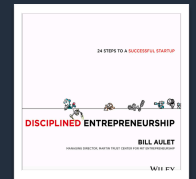


MAI 622: AI Entrepreneurship

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Module 4: Disciplined Entrepreneurship



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Module 4 Contents



- Disciplined Entrepreneurship Methodology (24-steps)
 - ▶ Who is your customer?
 - ▶ What you can do for your customer?
 - ▶ How does your customer acquire your product?
 - ▶ Business Model Design
 - ▶ Pricing, Life-time Value and Cost of Customer Acquisition
 - ▶ Design and Build your Product
- Lean Startup

Learning Objectives



- After attending this module, studying the suggested readings, and watching proposed videos students should be able to:
- Understand, explain, and apply the 24 steps of the Disciplined Entrepreneurship concept.
 - Understand, explain, and follow the principles of Lean Startup.
 - Recognize and describe particular opportunities, challenges, and playbooks for AI startups.

Module 3 Reference Readings



- **Disciplined Entrepreneurship: 24 Steps to a Successful Startup.** Bill Aulet, Wiley 2013.
- **The Lean Startup.** Eric Ries, 2011.
- **UX for Lean Startups.** Laura Klein, O'Reilly, 2013.

Reading Assignment



Download, review, read, and become familiar with the Disciplined Entrepreneurship Workbook Worksheets:

<https://www.dropbox.com/sh/6zcx3h7z0xlu5a/AACKoK7bLJhU-80ER5kwLEcza?dl=0>

Explore the Disciplined Entrepreneurship Toolbox:

<https://mariusursache.us20.list-manage.com/track/click?u=a6f7c430d8a4d381f8349128e&id=b8df57057c&e=14fa150b71>

Module 4: Disciplined Entrepreneurship

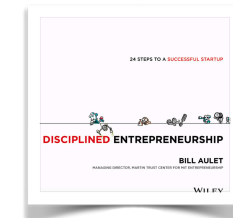
Section 1: 24 Steps Introduction

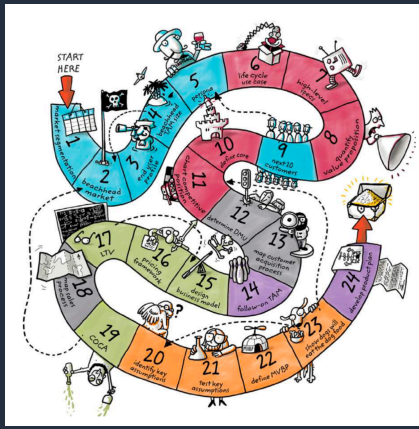
24 steps

- Once you have identified an idea or technology as the basis for your innovation-driven business, you must rigorously test and flesh out your proposal through **the 24 Steps**.



Bill Aulet





HOW DO YOU SCALE YOUR BUSINESS?

- 14 Calculate the TAM Size for Follow-on Markets
- 24 Develop a Product Plan

WHO IS YOUR CUSTOMER?

- 1 Market Segmentation
- 2 Select a Beachhead Market
- 3 Build an End User Profile
- 4 Calculate the TAM Size for the Beachhead Market
- 5 Profile the Persona for the Beachhead Market
- 9 Identify Your Next 10 Customers

WHAT CAN YOU DO FOR YOUR CUSTOMER?

- 6 Full Life Cycle Use Case
- 7 High-Level Product Specification
- 8 Quantify the Value Proposition
- 10 Define Your Core
- 11 Chart Your Competitive Position

HOW DOES YOUR CUSTOMER ACQUIRE YOUR PRODUCT?

- 12 Determine the Customer's Decision-Making Unit (DMU)
- 13 Map The Process to Acquire a Paying Customer
- 18 Map the Sales Process to Acquire a Customer

HOW DO YOU MAKE MONEY OFF YOUR PRODUCT?

- 15 Design a Business Model
- 16 Set Your Pricing Framework
- 17 Calculate the Lifetime Value (LTV) of an Acquired Customer
- 19 Calculate the Cost of Customer Acquisition (COCA)

HOW DO YOU DESIGN & BUILD YOUR PRODUCT?

- 20 Identify Key Assumptions
- 21 Test Key Assumptions
- 22 Define the Minimum Viable Business Product (MVB)
- 23 Show That "The Dogs Will Eat the Dog Food"

HOW DO YOU SCALE YOUR BUSINESS?

- 14 Calculate the TAM Size for Follow-on Markets
- 24 Develop a Product Plan



Step 1 (Market Segmentation) Worksheet

Market Segmentation Matrix Row Definitions:

1	Market Segment Name	Carefully name the market segment so it appropriately captures precisely what you want and no more; it is okay to be general at first but you will have to narrow down in time to make real progress
2	End User	This is the person who is actually using the product not the economic buyer/champion (more on this in step 12) - it is not a company or a general organ/real people
3	Task	What exactly is it that the end user does that you will significantly affect or do to do that she could not do before?
4	Benefit	What is the benefit that you believe the end user will get?
5	Urgency of Need	What is the level of urgency to solve the problem or capture the new opportunity for the end user?
6	Example End Users	Who are example users that you can, have or will talk to so as to validate your perceptions on this market segment?
7	Lead Customers	Who are the influential customers (i.e., lighthouse customers) that if they will take note & likely follow?
9	Willingness to Change	How conservative is this market segment? How open are they to change? something to face change (i.e., impending crisis)?
10	Frequency of Buying	How often do they buy new products? What is their buying cycle look like/level?
11	Concentration of Buyers	How many different buyers are there in this market segment? Is it a monopoly? Oligopoly (a small number of buyers)? Or many competitive buyers?
12	Other relevant market considerations	This allows for customization for your segment for relevant considerations such as "high employee turnover", "very low margins/commodity", "high growth/high virality effect (i.e., WOM-Word of Mouth)", etc.
13	Size of Market (# of end users)	Estimation of the number of end users to a relevant range (10's, 100's, 1,000's, 1M, etc.)
14	Est. value of end user (\$1, \$10, \$100, \$1K, etc.)	A first pass estimate of the value of each end user, again to a relevant magnitude so we can make some relative decisions now but then we will dig into this and other numbers later
15	Competition/alternatives	What will be your competition from the end users' perspective? Of course "do nothing option" but who else would be competitors if they analyzed?
16	Other components needed for a full solution	Since most customers will only buy a full solution and not components, & other elements needed to construct a full solution to achieve the benefit. These are the complementary assets that you do not currently have but build or acquire to give the end user a total solution.
17	Important partners	Who are the partners or distributors you will have to work with to fit into flow (i.e., data must come out vendor A's system and then be picked up vendor B's system) or business processes (e.g., the end users gets all his distribution channel C)
18	Other relevant personal considerations	In many market segmentation analysis, there are additional important things that should be considered. This could be things like where the market segment geographically centered, values match to founding team, existing known contacts in market, etc.

Beachhead Market Selection Worksheet				
Criteria	Market Segment =	Market Segment =	Market Segment =	Market Segment =
Rating is Very High (best), High, Medium, Low, Show Stopper (worst)				
1. Economically Attractive				
2. Accessible to Our Sales Force				
3. Strong Value Proposition				
4. Complete Product				
5. Competition				
6. Strategic Value				
7. Personal Alignment				
Overall Rating				
Rating for Ranking is 1 (most attractive) to 4 (least attractive) - Key Factors is Most Important Contributor to the Ranking				
Ranking				
Key Deciding Factors				

Raison d'Être	Competitive Advantage	Customer Acquisition	Overall Economics	Design & Build
Why are you in business? Mission: Goals: Values: Initial Assets: Initial Idea:	Why you? DMU: Core: Competitive Positioning:	How does your customer acquire your product? Process to Acquire Customer: Windows of Opportunity: Possible Triggers:	Does your product make money at a company level? Est. R&D Exp.: Est. O&A Exp.: LTV/COCA Ratio High Enough:	How do you produce the product? Key Assumptions: Test Key Assumptions: MVP: Tracking Metrics:
Initial Market	Value Creation	Product Unit Economics	Sales	Scaling
Who is your customer? Beachhead: End User Profile: I/M: Persona: 1st 10 Customers:	What can you do for your customer? Use Case: Prod Description: Problem Being Solved: Quant. Value Prop.:	Can you make money at the product level? Est. Pricing: Short Term - LTV: Short Term - COCA: Medium Term - LTV: Medium Term - COCA: Long Term - LTV: Long Term - COCA:	How do you sell your product? Preferred Sales Channel: Sales Funnel: Short Term Mkt: Medium Term Mkt: Long Term Mkt:	How do you scale your business? Prod. Plan for Beachhead: Next Market: Prod. Plan beyond beachhead: Follow-on SAM: Screenshot:

Section 1: 24 Steps Introduction

DE Canvas

DE Canvas Introduction

- Serves as synopsis of current progress in **10 major areas** that map to the 24 Steps: One-page overview
- Provides a **concise visual** for team feedback on progress.
- Allows for **quick assessment** of the **big picture**.
- Helps **identifying strengths** and **weaknesses**.
- Allows for making necessary **adjustments**.
- **Tracking progress is valuable** for the long journey through the 24 Steps.



http://www.d-eship.com/wp-content/uploads/2019/03/Disciplined_Entrepreneurship_Workbook_-_DE_Canvas.pdf

The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission:</p> <p>Passion:</p> <p>Values:</p> <p>Initial Assets:</p> <p>Initial Idea:</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats:</p> <p>Core:</p> <p>Competitive Positioning:</p>	<p>5 Customer Acquisition <i>How does your customer acquire your product?</i></p> <p>DMU:</p> <p>Process to Acquire Customer:</p> <p>Windows of Opportunity:</p> <p>Possible Triggers:</p>	<p>8 Overall Economics <i>Does your product make money?</i></p> <p>Estimated R&D Expenses:</p> <p>Estimated G&A Expenses:</p> <p>LTV/COCA Ratio High Enough:</p>	<p>9 Design & Build <i>How do you produce the product?</i></p> <p>Identify Key Assumptions:</p> <p>Test Key Assumptions:</p> <p>MVBP:</p> <p>Tracking Metrics:</p>
<p>2 Initial Market <i>Who is your customer?</i></p> <p>Beachhead:</p> <p>End User Profile:</p> <p>TAM:</p> <p>Persona:</p> <p>First 10 Customers:</p>	<p>3 Value Creation <i>What can you do for your customer?</i></p> <p>Use Case:</p> <p>Product Description:</p> <p>Problem Being Solved:</p> <p>Quantified Value Proposition:</p>	<p>6 Product Unit Economics <i>Can you make money?</i></p> <p>Business Model:</p> <p>Estimated Pricing:</p> <p>Short Term LTV: Short Term COCA: Medium Term LTV: Medium Term COCA: Long Term LTV: Long Term COCA:</p>	<p>7 Sales <i>How do you sell your product</i></p> <p>Preferred Sales Channel:</p> <p>Sales Funnel:</p> <p>Short Term Mix:</p> <p>Medium Term Mix:</p> <p>Long Term Mix:</p>	<p>10 Scaling <i>How do you scale your business?</i></p> <p>Product Plan for Beachhead:</p> <p>Next Market:</p> <p>Product Plan beyond Beachhead:</p> <p>Follow-on TAM:</p>

