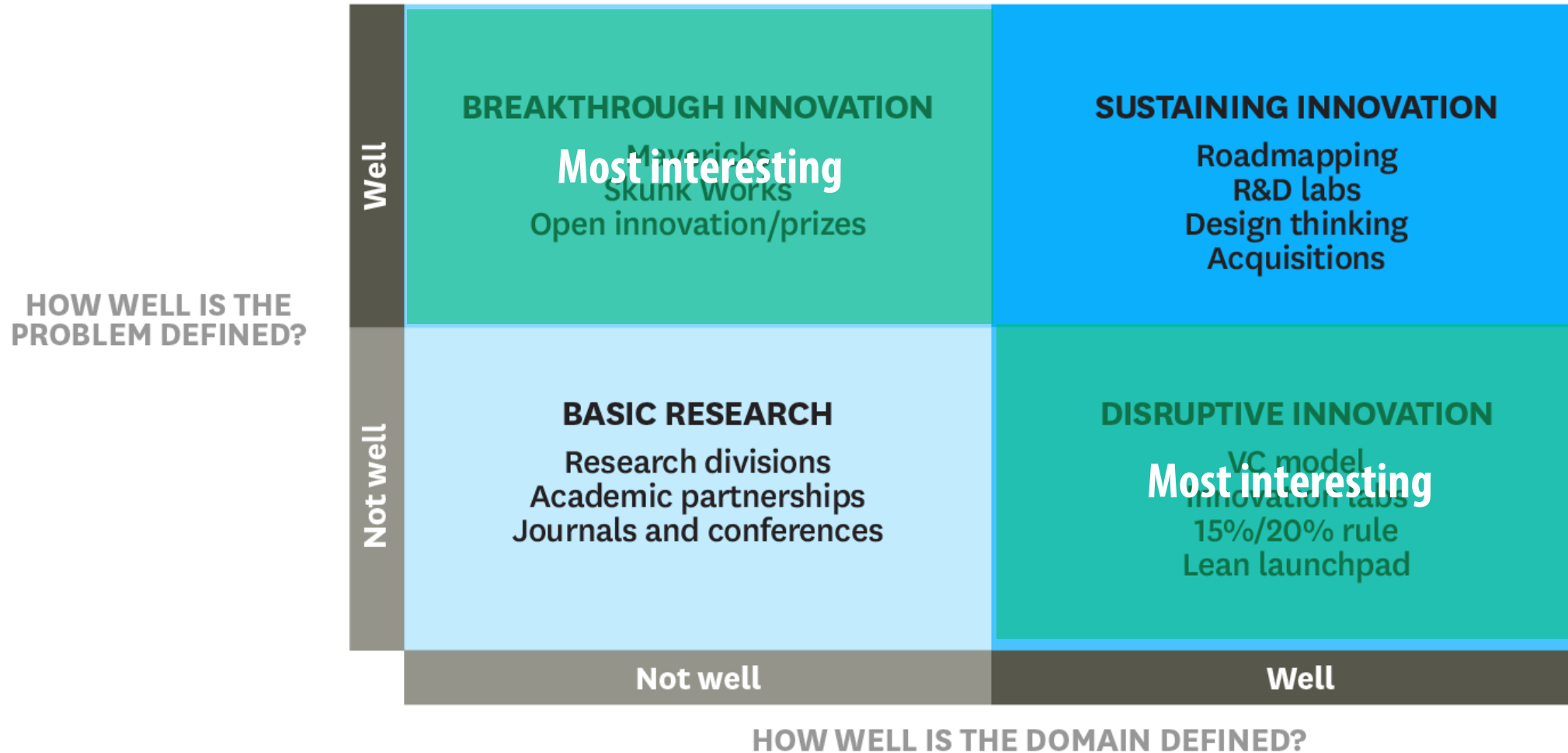
4 types of innovation (HBR)



SOURCE CORNING; GARY P. PISANO
FROM "YOU NEED AN INNOVATION STRATEGY," JUNE 2015

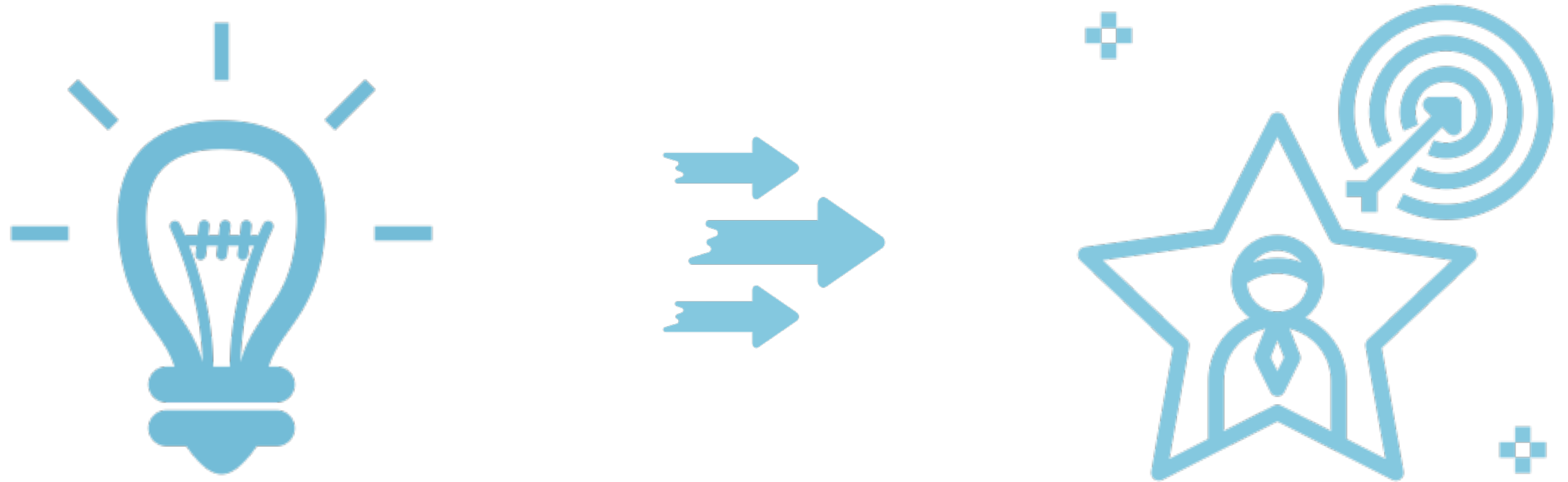
4 (other) types of innovation (HBR)

Through the lens of the problem and the domain



Lean Innovation

What is lean innovation?