The Disciplined Entrepreneurship Canvas

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17 Source: **DISCIPLINED ENTREPRENEURSHIP**

The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission:</p> <p>Passion:</p> <p>Values:</p> <p>Initial Assets:</p> <p>Initial Idea:</p>		
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18 Source: **DISCIPLINED ENTREPRENEURSHIP**

The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission:</p> <p>Passion:</p> <p>Values:</p> <p>Initial Assets:</p> <p>Initial Idea:</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats:</p> <p>Core:</p> <p>Competitive Positioning:</p>	
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19 Source: **DISCIPLINED ENTREPRENEURSHIP**

The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission:</p> <p>Passion:</p> <p>Values:</p> <p>Initial Assets:</p> <p>Initial Idea:</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats:</p> <p>Core:</p> <p>Competitive Positioning:</p>	<p>5 Customer Acquisition <i>How does your customer acquire your product?</i></p> <p>DMU:</p> <p>Process to Acquire Customer:</p> <p>Windows of Opportunity:</p> <p>Possible Triggers:</p>
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20 Source: **DISCIPLINED ENTREPRENEURSHIP**

The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission: Passion: Values: Initial Assets: Initial Idea:</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats: Core: Competitive Positioning:</p>	<p>5 Customer Acquisition <i>How does your customer acquire your product?</i></p> <p>DMU: Process to Acquire Customer: Windows of Opportunity: Possible Triggers:</p>	
<p>2 Initial Market <i>Who is your customer?</i></p> <p>Beachhead: End User Profile: TAM: Persona: First 10 Customers:</p>	<p>3 Value Creation <i>What can you do for your customer?</i></p> <p>Use Case: Product Description: Problem Being Solved: Quantified Value Proposition:</p>	<p>6 Product Unit Economics <i>Can you make money?</i></p> <p>Business Model: Estimated Pricing: Short Term LTV: Short Term COCA: Medium Term LTV: Medium Term COCA: Long Term LTV: Long Term COCA:</p>	

21 Source: **DISCIPLINED ENTREPRENEURSHIP**



The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission: Passion: Values: Initial Assets: Initial Idea:</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats: Core: Competitive Positioning:</p>	<p>5 Customer Acquisition <i>How does your customer acquire your product?</i></p> <p>DMU: Process to Acquire Customer: Windows of Opportunity: Possible Triggers:</p>		
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22 Source: **DISCIPLINED ENTREPRENEURSHIP**



The Disciplined Entrepreneurship Canvas

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<p>2 Initial Market <i>Who is your customer?</i></p> <p>Beachhead: End User Profile: TAM: Persona: First 10 Customers:</p>	<p>3 Value Creation <i>What can you do for your customer?</i></p> <p>Use Case: Product Description: Problem Being Solved: Quantified Value Proposition:</p>	<p>6 Product Unit Economics <i>Can you make money?</i></p> <p>Business Model: Estimated Pricing: Short Term LTV: Short Term COCA: Medium Term LTV: Medium Term COCA: Long Term LTV: Long Term COCA:</p>	<p>7 Sales <i>How do you sell your product</i></p> <p>Preferred Sales Channel: Sales Funnel: Short Term Mix: Medium Term Mix: Long Term Mix:</p>	

23 Source: **DISCIPLINED ENTREPRENEURSHIP**



The Disciplined Entrepreneurship Canvas

PRODUCT _____ REVISION _____ DATE _____

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24 Source: **DISCIPLINED ENTREPRENEURSHIP**



DE24 Steps to DE Canvas Map

The Disciplined Entrepreneurship Canvas

PRODUCT REVISION DATE

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- Section 1, **Raison d'Être**: Step 0
- Section 2, **Initial Market**: Steps 1, 2, 3, 4, 5, and 9
- Section 3, **Value Creation**: Steps 6, 7, and 8
- Section 4, **Competitive Advantage**: Steps 10 and 11
- Section 5, **Customer Acquisition**: Step 12, 13, and Windows of Opportunity/Triggers Section 6, Product Unit Economics: Steps 15, 16, 17, and 19
- Section 7, **Sales**: Step 18
- Section 8, **Overall Economics**: Step 19 (parts)
- Section 9, **Design and Build**: Steps 20, 21, 22, and 23
- Section 10, **Scaling**: Steps 14 and 24

26 M. D. Dikaiakos

The Disciplined Entrepreneurship Canvas

PRODUCT: DE Toolbox REVISION: 1.0 DATE: October 20, 2016

<p>1 Raison d'Être <i>Why are you in business?</i></p> <p>Mission: Help more startups around the world to become successful, and improve lives, fix unemployment, and grow economies. Help more people to invest in startups in a smart way. Founder passions: Startups and innovation, teaching, interacting with smart people. Values: transparent, competitive, fair play. Initial Assets: Team (Marinos & Vlado), connections (Bill Aulet, MIT, accelerators), current users (5,000+ for current product). Initial Idea: Online tool to help startups accelerate and get funded.</p>	<p>4 Competitive Advantage <i>Why you?</i></p> <p>Moats: Network effect (both startups/accelerators use it). Core: We match the best startups with the best accelerators/investors, and help them work smarter together. Competitive Positioning: Better productivity than AngelList, F&S. Focused on process more than Visible, FounderSuite, Gust.</p>	<p>5 Customer Acquisition <i>How does your customer acquire your product?</i></p> <p>Decision Making Unit: A. Founders & Chief Product Officers B. Sponsor: CEO/CTO or Managing Director of accelerator, Decision, managing team. Decision Making Process: A. Start trial, share with team, add data, discuss with team before trial expiration. B. Analyze features & cost for tools, contact suppliers, negotiate & sign (4-6 mo). Wots: A. Apply to accelerator, prepare for fundraising B. New generation/new fund (twice per year) or change in leadership. Possible Triggers: B. Discounts, sales rep meetings or events.</p>	<p>8 Overall Economics <i>Does your product make money?</i></p> <p>Est R&D Exp: \$50,000 Est G&A Exp: \$24,000 LTV/COCA Ratio: 201 / 7.1</p>	<p>9 Design & Build <i>How do you produce the product?</i></p> <p>Key Assumptions: 1. Startups will use the tool recurrently. 2. Accelerators need a better tool to source startups (than F&S/AngelList/Google Forms) and manage the acceleration process (than Google Docs/Slack/Email). Assumption Tests: 1. Sample tool (not linear, iterative/depth) 2. Try selling a prototype/slideware. MVPB: 1. Current product with subscription 2. Presentation/prototype for accelerator features Tracking Metrics: 1. Retention for startups 2. Number of paying startups 3. Number of paying accelerators</p>
<p>2 Initial Market <i>Who is your customer?</i></p> <p>Beachhead Market: A. Early-stage founders who want to improve their startup's chances to fundraise. B. Accelerators outside Silicon Valley who want to improve their process and outcomes. End User Profile: A. Tech founders outside major US startup hubs with an idea or product but no revenue. B. Smaller accelerators who have trouble getting good deals and accelerating their properly. TAM: 11k tech founders outside US (\$100M), 5,000 smaller accelerators (\$30M). Persons: TBD 10 Customers: MVP Academy (RO), NUMA (FR), MITER Poland (PL), IncubateUPRO (CL), UDD Ventures (CL), Magical Startups (CL), Eleven (BG), HUBstart (IL), MadeInUkraine (IL).</p>	<p>3 Value Creation <i>What can you do for your customer?</i></p> <p>Use Case: A. Learn about the biz side of your startup, apply it using a vetted process (DE24) or online tools. B. Recruit better startups, engage more mentors, accelerate startups faster, get them funded. Product Description: Process & toolbox for founders & accelerators—marketplace. Problem: A. Founders lack guidance and tools to help them be more disciplined on the business side. B. Accelerators "spray and pray" strategy does not yield to many successful startups. Quantified Value Proposition: A. Move faster. Get funded faster. B. Get better deals. Get better follow-on investments for startups.</p>	<p>6 Product Unit Economics <i>Can you make money?</i></p> <p>Business Model: Subscription model for both startups & accelerators. Pricing: \$15/mo per startup Short term LTV: \$200 / \$15,000 Short term COCA: \$10 / \$2,000 Medium term LTV: \$250 / \$25,000 Medium term COCA: \$7 / \$1,750 Long term LTV: \$275 / \$32,000 Long term COCA: \$5 / \$1,500</p>	<p>7 Sales <i>How do you sell your product</i></p> <p>Preferred Sales Channel: A. Website B. Direct sales Sales Funnel: A. Search online—Read features & testimonials—Create trial—Add data in app—Receive trial end email—Discuss with team—Buy. B. Search tools/get referrals—Analyze features—Discuss with sales reps—Discuss with team—Negotiate—Sign contract—Buy. Short Term Mix: Email newsletter, event presentations, inbound, direct sales. Medium/Long Term Mix: Event presentations, inbound, direct sales.</p>	<p>10 Scaling <i>How do you scale your business?</i></p> <p>Product Plan for BIM: ??? Next Market: Universities, Angel groups Product plan beyond BIM: Marketplace Follow-on TAM: 100,000 angels (\$1B).</p>

27 Source: **DISCIPLINED ENTREPRENEURSHIP**

Module 4: Disciplined Entrepreneurship

Section 2: Who is Your Customer?

Section 2 Contents



- **DE Step 1: Market Segmentation**
- **Talking to Customers**
- **DE Step 2: Select Beachhead Market**
- DE Step 3: Build End-User Profile
- DE Step 4: Total Addressable Market (TAM) size of Beachhead Market
- DE Step 5: Persona of the Beachhead Market
- DE Step 9 : Identify Your Next 10 Customers

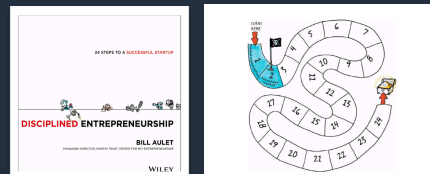
Reading List



- Chapters 2, 3, 4, 5. *Disciplined Entrepreneurship*, Bill Aulet, Wiley, 2013.
- How to calculate your total addressable market and make a great TAM slide for investors. by David Skok
 - ▶ <https://www.forentrepreneurs.com/calculating-tam/>

Section 2a: Who is Your Customer?

Step 1: Market Segmentation



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Step 1: Market Segmentation

Define your Customer

Market segmentation



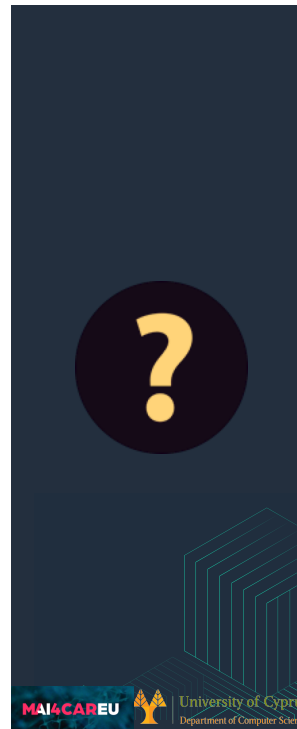
Seeing the world
through
the eyes of the
customer

vs.



Seeing the world
through
the perspective
of the company

For success in entrepreneurship, there are some glasses that are better than others to view the situation.



THE SINGLE NECESSARY AND SUFFICIENT CONDITION FOR A BUSINESS ?

Key condition

- The day someone pays you money for your product or service, you have a business, and **not a day before**.
- You cannot define a business as a product, because **if nobody buys your product**, you simply **do not have a business**.
- **The marketplace is the final arbiter of success.**

A PAYING CUSTOMER!



Is it enough?

- A paying customer does not mean you have a good business.
- In order to have a good, sustainable business, you will need to gain:
 - enough customers
 - paying enough money
 - within a relatively short period of timeso you do not run out of capital, but instead, become **profitable**.
- As a startup, you have few resources, so every action you take must be hyper-efficient.
- Therefore, you will not start by building a product or hiring developers or recruiting salespeople.
- Instead, you will take a customer-driven approach by finding an unmet need and building your business around it.

A new market

- Creating an innovative product where no market currently exists is essential to the success of a startup.
- By creating a new market, you will have a very high, if not dominant, market share that you can use as a basis for future expansion.
- Being a “me-too” company in an existing market is a more difficult proposition given your limited resources.



To create a company in a newly defined market space,
you must **focus** on
a “**target customer**”



WHAT IS A TARGET CUSTOMER?

Target customer

- A target customer is: a group of potential customers who **share many characteristics** and who would all have **similar reasons** to buy a particular product.
- You must focus on identifying and understanding customers through **primary market research**.



China syndrome

- If you could get even a tenth of a percent of the toothbrush market in China (population 1.3 billion), wouldn't you make a lot of money?
- Big companies with lots of resources can afford to work hard to gain incremental market share, but entrepreneurs don't have the luxury of resources.



Pitfalls

- **Wanting to sell to everyone:** you, a fledgling startup with little to no resources, can make products that fit the needs of anyone you run across.
- **The China Syndrome:** choose a huge existing market, get a fraction of the market share, and reap the rewards.



Take your resources and apply them to a **narrow, carefully defined new** market that you can **dominate**.

What is a “customer”?

- An entity that pays for, acquires, and uses your product:
 - ▶ a household,
 - ▶ organization, or
 - ▶ individual
- Within the broad definition of a customer, there is:
 - ▶ the **end user**, who ultimately uses your product, and
 - ▶ the **economic buyer**, who makes the final decision about whether to acquire the product.
 - ▶ The end user and economic buyer can be the same person, depending on the situation.

Complex paying customers

- **Two-sided** or **multi-sided markets**: you need multiple target customers for your business to exist.
- If you have a multi-sided market, you will complete each step once for each side of the market.
- But you will likely find through your primary market research that **one side of the market is more critical** to win for your business to succeed.

Complex paying customers

- There are cases in which the “customer” definition gets more complicated:
- The first is when your business model calls for **both primary customers** (end users) **and secondary customers** (economic buyers) in order to **make money**.
- Often, these businesses are structured so that **the primary customer is charged at below cost**, or **gets a product for free**, and **a third party pays for access to the primary customer** and/or **the primary customer's information**.
 - For instance, Google's search engine is free to use, but Google sells advertisements on search results pages to make money.
- Google's ability to provide advertisers with keyword-targeted ad placement and demographic information about search users further enhances Google's value proposition to advertisers.



Step 1: Market Segmentation

Three Steps:

- Brainstorm
- Narrow down to Market Opportunities
- Primary Market Research

Market Segmentation

- Brainstorm a wide array of potential **customers** and **markets** for your business.

Market Segmentation

- Brainstorm a wide array of potential customers and markets for your business.
- Narrow your list down to your **top 6–12 markets**.
 - List your top 8 candidates

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

How Should You Chose Them?

- Personal filter
- Technology fit filter (i.e., competitive strength)
- Market attractiveness
- Odds of success
- Strategic value
- But not really a detailed analysis at this point

Considerations in Narrowing the Field

End user	Target customer well-funded?	Target customer readily accessible to sales force?	Target customer's compelling reason to buy?	Can you deliver a whole product?	Is there entrenched competition?	Can you leverage this segment to enter others?	Consistent with values, passions, goals of team?	Rank

Market Segmentation

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

- Brainstorm a wide array of potential customers and markets for your business.
- Narrow your list down to your top 6–12 markets.
- Gather **primary market research** on your top 6–12 markets.

Market Segmentation: How to?

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

Step 1A: Brainstorm

- Start by brainstorming a wide array of market opportunities (even the **“crazy ideas”**).
- Talk about your idea or technology with potential customers to get you clear and accurate feedback for your market segmentation.
 - ▶ The best scenario is when **you** are the potential customer **yourself** and **have a deep understanding of the problem you are trying to solve**.

Expected result



Industry	Entertainment	Industrial Design	Medical Visualization	Surgical Simulation	Micro Surgery	Geophysical Visualization	Non Virtual C/VE	Prototyping	VR
End User	• Animator	• Stylist • Designer	• Radiologist • Surgeon	• Med Student • Surgeon	• Surgeon	• Geophysicist	• Blind Person	• Engineer	• Researcher • Designer
Application	• Sculpt • Animation • Paint	• Sculpt • Paint • Modeling	• Segment-ation • Navigation • Surgical planning • Diagnosis	• Training • Surgical planning	• Ophtham. Surgery • Neurosurgery	• View enhancement • Drill plan	• H.U.I.	• Design review • Model evaluation	• Architect Renderer • Simulation • Training
Benefits	• Ease of use • Reduce cycle	• Reduce cycle • Increase accuracy	• Ease of use • Increase accuracy	• Increase use of new tech. • Increase accuracy	• Reduce cycle • Increase accuracy	• Reduce errors • Increase yields	• Increase access, “mainstream”	• Reduce cycle • Improve designs	• Realism • Increase Accuracy
Lead Customers	• Disney • IBM • Dreamworks	• Toyota • Ford • Rollabrade	• Brigham & Women’s • German Cancer Resrch	• U of Colorado • Penn BDI	• Dr. Ohgami • Ottawa Eye	• BHP • WMC / CSIRO	• Cortec • U Delaware	• Volkswagen • Stratus • Toyota	• Boeing • Corie • Latham • NASA
Market Characteristics	• Early adopt. • High-priced talent • High growth	• Dislike CAD & computers • High-priced talent	• Mainstream • High-priced talent • HMO	• Mainstream • High-priced talent • HMO	• Early adopt • High Priced talent • HMO • Not computer automated	• Late main. • Oligopoly	• Late main • No money • Gov’t sponsor	• Mainstream • Pressure to reduce prod. cycle	• Early adopt • Frizzy ROI • Slow accept
Partners/ Players	• Alias • Soft Image • Discrete Logic	• PTC • Alias • Imageware	• GE • Siemens • Picker	• Smith & Neph • Heartport • Ethicon • US Surgical	• Toshiba • Hitachi	• Landmark • Pratal Graphics	• IBM • Apple • SUN • HP • Microsoft	• PTC • Solid Works	• Sense 8 • Division • Corphasus
Size of Market	40,000	X00,000	X0,000	X0,000	X,000	X,000	X,000,000	X00,000	X,000
Competition	Watcom	None yet	None yet	Immersion	None yet	None yet	None yet	None yet	• None yet
Platform	• SGI • Windows	• SGI • SUN	• SGI • SUN	• ?	None	• SGI • SUN	• Windows	• SUN, HF	• SGI • SUN, HF
Needs	• NURBS • Stylus • Dynamics	• NURBS • Stylus	• Voxel • Stylus • VRML	• 6 DOF • Custom devices	• 3 Finger scaling	• Voxel • Stylus	• Windows 1F • P300	• NURBS • VRML • Dynamics	• Polygons • Dynamics • 2-finger?

Step 1A: Brainstorm

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

- Start by identifying potential industries for your idea.
- Then, list **who might benefit in each industry from your idea**.
- Focus on **end users**, not customers, because you will need a committed group of end users to have a sustainable business.
- Identify the different tasks your end user performs.

Step 1 A: Brainstorm (ctd)

- If you have an idea, you may think you already have a specific market and a specific application in mind.

Are your perceptions correct?

- Likely, your defined market is not specific enough,
- but you may also find that the market you have in mind is not a good match for your idea,
- or that other markets are better for starting a business.

Be open-minded and creative.

Step 1 A: Brainstorm (ctd)

- If you have a new technology, you probably can think of a large number of industries that could benefit from your product.
- While you may have domain expertise in a certain field, that field may not have any good applications for your technology, so **be open to different industries.**
- Later on, you will filter your ideas to take your passions into account.

Step 1 A: Brainstorm (ctd)

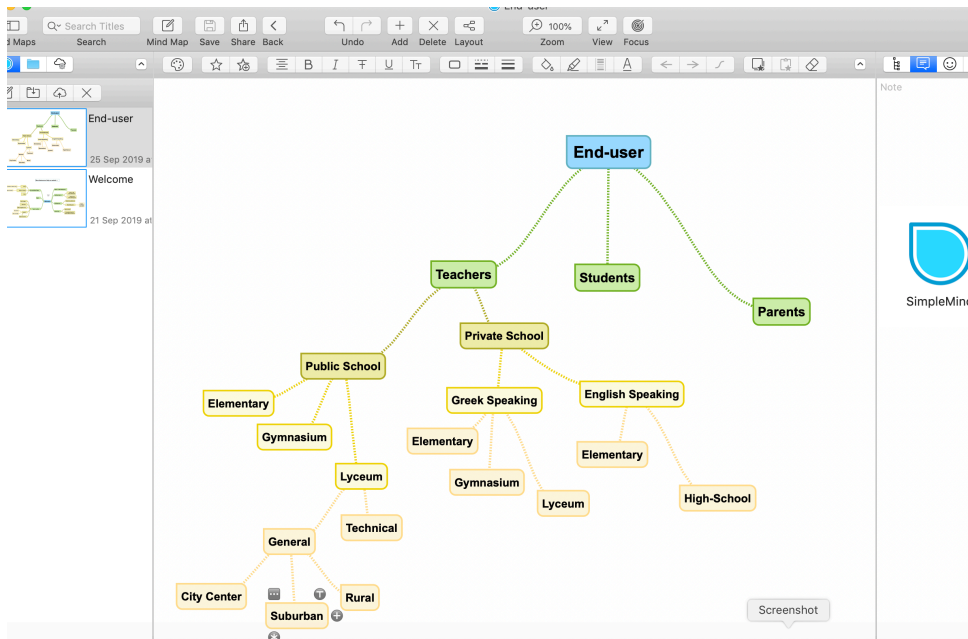
- For instance, if you are expressing your idea as “I want to create an online social network for high school teachers and parents to communicate about their children's progress in school,” you may lock yourself into a path that does **not produce a sustainable business.**
- Start instead with “**I want to improve education with technology.**”
- Then ask yourself **why you are passionate about that idea?**
- If technology is your primary passion, you probably want to consider a wider range of industries than just education.
- If your passion is education, you can simply segment the education industry, but **be open to other solutions** besides one involving a high degree of technology.