Going from idea to market fit with a minimal waste of money, effort, resources and time...

leveraging empathy, evidence and experimentation

Product Development

Traditional Product Development Process



"At first glance, the diagram, appears helpful. Ironically, the model is a good fit when launching a product into an existing, well-defined market where the basis of competition is understood, and its customers are known. The irony is that few [innovations] fit these criteria." Steve Blank

A better way: Customer Development

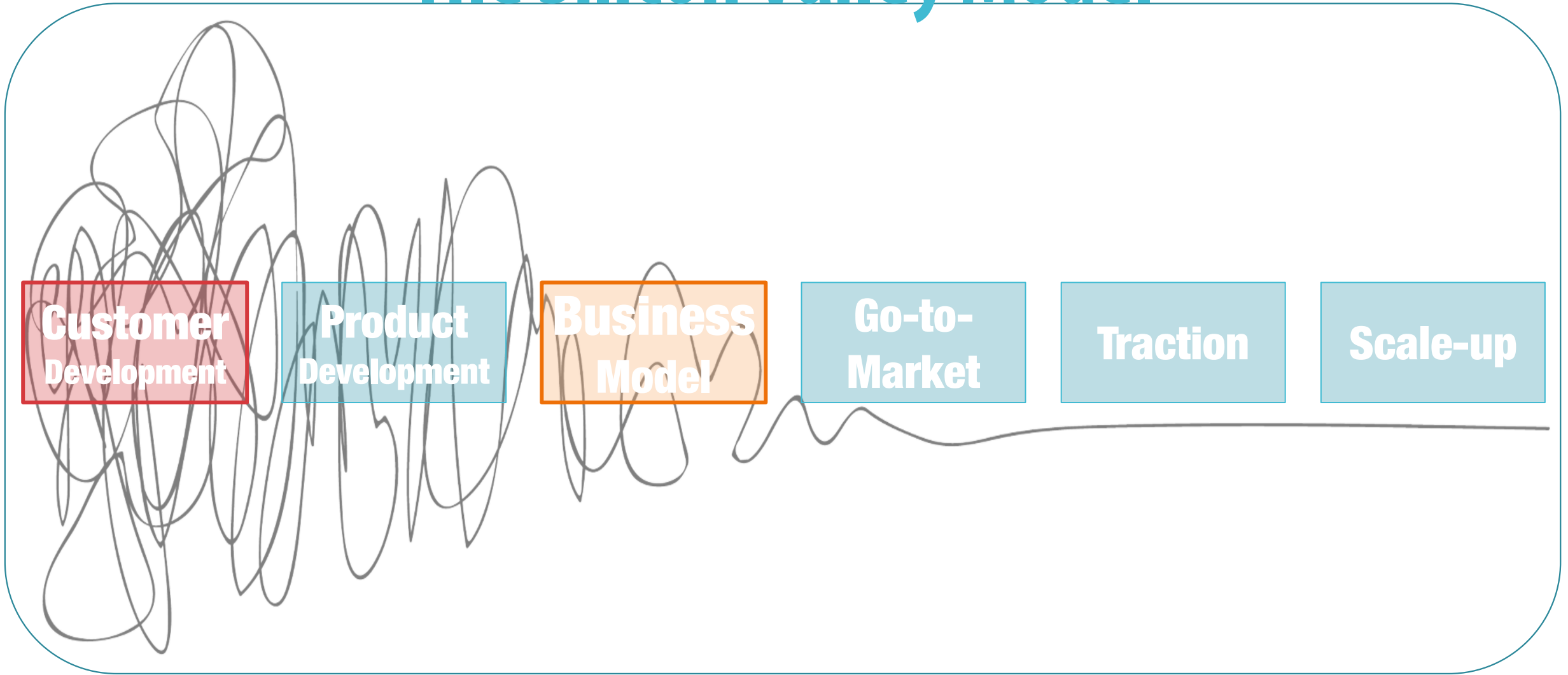


“Learn what your customers need and use that knowledge to build exactly what they are willing to pay for.” Cindy Alvarez



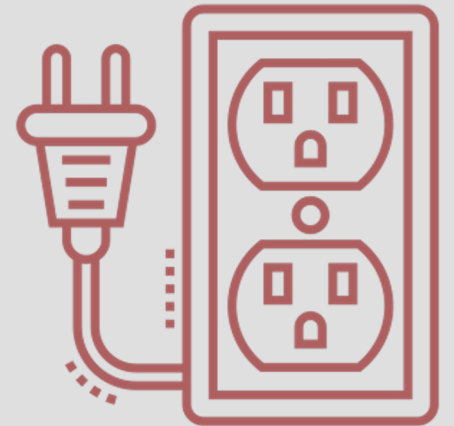
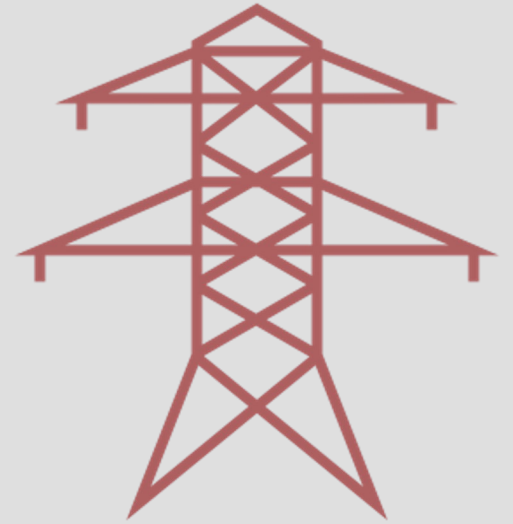
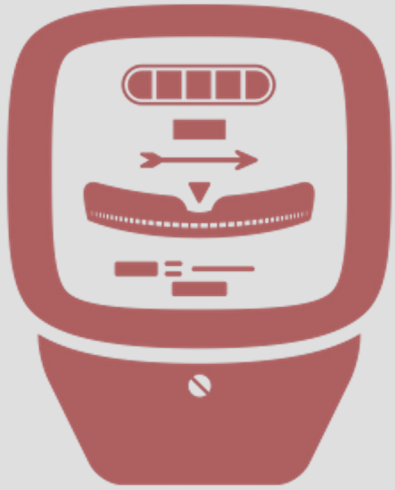
**Customer Interviews
Using design thinking and empathy to gain key insights into what your customers need**