Brainstorming example



Mission: **Improve education with tech**

- **Who is your end user?**
 - Teachers, administrators, parents, students?
- Each category can be further subdivided.
- Are you focusing on end users in universities or in grade school?
 - What different types of schools are these end users associated with?
 - Which countries and regions do the end users work and live in?



Brainstorming example

- Identify the different tasks your end user performs.
- You may find enough similarities between certain subcategories that you can group them, depending on what your idea is, but you will find that out during your primary market research.
- Do not start combining categories without knowing more about your customer.
- A useful question to ask is: **why the consumer would purchase a product in a particular industry segment?**
 - ▶ For the education segmentation above, why would a parent purchase a product that improves education?

University of Cyprus
Department of Computer Science

When you segment out your market, you will find there are a **lot of segments**, and that seemingly broad categories have a lot of important differences.

Segment first, and then

determine whether any categories are common enough **to merge**.

Step 1 A: Brainstorm

- Be broad and expansive when segmenting end users for your new product.
 - ▶ You are brainstorming now; later, you will narrow the list as you start to analyze each segment.
- Brainstorming **result**:

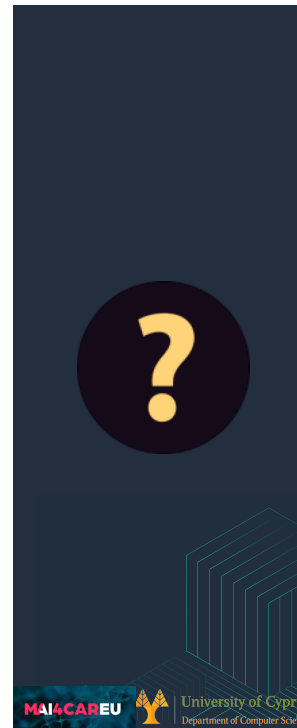
You have identified numerous potential end users and applications for your idea or technology.

Step 1B: Narrow

- Your next task is to list the **top 6–12 particularly interesting market opportunities**
- A **market opportunity** consists of:
 - a **specific end user** and
 - one or a **handful of applications**.
- As you do **primary market research (PMR)**, the specific application you have in mind may not be one the end user is looking for, so it is better to focus on end users for now.

How to identify market opportunities?

- Start by asking these questions at an industry level:
 - Is the target customer **well-funded**?
 - Is the target customer **readily accessible** to your sales force?
 - Does the target customer have a **compelling reason to buy**?
 - Can you **today**, with the help of partners, deliver a **whole product**?
 - Is there **entrenched competition** that could block you?



HOW TO IDENTIFY MARKET OPPORTUNITIES?

How to identify market opportunities?

- **Is the target customer well-funded?**
 - ▶ If the customer does not have money, the market is not attractive because it will not be sustainable and provide positive cash flow for the new venture to grow.
- **Is the target customer readily accessible to your sales force?**
 - ▶ Your product will go through iterations of improvement very rapidly, and **direct customer feedback is an essential part** of that process.
 - ▶ Since your product is substantially new and never seen before (and potentially disruptive), third parties may not know how to be effective at creating demand for your product.
- **Does the target customer have a compelling reason to buy?**
 - ▶ Would the customer buy your product instead of another similar solution?
 - ▶ Or, is the customer happy with whatever solution is already being used?

How to identify market opportunities?

- Can you today, with the help of partners, deliver **a whole product**?
 - ▶ No one wants to buy a new alternator and install it in their car, even if the alternator is much better than what they currently have.
 - ▶ They want to buy a car. That is, they want to buy a whole functional solution, not assemble one themselves.
 - ▶ You will likely **need to work with other vendors to deliver a solution that incorporates your product**, which means that you will need to convince other manufacturers and distributors that your product is worth integrating into their workflows.
- Is there entrenched competition that could block you?
 - ▶ How strong are those competitors, from the customer's viewpoint (not your viewpoint or from a technical standpoint)?
 - ▶ Can the competition **block you** from starting a business relationship with a customer?
 - ▶ And how do you stand out from what your customer perceives as alternatives?

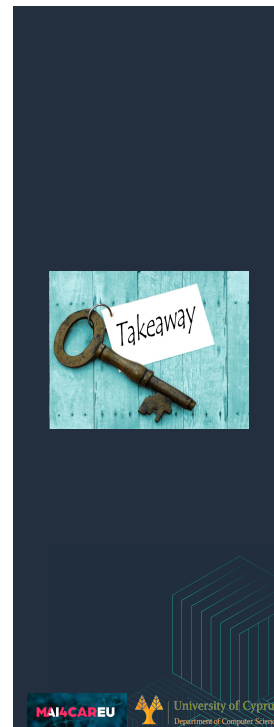
How to identify market opportunities?

- If you win this segment, can you leverage it to enter additional segments?
 - ▶ If you dominate this market opportunity, *are there adjacent opportunities* where you can sell your product with *only slight modifications* to your product or your sales strategy?
 - ▶ Or will you have to *radically revise your product or sales strategy* in order to take advantage of additional market opportunities and have a hard time scaling your business.
- Is the market consistent with the values, passions, and goals of the founding team?
 - ▶ You want to make sure that the founders' personal goals do not take a back seat to the other criteria presented here.

How to identify market opportunities?

After asking these questions at an industry level:

- Consider what the answers would be for the end user of your product.
- Within an industry, if you have segmented your potential end users by branching out into many categories, **ask the questions at each branching level**.
- Your limiting factor is **time**—**you will research each of these markets in depth, and you do not have time to consider an unlimited number of options**.
 - ▶ Six to twelve market opportunities is more than sufficient—with a realistic number being much **closer to six** than **twelve**.



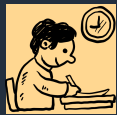
Remember that on many occasions, your primary competition will be:

the customer doing nothing!

Step 1C: Primary Market Research

- **Primary Market Research:** talking directly with customers and observing customers.
 - This will help you get a better sense of which market opportunity is best.
 - If there is already a market research report out there with all the information you need, it is probably too late for your new venture.
- You will gather the vast majority of your information from **direct interaction with real potential customers about their situations, pain points, opportunities, and market information.**
- While you should find out what you can about customers and markets before you talk to potential customers, it is **impossible to overstate the importance of doing direct customer research!**
 - Any other sources of information and knowledge are frequently superficial and likely of minimal value.

Reading Assignment



Read the following articles:

- **How to Conduct a Market Research Survey for Your Startup Idea?** by Nick Freiling, Startup Grind
 - ▶ <https://medium.com/startup-grind/how-to-conduct-a-market-research-survey-for-your-product-idea-d048dc080259>
- **How Superhuman Built an Engine to Find Product/Market Fit** by Rahul Vorha.
 - ▶ <https://firstround.com/review/how-superhuman-built-an-engine-to-find-product-market-fit/>

Step 1C: Primary Market Research

- The goal of primary market research is to understand the customers' **pain points**, and later design a solution that will be of great value to them.
- To do so, you will need to thoroughly understand the **underlying issues** and **sources of opportunity** by
 - **speaking** with customers or, even better,
 - **watching** customers as they work ("**primary observational research**").
- You will want to talk with as many end users as possible, but individuals who are not end users may also give you valuable advice or may point you in the right direction.

Section 2a: Who is Your Customer?

Talking to Customers

Video Assignment

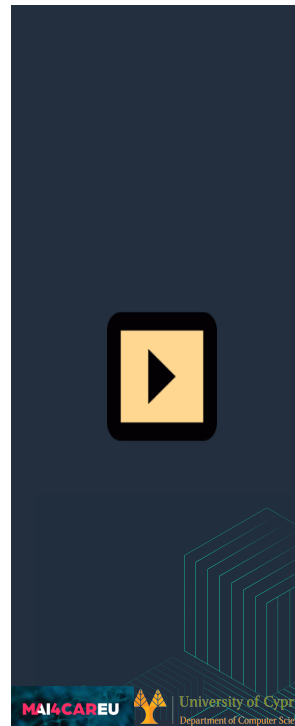


Watch the following videos:

- **How to Do Market Segmentation** by Bill Aulet, MIT Open Courseware
 - ▶ <https://ocw.mit.edu/courses/sloan-school-of-management/15-390-new-enterprises-spring-2013/video-tutorials/lecture-6/>
- **Building Product, Talking to Users, and Growing** by Adora Cheung, Startup School, Y Combinator.
 - ▶ <http://startupclass.samaltman.com/courses/lec01/>
- **Ideas, Products, Teams and Execution Part II** by Dustin Moskowitz, Sam Altman, Y Combinator.
 - ▶ <http://startupclass.samaltman.com/courses/lec02/>
- **How to Get Ideas and How to Measure?** by Stewart Butterfield & Adam D'Angelo, Y Combinator.
 - ▶ <https://www.startupschool.org/videos/3>
- **Eric von Hippel Explains User Innovation**
 - ▶ <https://www.youtube.com/watch?v=egZPMbrCV8o>

Goal of Primary Market Research

- Understand the problem/opportunity – the REAL one
- Not for customer to design your product
 - ▶ Caveat: Eric von Hippel: User-Driven Innovation
- Be open to being surprised



Building Product, Talking to Users, and Growing with Adora Cheung (How to Start a Startup 2014: 4)

Building Product, Talking to Users, and Growing by Adora Cheung, Startup School, Y Combinator.