The Silicon Valley Model



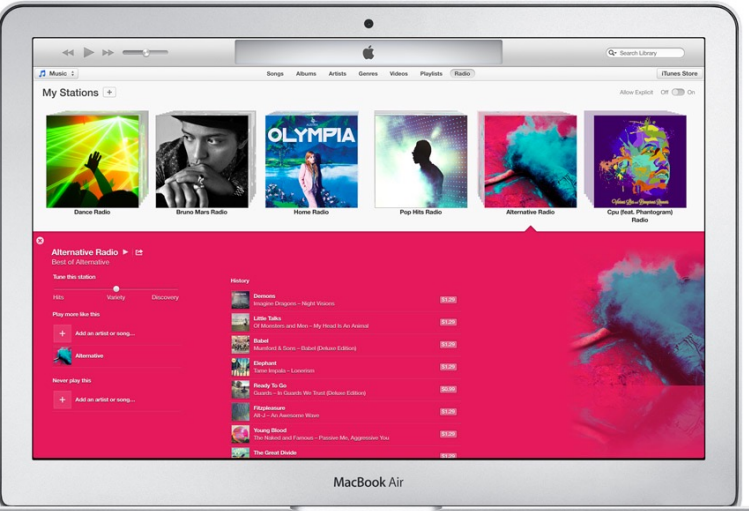
Damien Newman's Design Squiggle

Business model: orchestrated value system

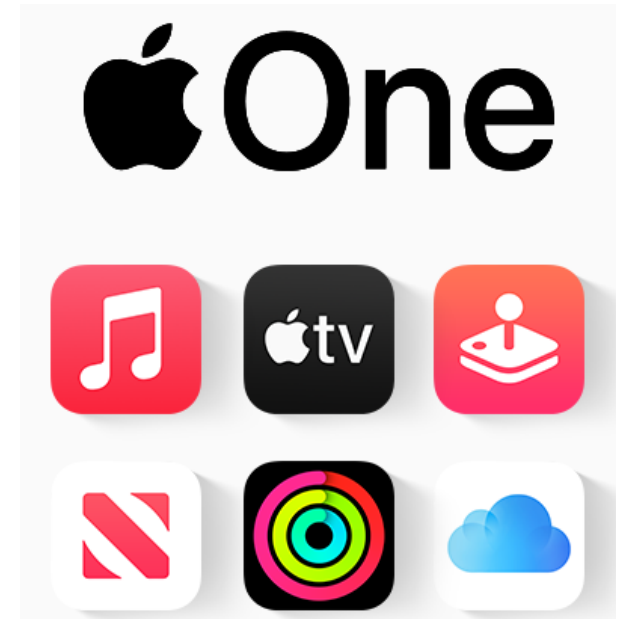


that creates, distributes and captures value

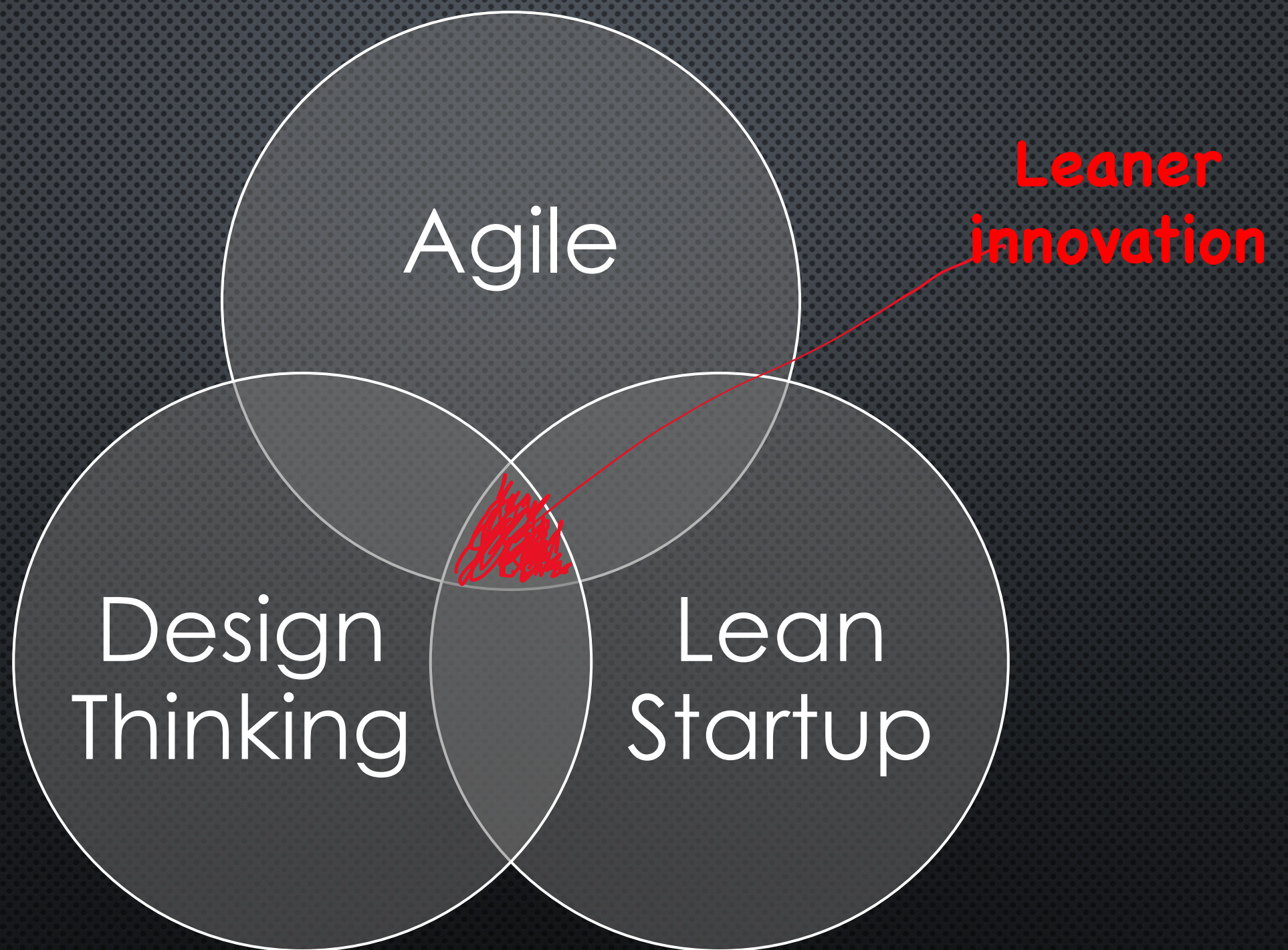
An orchestrated value delivery system: example



An orchestrated value delivery system: example



Leaner Innovation

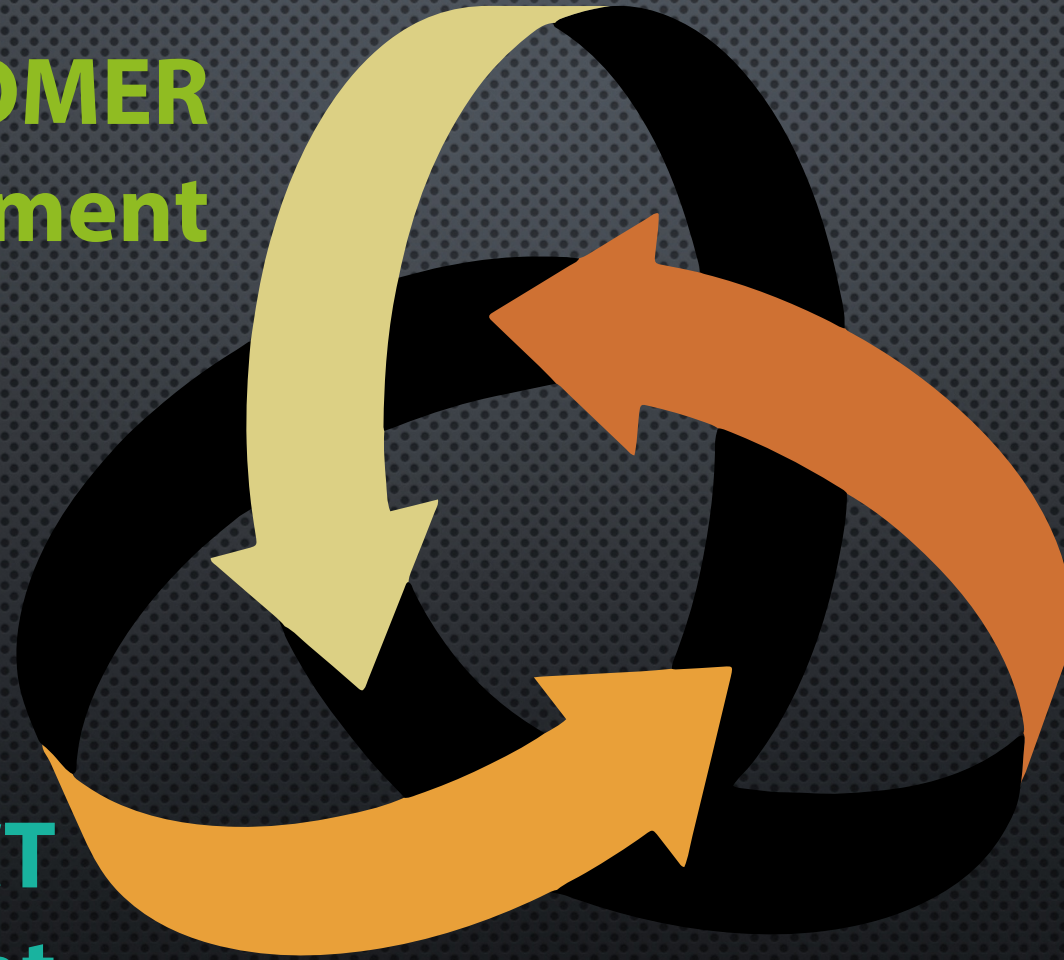


LINEAR LEANER INNOVATION

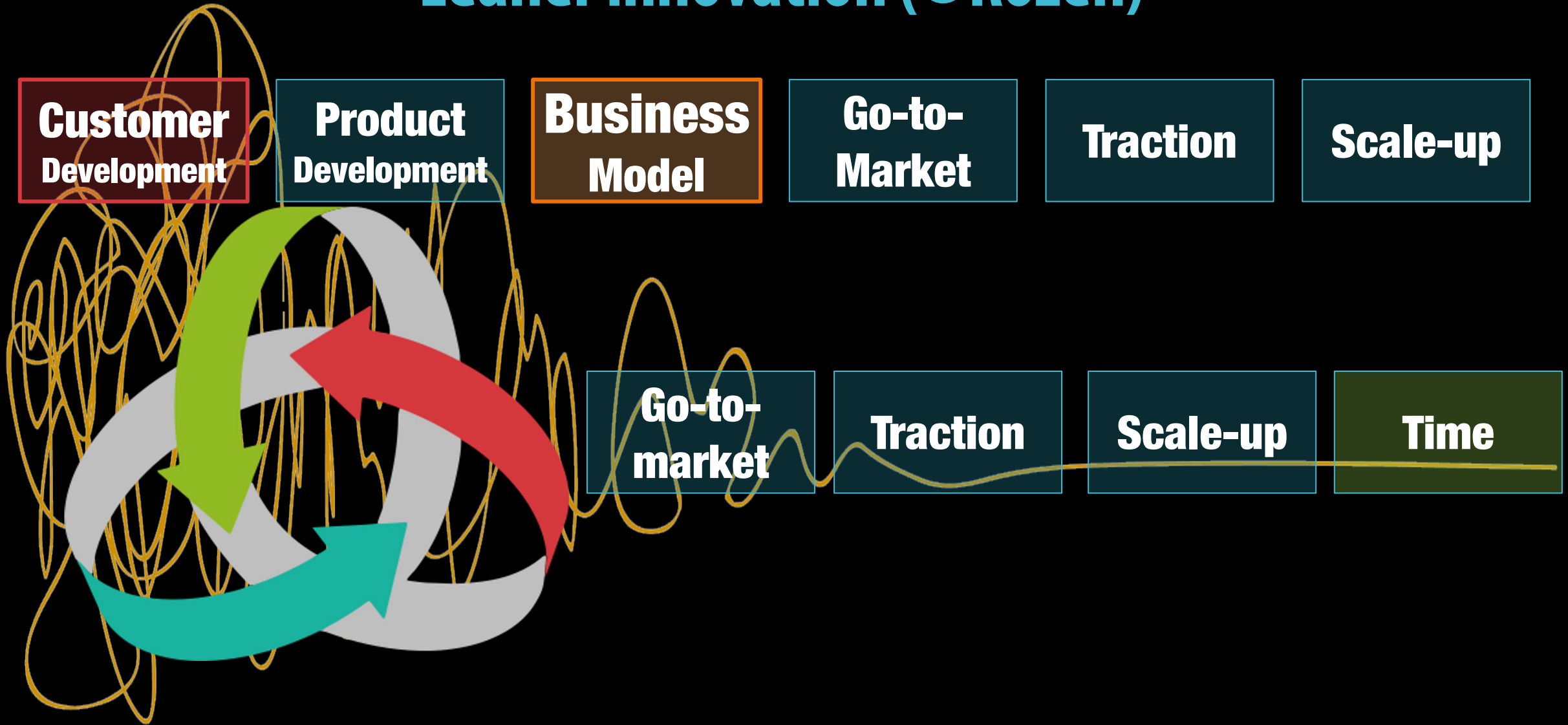