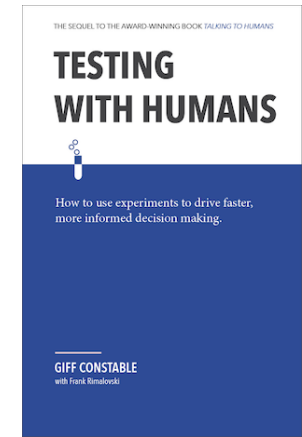
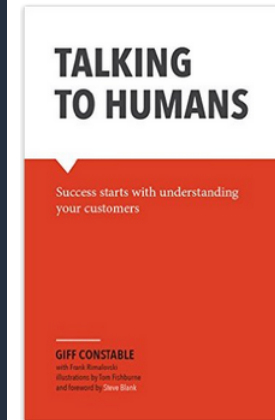
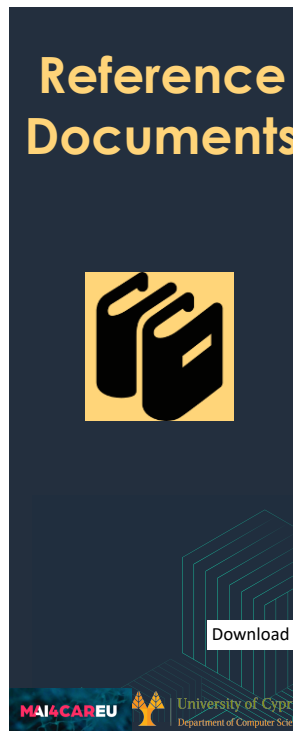
Common Mistakes

- Lack a plan/process
- Execute process with excellence
- Biases
 - ▶ Confirmation, selection, social acceptability, winners, other?
- Perceived vs. Real Value
- Believe what is said
- Go quantitative too soon

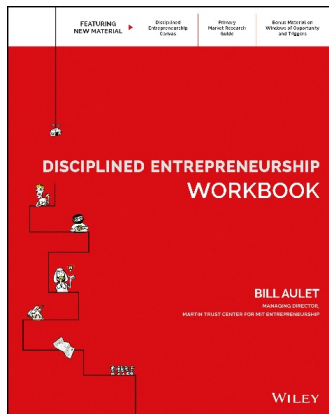
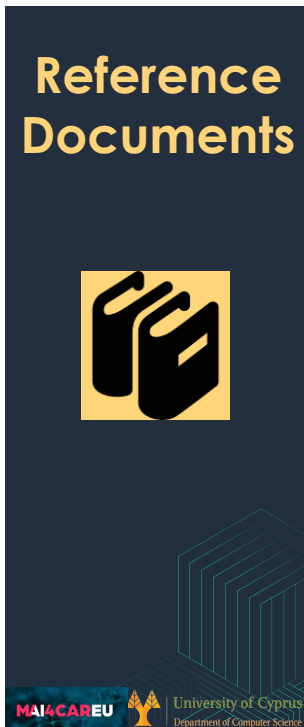
PMR Tools

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

- Customer interviews
- Observational research
- Immersion
- User tests
- Focus groups
- User-driven innovation
- Jobs to be done



Download for free at <http://www.talkingtohumans.com/> & <https://testingwithhumans.com/>



use their worksheets

Primary Market Research Worksheet I: Preparation
(Make a new copy of this worksheet for each market segment you analyze)

I. Secondary Market Research Sources and Key Lessons Learned:

A. _____

B. _____

C. _____

II. What are the profile(s) of the people you want champion, industry analysts, influencers; descri potential candidates. Can include demographic:

A. 1st Targeted Profile Name: _____, D

B. 2nd Targeted Profile Name: _____, D

C. 3rd Targeted Profile Name: _____, D

D. 4th Targeted Profile Name: _____, D

E. 5th Targeted Profile Name: _____, D

III. Your General Recruitment Script (Be clear on w

IV. Initial Candidate List to Contact

Name & Contact Info	Profile Type

Primary Market Research Worksheet II: Execution
(Make a new copy of this worksheet for each market segment you analyze)

I. Which profile are you engaging with? How well does this person fit the profile: Type of engagement (e.g., interview, observation, test, immersion, other): _____

II. Your General Script/Framework for Engagement (Guidance (if appropriate) Quantitative insights/hypotheses and:

A. _____

B. _____

C. _____

D. _____

E. _____

III. What did you learn?

IV. What surprised you?

V. Which hypotheses did you seem to confirm? How and why:

VI. Which hypotheses did you seem to invalidate? How and wh

VII. Which hypotheses were you unable to reach conclusions or

VIII. What new questions were raised in this engagement?

IV. Additional Future Candidates List Obtained from Current Candidate

Name & Contact Info	Profile Type	Why does the current candidate think we should engage with this person, plus any other info to build rapport

V. What changes should I make for the next primary market research engagement?

Profile Changes: _____

Qualitative Insights/Hypotheses Updated (could be more or less than 3):

A. _____

B. _____

C. _____

Quantitative Insights/Hypotheses Updated (Optional - only if appropriate & you are far enough along) (could be more or less than 3):

A. _____

B. _____

C. _____

Script Update:

A. _____

B. _____

C. _____

D. _____

VI. Headline for this Engagement:

Reading



Primary Market Research Tips: 15 Points of Wisdom for Better Interviews from a Pro

- <https://www.d-eship.com/articles/primary-market-research-tips-15-points-of-wisdom-for-better-interviews-from-a-pro/>

M. D. Dikaiaikos

How to talk to potential customers?

- When you talk with potential customers, **encourage the flow of ideas**; **don't restrain them** or try to **gain a commitment**.
- If the potential customer senses you are trying to sell them something, they will change their behavior;
 - ▶ They will either say little or say things that are related to the market opportunity you seem to be presenting them, rather than providing you with new, innovative ideas for markets.
 - ▶ As a result, you will get less market data, and what you do get will be biased.
- Likewise, you should **not count on your customer to design your product** or tell you **the answer to their problems**.

86 M. D. Dikaiaikos

Caveats

1. You do not have “the answer” for your potential customers and their needs.
2. Your potential customers do not have “the answer” for you.
3. Talk with potential customers in “**inquiry**” mode, **not “advocacy/sales”** mode. Listen to what they have to say, and don't try to get them to buy anything.

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Key factors to collect accurate info

You must:

- Have a high level of **intellectual curiosity**.
- Be **fearless** about getting on the phone, in the car, or on a plane to pursue this information.
- Have an **ability to listen** and **get people to talk**.
- Be **open-minded** and **unbiased**, and never presuppose a solution (inquiry, not advocacy).
- Have the ability to explain **what the essence of your proposed offering might look like** while also being flexible.
- Have **time** & **patience** to devote to this important step.

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Key Points for PMR



1. Prepare/research
2. Visit their environment
3. Find good location
4. Write down questions
5. Recording device? "only used for reference"
6. Use opened ended questions especially early
7. Have a progression
8. Work on important questions on how to ask multiple ways – and do

M. D. Dikaiakos

Key Points for PMR



9. If questions are avoided, go back and rephrase
10. Re-enact key parts
11. Positive sounds - "yes", smiles and positive grunts
12. Positive body language
13. Do not sit with legs crossed, lean back, etc.
14. Don't jump in too quick, allow silence to bring out more. Leave recording device on at end.
15. Bring a wing person

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Organize your research

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The main categories you are trying to obtain information on for each market are:

- 1. End User:** Who specifically would be using your product? The end user is often your "**champion**," who you need on board so that your product is successfully adopted. You have narrowed down your end user already, but as you do primary market research you may find the category can be even further segmented.
- 2. Application:** What would the end user be using your product for? What is the task that would be dramatically improved by your new venture?

Organize your research

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3. Benefits: What is the actual value that the end user **would gain from the use of your new product?**

- Is it a time savings?
- A cost savings?
- Additional profit?

4. Lead Customers: Who are the **most influential customers** that others look to for thought leadership and adoption of new technology?

- ▶ These are sometimes referred to as "**lighthouse customers**" because they are so respected that when they buy, others look to them and follow their lead, gaining you instant credibility.
- ▶ Some people call these customers "**early adopters**," but **lead customers are not technological enthusiasts**. They must be respected by others as innovative and successful customers who purchase because the product provides them with real value and not simply bragging rights.

Organize your research

- 5. **Market Characteristics:** What about this market would help or hinder the adoption of new technology?
- 6. **Partners/Players:** Which companies will you need to work with to provide a solution that integrates into the customer's workflow? Sometimes, this category will tie into the "Complementary Assets Required" category below.
- 7. **Size of the Market:** Roughly, how many potential customers exist if you achieve 100 percent market penetration?

Organize your research

- It is easiest to organize this information in a **matrix**, where:
 - ▶ each **potential market opportunity** is a **column header**, and
 - ▶ each **category of information** is a **row**.
- There may be other categories that are relevant to your situation.
- Also, some of the rows in the example matrix may be unnecessary for your situation;
- but this general format can be a good starting point for you to customize as appropriate.

Organize your research

- 8. **Competition:** Who, if anyone, is making similar products—real or perceived? Remember, this is *from the customer's perspective*.
- 9. **Complementary Assets Required:** What else does your customer need in order to get the "full solution," that is, to get full functionality from your product?
 - ▶ You will likely need to bundle your product with products from other manufacturers so that customers can easily buy your product and have full functionality.
 - ▶ At the very least, you will need to identify which other products your customer will need to buy to use your product.

Market Segmentation Matrix

Market Segment Name					
End User					
Task					
Benefit					
Urgency of Need					
Example End Users					
Lead Customers					
Willingness to Change					
Frequency of Buying					
Concentration of Buyers					
Other relevant market segment considerations					
Size of Market (# of end users)					
Est. value of end user (\$1, \$10, \$100, \$1K, etc.)					
Competition/ alternatives					
Other components needed for a full solution					
Important partners					
Other relevant personal considerations					

Case study: Sensable Technologies

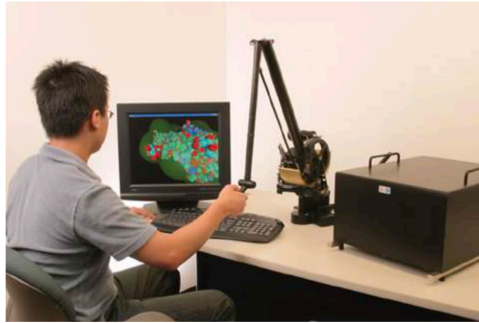


Figure 1.2 The Sensable PHANToM.

Source: *Disciplined Entrepreneurship: 24 Steps to a Successful Startup*, Bill Aulet, Wiley 2013.



Table 1.1 The Sensable Market Segmentation Chart

Potential Market Opportunity

Industry	Entertainment	Industrial Design	Medical Visualization	Surgical Simulation	Micro Surgery	Geophysical Visualization	Non Visual C.H.I.	Prototyping
End User	• Animator	• Stylist • Designer	• Radiologist • Surgeon	• Med Student • Surgeon	• Surgeon	• Geophysicist	• Blind Person	• Engineer
Application	• Sculpt • Animation • Paint	• Sculpt • Paint • Modeling	• Segmentation • Navigation • Surgical planning • Diagnosis	• Training • Surgical planning	• Ophthalm. Surgery • Neurosurgery	• View enhancement • Drill plan	• H.U.I.	• Design review • Model evaluation
Benefits	• Ease of use • Reduce cycle	• Reduce cycle • Increase accuracy	• Ease of use • Increase accuracy	• Increase use of new tech. • Increase accuracy	• Reduce cycle • Increase accuracy	• Reduce errors • Increase yields	• Increase access, "mainstream"	• Reduce cycle • Improve designs
Lead Customers	• Disney • ILM • Dreamworks	• Toyota • Ford • Rollerblade	• Brigham & Women's • German Cancer Rsrch	• U. of Colorado • Penn • BDI	• Dr. Ohgami • Ottawa Eye	• BHP • WMC / CSIRO	• Certec • U. of Delaware	• Volkswagen • Stratasys • Toyota
Market Characteristics	• Early adopt. • High-priced talent • High growth	• Dislike CAD & computers • High-priced talent	• Mainstream • High-priced talent • HMO	• Mainstream • High-priced talent • HMO	• Early adopt • High-priced talent • HMO • Not computer automated	• Late main. • Oligopoly	• Late main. • No money • Gov't sponsor	• Mainstream • Pressure to reduce prod. cycle
Partners/ Players	• Alias • Soft Image • Discrete Logic	• PTC • Alias • Imageware	• GE • Siemens • Picker	• Smith & Neph • Heartport • Ethicon • US Surgical	• Toshiba • Hitachi	• Landmark • Fractal • Graphics	• IBM • Apple • SUN • HP • Microsoft	• PTC • Solid Works
Size of Market	40,000	X00,000	X0,000	X0,000	X,000	X,000	X,000,000	X00,000
Competition	Watcom	None yet	None yet	Immersion	None yet	None yet	None yet	None yet
Platform	• SGI • Windows	• SGI • SUN	• SGI • SUN	?	None	• SGI • SUN	• Windows	• SUN, HF
Complementary Assets Required	• NURBS • Stylus • Dynamics	• NURBS • Stylus	• Voxels • Stylus • VRML	• 6 DOF • Custom devices	• 3 Finger scaling	• Voxels • Stylus	• Windows I/F • P300	• NURBS • VRML • Dynamics

Information Category



- Primary market research is fundamental to your success.
- This is the only way you will collect the invaluable information that is not available anywhere else and you will understand what is behind the information.
- Once you have done this primary market research, it may well be the most valuable information you will have.
- Good, direct customer research is paramount to this process; you will not be able to simply think through the user profile on your own.



Disciplined Entrepreneurship: 24 Steps to a Successful Startup, Bill Aulet, Wiley 2013.

Video Assignment



Watch the following video and write down a short critical summary:

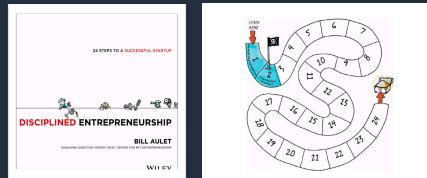
• **How To Find Product Market Fit** by David Rusenko, Y Combinator (2018).

▶ <https://www.youtube.com/watch?v=0LNQxT9LvM0>



Section 2a: Who is Your Customer?

Step 2: Select Beachhead Market



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Focus!

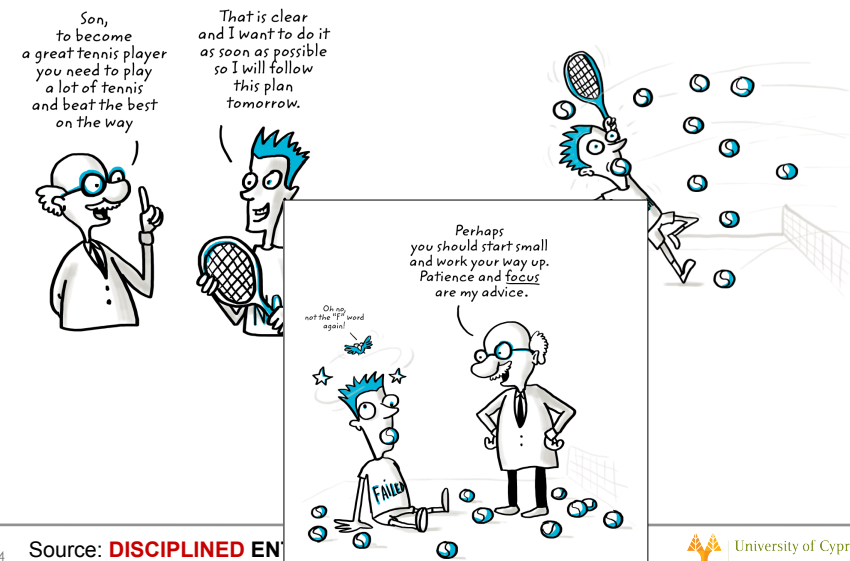
- When people are given what appear to be multiple paths to success, they will try to retain all the paths as options.
- However, **selecting one specific path** would have guaranteed them the **most success**.
- By choosing **a single market to excel in**, your startup can more easily **establish a strong market position**, and hopefully a **state of positive cash flow**, before it **runs out of resources**.
- By focusing in this way, you will position yourself to most quickly achieve the positive **word of mouth (WOM)** that can be the source of success or failure for entrepreneurs.

Step 2: Goals

- Analyze your **top 6–12 market opportunities** and choose **one to pursue**.
- Further segment that market to determine your **beachhead market**.

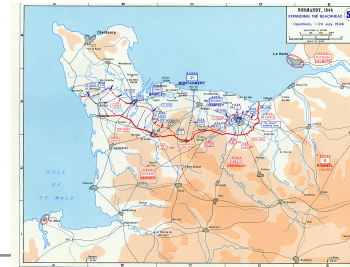
*Selecting a beachhead market is part of the critical process of narrowing your **focus** and attention to one critical area of attack.*

Focus!

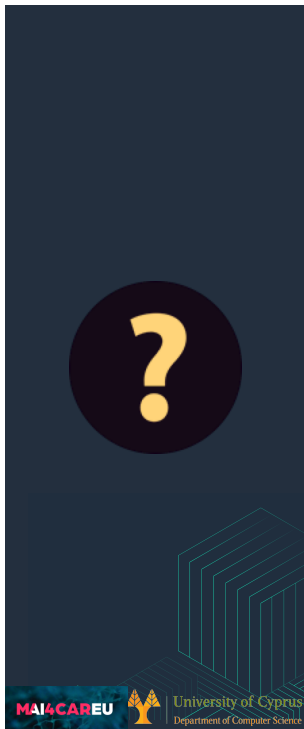


Beachhead

- If an army wants to invade enemy territory with water access, the army may employ a **beachhead strategy**:
 - ▶ the army lands a force on a beach in enemy territory, controlling that area as their base to land more troops and supplies, and to attack other enemy areas.



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WHAT IS A BEACHHEAD MARKET?

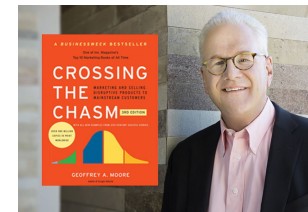
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Beachhead market

Your **beachhead market** is where:

- once you gain a dominant market share,
- you will have the strength to **attack adjacent markets** with different offerings,
- building a larger company with each new following.

Beachhead market



- Geoffrey Moore uses the metaphor of a bowling alley, where:

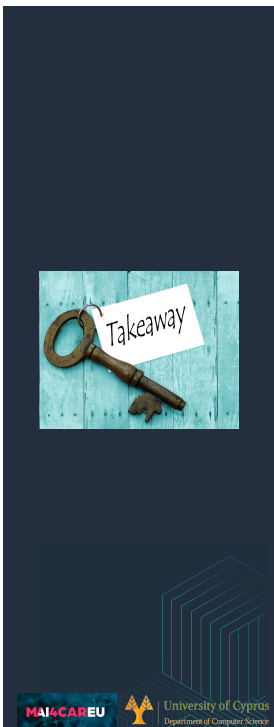
- ▶ the beachhead market is the lead pin
- ▶ dominating the beachhead market knocks down the lead pin, which crashes into other pins that represent:



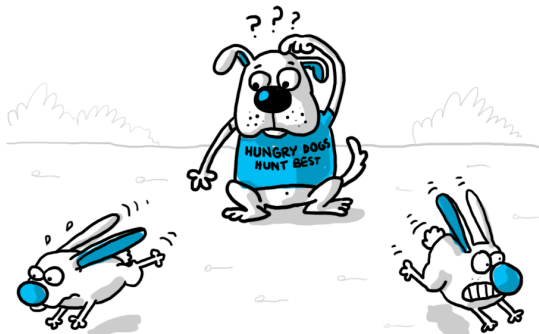
- **adjacent market** opportunities or
- **different applications** to sell to the customer in your beachhead market.

Avoid analysis - paralysis

- In many cases, there are multiple paths to success, so it is not imperative to choose the absolute best market.
- Therefore, get started doing, rather than getting stuck in "analysis paralysis."
 - ▶ Your **goal is to start a company**, not become a professional market analyst.
 - ▶ **Action will produce real data** that will tell you quickly if the market will or will not be viable.
 - ▶ What if the selected beachhead is not a viable market?



"PERSON WHO CHASES TWO RABBITS CATCHES NEITHER"
— ROMANIAN PROVERBS

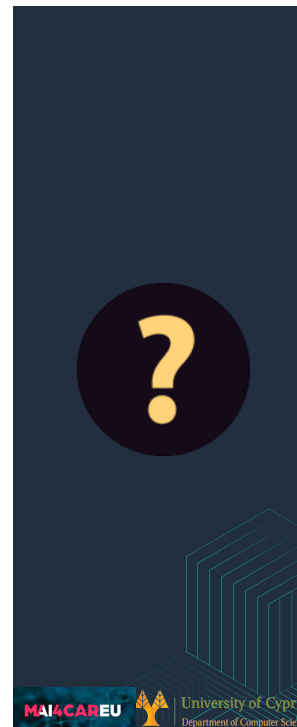


Avoid analysis - paralysis

If the beachhead you have selected is not a viable market, you will still hopefully have time and resources to return to your matrix and attempt a second market.