CUSTOMER
Development

BIZ MODEL
Development

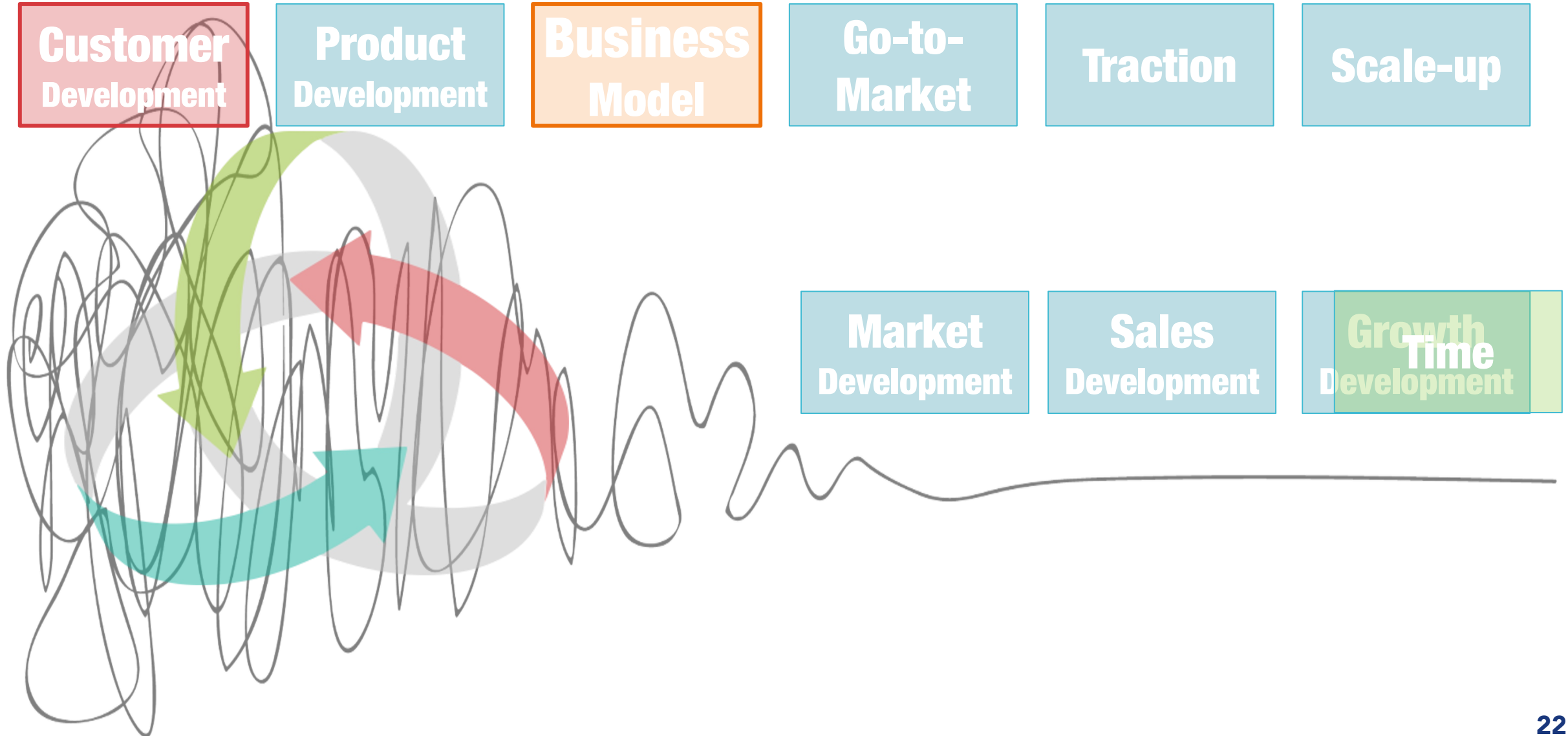
PRODUCT
Development



Leaner innovation (©Rozen)



Leaner innovation: the 6D model (©Rozen)

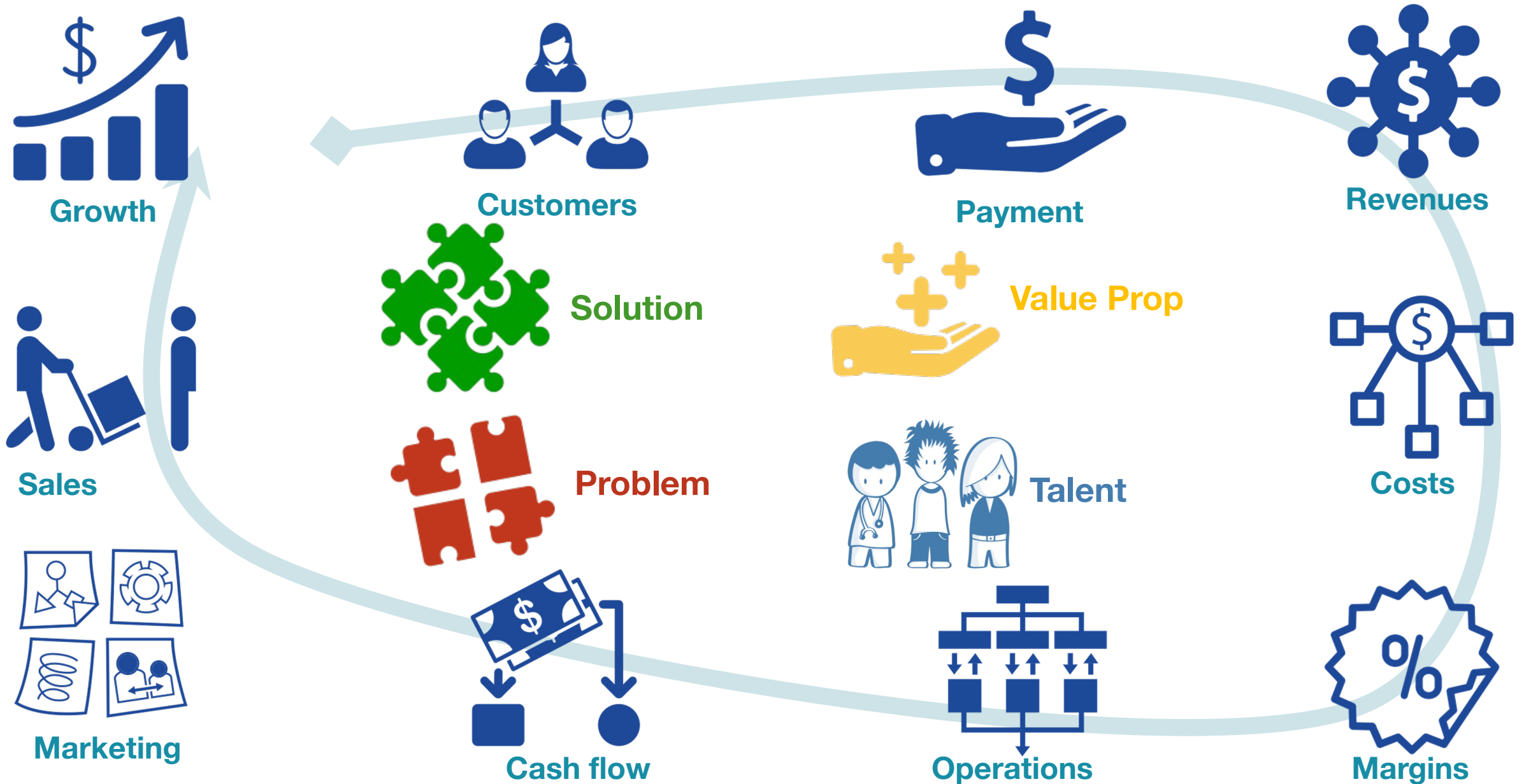


Dynamic Business Modeling

“Dynamic” business modeling?

- Business models are **complex dynamic systems**
- Phases of innovation development are **interdependent**
- Lean innovation is actually **business model prototyping**
- A useful approach needs to help **prototype** a system, **visualize** tradeoffs, **identify** opportunities for **optimization**, **experiment** options, and **ensure viability**.
- Popular business model canvases don't do this very well

Dynamic Business Modeling (©Alon Rozen)



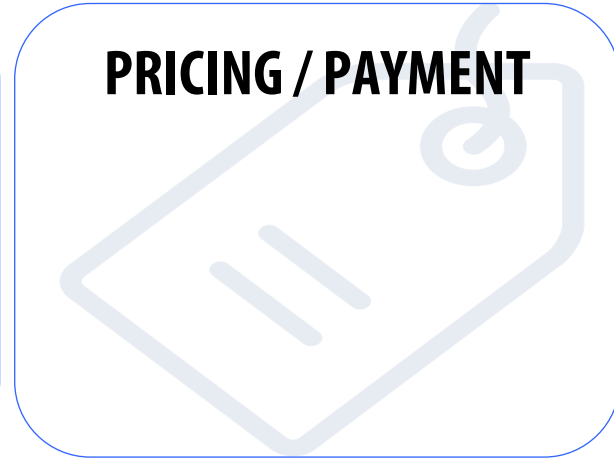
GROWTH



CUSTOMER



PRICING / PAYMENT



REVENUE



SALES

(distribution, channels, partners)