Table 1.1 The SensAble Market Segmentation Chart

Industry	Entertainment	Industrial Design	Medical Visualization	Surgical Simulation	Micro Surgery	Geophysical Visualization	Non Visual C.H.I.	Prototyping
End User	• Animator	• Stylist • Designer	• Radiologist • Surgeon	• Med Student • Surgeon	• Surgeon	• Geophysicist	• Blind Person	• Engineer
Application	• Sculpt • Animation • Paint	• Sculpt • Paint • Modeling	• Segmentation • Navigation • Surgical planning • Diagnosis	• Training • Surgical planning	• Ophthalm. Surgery • Neurosurgery	• View enhancement • Drill plan	• H.U.I.	• Design review • Model evaluation
Benefits	• Ease of use • Reduce cycle	• Reduce cycle • Increase accuracy	• Ease of use • Increase accuracy	• Increase use of new tech. • Increase accuracy	• Reduce cycle • Increase accuracy	• Reduce errors • Increase yields	• Increase access. • "mainstream"	• Reduce cycle • Improve designs
Lead Customers	• Autodesk • Dreamworks	• Toyota • Ford • Robertshub	• Brigham & Women's • U. of Colorado • Penn • BDI • German Cancer Rurch	• U. of Colorado • Penn • BDI	• Dr. Orngani • Ottawa Eye	• BHP • VWHC / CSIO	• Cartec • U. of Delaware	• Volkswagen • Stratasys • Toyota
Market Characteristics	• Early adopt. talent • High-priced computers • High growth	• Dialite CAD & high-priced talent • High-priced talent	• Mainstream CAD & high-priced talent • HMO	• Mainstream High-priced talent • HMO	• Early adopt. High-priced talent • HMO • No computer automated	• Late main. High-priced talent • Oligopoly	• Late main. No money • Gov't sponsor	• Mainstream Pressure to reduce prod. cycle
Partner/Players	• Alias • Soft Image • Discreet Logic	• PTC • Alias • Siemens • Imageware	• GE • Siemens • Piker	• Smith & Neph • Heartport • Epicor • US Surgical	• Toshiba • Hitachi	• Landmark • Frazar • Graphics • HP • Microsoft	• IBM • Apple • SUN • HP	• PTC • Solid Works • SUN • Microsoft
Size of Market	40,000	X00,000	X0,000	X0,000	X,000	X,000	X,000,000	X00,000
Competition	Watcom	None yet	None yet	Immersion	None yet	None yet	None yet	None yet
Platform	• SGI • Windows • SUN	• SGI • SUN	• SGI • SUN	• ?	None	• SGI • SUN • HP	• Windows • SUN • HF	• SUN • HF
Complementary Assets Required	• NURBS • Stylus • Dynamics	• NURBS • Stylus	• Voxalis • Stylus • VRML	• 4 DOF • Stylus • Custom devices	• 3 Finger scaling	• Voxelis • Stylus	• Windows VIF • P300	• NURBS • VRML • Dynamics



HOW SHOULD YOU CHOOSE A BEACHHEAD?

How to choose a beachhead?

Seven criteria:

1. Is the target customer **well-funded**?
2. Is the target customer **readily accessible** to your sales force?
3. Does the target customer have a **compelling reason** to buy?
4. Can you today, with the help of partners, **deliver a whole product**?
5. Is there entrenched competition that could **block you**?
6. If you win this segment, **can you leverage** it to enter additional segments?
7. Is the market **consistent** with the values, passions, and goals of the founding team?

Worksheet

Beachhead Market Selection Worksheet				
Criteria	Market Segment =	Market Segment =	Market Segment =	Market Segment =
Rating is Very High (best), High, Medium, Low, Show Stopper (worst)				
1. Economically Attractive				
2. Accessible to Our Sales Force				
3. Strong Value Proposition				
4. Complete Product				
5. Competition				
6. Strategic Value				
7. Personal Alignment				
Overall Rating				
Rating for Ranking is 1 (most attractive) to 4 (least attractive) – Key Factors is Most Important Contributor to the Ranking				
Ranking				
Key Deciding Factors				

Considerations for Choosing BHM

End user	Target customer well-funded?	Target customer readily accessible to sales force?	Target customer's compelling reason to buy?	Can you deliver a whole product?	Is there entrenched competition?	Can you leverage this segment to enter others?	Consistent with values, passions, goals of team?	Rank

Start small

- It is better to **avoid selecting the largest or very large markets**, even if they seem like the “best” segments.
 - ▶ The first market you attack will be a **significant learning experience for you**, so you are better off learning in a smaller market where you can quickly get high exposure among the base of potential customers.
- **Choose a smaller beachhead market**—for example, if you live in a small geographic region, start there before trying to launch in a larger region.

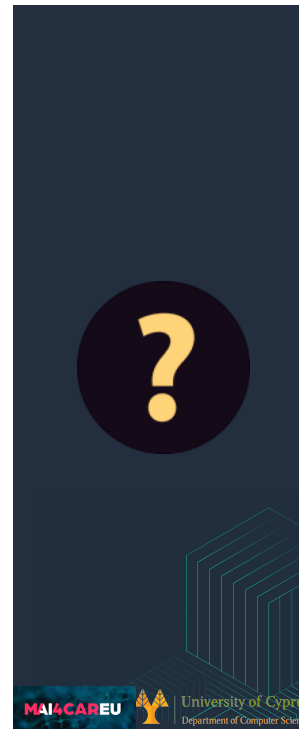
And then, segment further!

- As you begin to focus on your beachhead market, you will quickly recognize that it **almost surely can be segmented into smaller markets**.
- This is standard **good practice**.
 - ▶ You should not worry about being focused on too small a market:
 - ▶ You want to start in a market where you have **great ability to dominate** in a relatively short time period;
 - ▶ **A narrow, focused market is the best way to do so.**

Is your market is targeted enough?

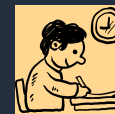
Three criteria:

1. The **customers** within the market **all buy similar products**.
2. The customers within the market have a **similar sales cycle** and **expect products to provide value in similar ways**.
 - Your **salespeople can shift from selling to one customer to selling to a different customer** and still be very **effective** with little or **no loss of productivity**.
3. There is **“word of mouth”** between customers in the market, meaning they can serve as compelling and high-value references for each other in making purchases.



WHEN DO YOU STOP?

Case study: SensAble

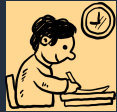


- Identified possible end-users

Industry	Entertainment	Industrial Design	Medical Visualization	Surgical Simulation	Micro Surgery	Geophysical Visualization	Non Visual C.H.I.	Prototyping
End User	• Animator	• Stylist • Designer	• Radiologist • Surgeon	• Med Student • Surgeon	• Surgeon	• Geophysicist	• Blind Person	• Engineer

- **Industrial design industry** complied to the seven criteria for beachhead selection:
 - ▶ Good funding
 - ▶ easily accessible to sales
 - ▶ have compelling reason to buy
 - ▶ feasibility of product delivery
 - ▶ lack of entrenched competition
 - ▶ ease of leveraging to additional segments,
 - ▶ consistent with values and goals.

Beachhead market selection



- Further analysis showed that industrial designers could and should be divided into **three distinct groups**:
 - ▶ One group handles **rectangular shapes with sharp edges**, incorporating a lot of simple geometry.
 - ▶ A second group handles **highly stylized shapes with smooth surfaces**, best represented by mathematical equations.
 - ▶ A third group works with **highly organic and sculpted forms**, often designing with clay.
- SensAble product was most appropriately suited for free-form designing, so the third group was the optimum market to focus on.
- The customers in this group were primarily **toy** and **footwear** companies with extensive clay studios and many sculptors among their designers

Source: **DISCIPLINED ENTREPRENEURSHIP**

Beachhead market selection



- **Toy and footwear companies** could be grouped as **one market**, because industrial designers in the toy and footwear industries acted so similarly that they completely met the three conditions of a beachhead market presented earlier:
 - ▶ **Buy similar products**: They both used lots of clay to sculpt highly organic, 3D art shapes that were shipped to China on a very tight schedule.
 - ▶ **Have similar sales cycle**: They would buy the same design products and use them in the same way. The pressures they faced were the same. The sales processes and value propositions were identical.
 - ▶ **“Word of mouth” exists**: Further, in a very telling sign, the designers frequently moved between toy and shoe companies to advance their careers; they even belonged to the same subgroup in the Industrial Design Society of America.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Beachhead market selection

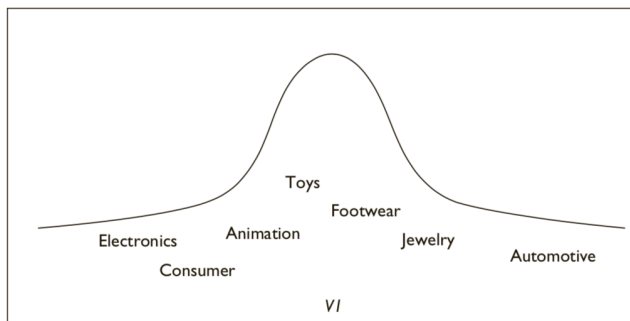


Figure 2.1 The toy and footwear markets were our primary focus. The next adjacent markets were animation and jewelry, but we would need to do more research when we prepared to scale.

Source: **DISCIPLINED ENTREPRENEURSHIP**

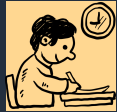
Case study: nanoparticles for the sunscreen market



- **Invention**: how to synthesize more quickly nanoparticles for medical uses.
- **One particular application**: nano-scale polymer coating that binds to skin and can slowly release medication over a 24-hour period.
- Spent weeks researching different applications for this polymer:
 - **Medical applications** in hospitals and outpatient services, including treating cancer.
 - **Sunscreen**, using the time-release feature to slowly release sun-blocking chemicals over a long period of time.
- A consumer market such as sunscreen required **less time and money than medical markets**, which need a thorough **FDA review**.
- The consumer market would allow the team to work closely with real customers and get a feedback loop going so they could more efficiently develop the technology into a product.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study:
nanoparticles for
the sunscreen
market



- However, the **sunscreen market proved to be too large and too diverse** for the team, which continued to subsegment the market through primary customer research.
- Eventually, they settled on one of the subsegments: **extreme athletes in their thirties who do triathlons**.
- These athletes are **extremely competitive** with a **lot of disposable income** that they spend on their fitness.
- When the team **approached a number of these athletes** with their idea, they were extremely positive toward the concept (or potential product).
- The team also realized that if these extreme athletes bought the product, other markets would be easier to enter.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Video
Assignment



- What is a Beachhead Market by Bill Aulet, MIT Open Courseware
 - ▶ <https://ocw.mit.edu/courses/sloan-school-of-management/15-390-new-enterprises-spring-2013/video-tutorials/lecture-7/>

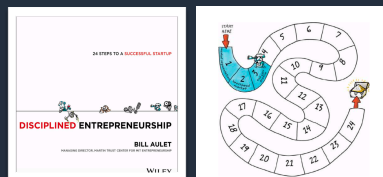
Source: **DISCIPLINED ENTREPRENEURSHIP**

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Section 2a: Who is Your Customer?