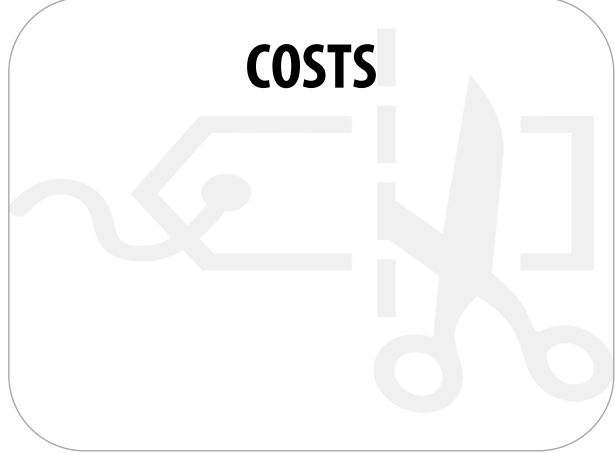
SOLUTION



VALUE PROP



COSTS



PROBLEM



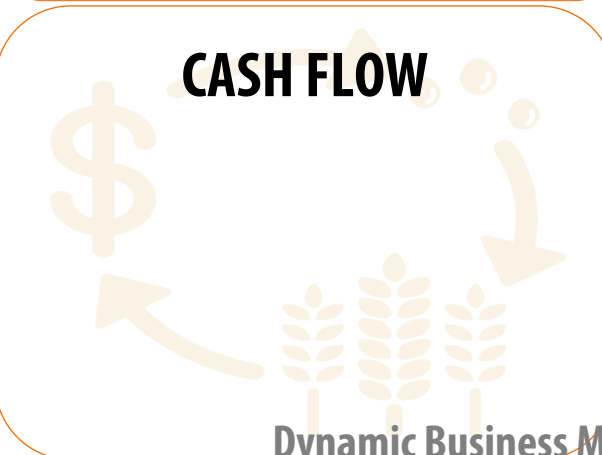
TALENT



MARKETING



CASH FLOW



OPERATIONS



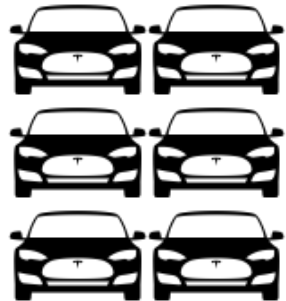
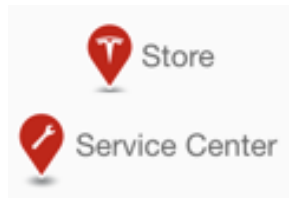
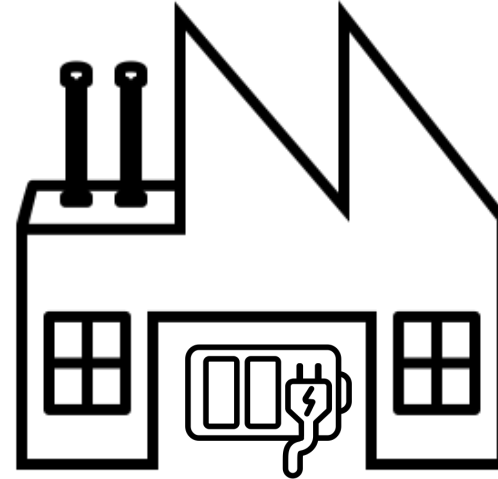
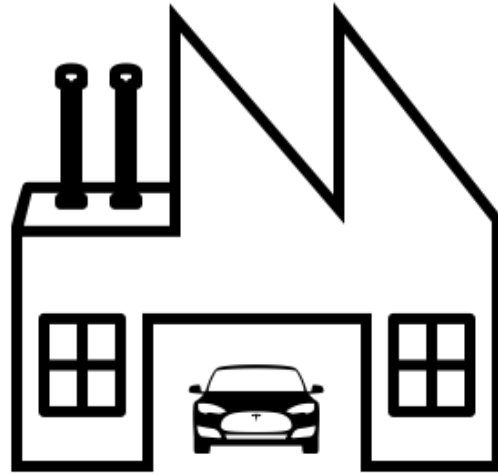
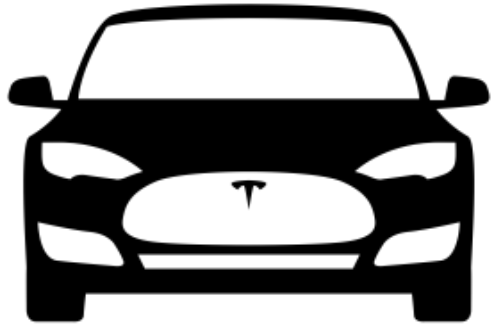
MARGINS



10 minute Coffee Break



Business model as a system (ex. Tesla)



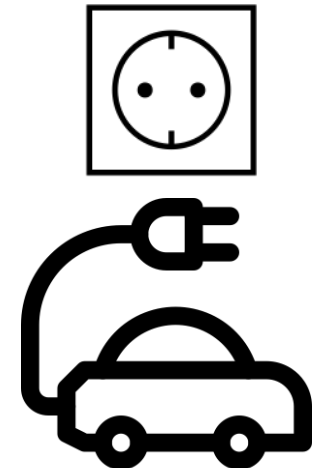
Tesla
Financing

Tesla Leasing

Tesla Lending

| | |
|--------------------|----------|
| Order Payment | \$2,500 |
| Payment at Signing | \$10,000 |

Tesla
Owners
Groupe



GROWTH Model
 Following the technology adoption cycle with a product per customer segment
 Equity valued as tech company
 Megafactories

CUSTOMER Model
 B2C – DTC (no dealers)
 Pioneers = Model S
 Early adopters = Model X
 Early mass = model 3, Y

PRICING Model
 Reservation payment
 Premium pricing
 Special leasing solution
 Structured trade-in
 High resale value

REVENUE Model
 Units sold x unit price

Tesla Financing
 Tesla Leasing
 Tesla Lending

| | |
|--------------------|----------|
| Order Payment | \$2,500 |
| Payment at Signing | \$10,000 |

DISTRIBUTION Model (channels, partners)
 Stores not dealerships
 Charging superstations
 TOG charging

SOLUTION
 Tesla offers stylish EV to wealthy and aspirational customers in order to offer an Apple-like experience

VALUE PROPOSITION
 Luxury, upgrades, TOG, safety, app, autonomy, autonomous, best-of-breed hard/software, badge value, pride

COST Model
 COGS high but much lower than industry standards
 High operating margins

PROBLEM
 Provide eco, stylish, (affordable), profitable EV w/o autonomy anxiety

TALENT
 Elon Musk, top engineers, full stack skillset

MARKETING Model
 Elon Musk
 Consumer safety press
 Automotive press
 SpaceX – Tesla in space
 Exclusivity and rarity

WORKING CAPITAL Model
 Capital intensive (CAPEX)
 CF from financing (equity and debt)
 CFO = reservation payments, car payments, leasing payments

OPERATIONS Model
 Everything in-house

MARGIN Model
 Very high OM (23%) for automotive sector
 Even higher margin w/ scale

GROWTH Model

10x

How will you scale 10x your initial customer base (scale-up)?
How will you finance growth (pay-up)?

CUSTOMER Model

Pioneers – Early Adopters

First 10 customers (pioneers):
First 100 customers (early adopters):

PRICING Model

HoHoHo

How much do they pay?
How do they pay?
How often do they pay?
When do they pay?
Why do they pay?
What are they paying for?

REVENUE Model

customers x avg price

What type of revenue model?
What are the revenue streams?
How much revenue is recurrent?
Expected revenue year 1?

SALES Model

How / where will customers find your product? Where can they buy it? Sales force? Commissions?
Partners, intermediaries, channels?
Partnerships
Path to customer

SOLUTION

We offer _____
to _____
so that they can _____

VALUE PROPOSITION(S)

Absolute (benefits), Relative (value/price) and Emotional (how it makes the user feel)

COST Model

What we pay

What are the main costs?
Are the costs mostly fixed or variable? Do the costs change with scale?
Expected costs year 1?

PROBLEM

What is the key problem you are trying to solve for whom?

TALENT

Key people. Key skills needed to do this. Management. Project-team fit..

MARKETING Model

HOPE

H = growth hacking
O = owned media (social media)
P = paid media (Google ads)
E = earned media (influencers, blogs)
Marketing message? Approach?

CASH FLOW

Cash flow requirements?
Working capital?
High inventory or accounts receivable?
CapEx, OpEx, RevEx?

OPERATIONS

What will you do?
What will you outsource?
Do operations require a lot of resources (people, capital, assets)?

MARGIN Model

What's left

Expected gross margin?
High, medium or low margin?
Implications?
Evolution with scale up?

GROWTH

10x

Scale up (10x)

Pay up (cash, debt or equity?)

CUSTOMER

10+10x

First 10 (pioneers)

Next 100 (early adopters)

PRICING / PAYMENT

HoHoHo

How

How much

How often

REVENUE

What we get
Customers x ARPU

10 x how much x how often

100 x how much x how often

SALES

(distribution, channels, partners)

Path to customer

Friends with benefits

SOLUTION

VALUE PROP

CARE

Customer: Absolute Relative Emotional

COSTS

What we pay

PROBLEM

Talent

MARKETING

HOPE

H - hacking (growth)

O – owned media

P – paid media

E – earned media

CASH

(CapEx, OpEx, RevEx, CCC)

OPERATIONS

What we do / don't

MARGINS

What's left

The iHelm platform

iHelm is a digital analytical platform for energy optimisation for small and medium-sized vessels.

It consists of a sensor kit that is installed on board and gives the captain relevant visual information, and actionable insights for optimal operation, in real time.

Land-based staff gets access to an analytical cloud platform with statistics, reports and relevant insights, to be able to make key decisions and optimal operations over time, with features like predictive maintenance and direct connection to your choice of shipyard.

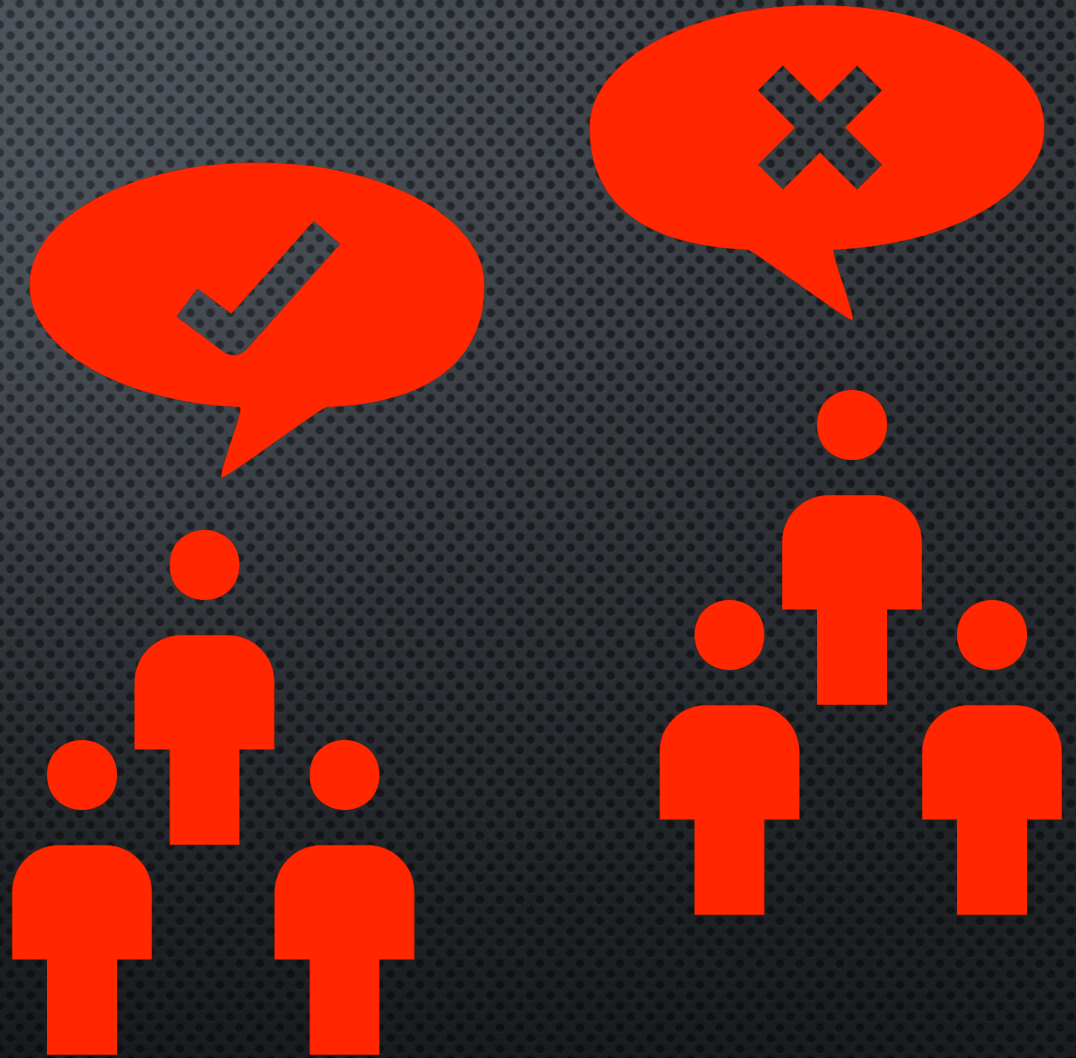


Caravelle

- Caravelle is an ocean technology company providing international shipping services and carbon-neutral solutions for wood desiccation.
- Caravelle has developed and commercialized its CO-Tech solution, a novel approach toward shipping time, space, and the repurposing of engine heat and byproducts to reduce carbon emissions.

BREAKOUT (2 GROUPS) 45 MINUTES

Develop and
map a SmartShip
use case on the
DBM worksheet



The background of the slide features a light gray circular area on the left side. Inside this circle are white icons: two stylized human figures, one at the top and one at the bottom, and a speech bubble with three dots inside, positioned between them. The rest of the slide is a dark gray background.

Debrief