Step 3: Build End-User Profile



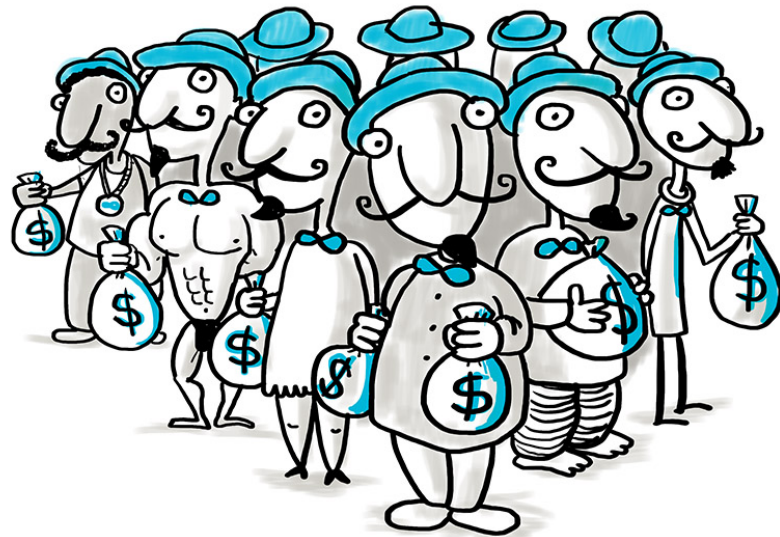
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Start by beginning to define your customer with a target customer profile.

Who is the “Customer” ?

- Each customer actually consists of an **end user** and a **decision-making unit**.
- **End User:** The individual (a real person!) who will use your product.
 - ▶ The end user is usually a member of the household or organization that purchases your product. Very likely to be an integral part of the decision-making unit but **may or may not** be the **most important person** within it.
- **Decision-Making Unit:** The individual(s) who decide whether the customer will buy your product, consisting of:
 - ▶ **Champion:** The person who wants the customer to purchase the product; often the end user.
 - ▶ **Primary Economic Buyer:** The person with the authority to spend money to purchase the product. Sometimes this is the end user.
 - ▶ **Influencers, Veto Power, Purchasing Department,** and so on: People who have sway or direct control over the decisions of the Primary Economic Buyer.
- Your **focus will be on the end user**, because **if the end user does not want your product, you will be unable to reach your customer.**



End-user profile: What?

What is it?

- A description of a narrowly defined subset of end users with **similar characteristics** and with similar **needs**.
- As a startup, you will have to exclude many potential customers in order to **stay focused** on **a key group of relatively homogenous end users**, who will provide the much-needed initial cash flow.

End-user profile: Why?

Why is needed?

- ▶ You need to build your business based on **the customer you are serving**, rather than pushing the product or service you want to sell onto the market.
- ▶ It helps you learn about your **target customer**
- ▶ Trying to sell a product to a wide variety of end users is unfocused. Your sales strategy may not be equally effective for both 25-year-olds and 50-year-olds; your feature sets may differ depending on the priorities of the end user.
- ▶ Do **not** try to describe **every** end user.

End User Profile for Beachhead Market

Demographics (be sure to determine which are relevant for your situation but some general categories are gender, age, income, geography, job title, education, ethnicity, marital status, political affiliations, etc.)

Psychographics (as above this needs to be customize for your situation but examples are aspirations, fears, motivators, hobbies, opinions, values, life priorities, personality traits, habits, etc.)

Proxy Products (what other products does this end user own and which do they value the most? Which products have the highest correlation with your target end user)

1. _____ Weighting: _____
2. _____ Weighting: _____
3. _____ Weighting: _____
4. _____ Weighting: _____
5. _____ Weighting: _____

End User Profile for Beachhead Market

Demographics (be sure to determine which relevant for you situation but some general categories are gender, age, income, geography, job title, education, ethnicity, marital status, political affiliations, etc.)

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Watering Holes (e.g., locations, associations, online platforms – and sequence them in priority and indicate intensity of each)

1. _____ Weighting: _____
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Day in the Life (describe a day in the life of the end user and what is going on in her head)

1. _____ Weighting: _____
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3. _____ Weighting: _____
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End User Profile for Beachhead Market

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Watering Holes (e.g., locations, associations, online platforms – and sequence them in priority and indicate intensity of each)

Day in the Life (describe a day in the life of the end user and what is going on in her head)

Priorities (what are your end user's priorities and assign a weighting to each so that it adds up to 100)

1. _____ Weighting: _____
2. _____ Weighting: _____
3. _____ Weighting: _____
4. _____ Weighting: _____
5. _____ Weighting: _____

End-user in the team?

- **Huge advantage:** you can have a depth of understanding about your customer that could be a critical factor in your success:
 - ▶ You will not have to rely on assumptions, which are often inaccurate about who your end user is and what they want.
- If you don't have someone from the demographic already on your founding team, you should hire a target end user for your executive team.

End user profile for SensAble



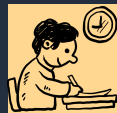
Table 3.1 SensAble End User Profile

Industrial Designer in Toy and Footwear Companies

Gender	Male (90%), Female (10%)
Age	24–35, estimating that the average is close to 31
Level at Company	Individual contributor and not a manager
Income	\$50K–\$60K per year, depending on the region
Education	Rhode Island School of Design, Pasadena School of the Arts, or other high-end arts school
History	This is not their first job in the industry so they have some experience. However, this is not their end job either. This is something they will do as long as it is interesting and fulfilling. The industry is tough and they realize they can be laid off if things don't go well. This also leads to a lack of strong attachment to their job, so if another job comes up, they will move on without reservation.

Source: **DISCIPLINED ENTREPRENEURSHIP**

End user profile for SensAble



Context	The designers see themselves as artists, not businesspeople. While they might want to be doing great art outside of the commercial world, they have realized that they need a paycheck to survive and have made that compromise. They may do some art on the side but they also are serious about wanting to create products that show off their artistic skills, and they are frustrated with products that don't properly convey their very specific design intent. Hence they have not given up using clay studios, which convey design intent much better than the new digital tools that are being forced on them. The new tools are engineering tools that have been modified for designers but make it very difficult to convey design intent. While the designers are tech-competent and even savvy when it comes to creative tools, that is not at their core. It is a means to an end. They might have an Apple computer at home and one in their department, but at the office, they are primarily working on their Windows-based PC.
Personality	The designers like to socialize but would never be confused with fraternity boys. They do not have much money and are careful to not waste it. They drink carefully and/or do light recreational drugs when they go out. They like to sit around and listen to technopop music (like Thomas Dolby) and talk about the arts. They generally wear all black and a good number of them have body piercings and maybe even artfully done tattoos. While they do like to socialize, they can also be quiet and introverted much of the time.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Ride-Sharing in Russia



- **Idea:** a new ride-sharing service for a group of customers in Moscow who did not have such a service.
- Focus on younger tech-savvy drivers who:
 - they thought would be more likely to use the service,
 - they were interested in using the new infrastructure of mobile phones and social media to do this in a capital-efficient way that had not been possible before.

Source: **DISCIPLINED ENTREPRENEURSHIP**

End user profile for ride-sharing



- Initial end user profile:
 - ▶ **Gender and age:** both male and female, with an age range of 17– 40 years old.
 - ▶ **Occupation:** students, young professionals, migrants to Moscow from rural areas of Russia, and middle management.
 - ▶ **“Social level”:** “medium or high”.
 - ▶ **Technology acceptance:** owners of smartphones, technologically advanced, early adopters of new tech products, and active users of social networks.
- **Is this OK???**
 - ▶ Do all males and females ages 17–40 have the same goals, aspirations, and fears?
 - ▶ Is the beachhead market segmented enough? Try “**Why would the end user want to use my product?**” Question to further segment it.
 - ▶ **What does “social level” mean**, and how can you be more specific?
 - ▶ **Which type and brand of smartphone** or providers of service?
 - ▶ **Which social networks?**

Source: **DISCIPLINED ENTREPRENEURSHIP**

Section 2 Contents



- DE Step 1: Market Segmentation
- Talking to Customers
- DE Step 2: Select Beachhead Market
- DE Step 3: Build End-User Profile
- **DE Step 4: Total Addressable Market (TAM) size of Beachhead Market**
- DE Step 5: Persona of the Beachhead Market
- DE Step 9 : Identify Your Next 10 Customers

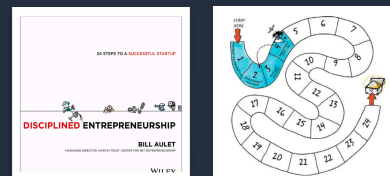
M. D. Dikaikakos

Goal

- It is important to start to **understand the size of the market you are targeting early**.
- You will modify this as time goes on, but it is wise to be **thinking about this point early on and develop at least a rough market size** to know you are heading in the right general direction.
- Approach:
 - ▶ Use the demographics from the End User Profile to determine **quantitatively how large your beachhead market is?**
 - ▶ Use this market size number **to determine whether you need to further segment the market to have a more appropriately sized beachhead market.**

Section 2b: Who is Your Customer?

Step 4: Total Addressable Market (TAM) Size for the Beachhead Market



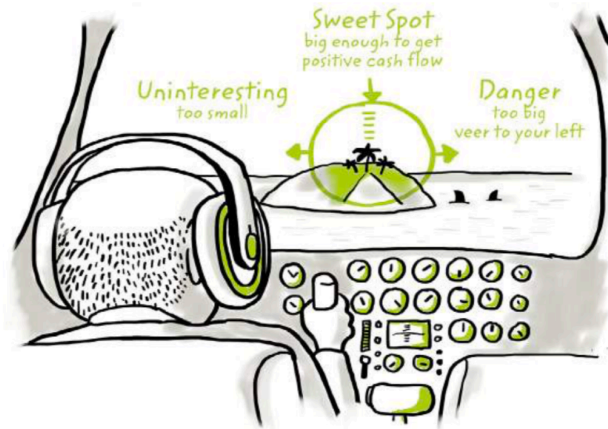
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Total Addressable Market (TAM)

- The TAM for your beachhead market is the **amount of annual revenue, expressed in dollars per year, your business would earn if you achieved 100 percent market share in that market.**
- To calculate the TAM:
 1. Determine **how many end users exist** that fit your End User Profile using a **bottom-up analysis** based on primary market research
 2. Complement this with a **top-down analysis** to confirm your findings.
 3. Determine **how much revenue** each end user is worth per year.
 4. **Multiplying** the two numbers results in the TAM.



*Beachhead TAM calculation
is your sanity check
that you are headed
in the right direction*

What is an expected TAM?

- You are looking for a market that is **big enough** for you to get to **critical mass**, develop **key capabilities**, and get to **cash-flow positive in the market**.
- However, **if the market is too big, you will likely not have sufficient resources to compete**, and as a result you may get overwhelmed and:
 - either not succeed
 - or have to raise money without much of a track record for potential investors to evaluate.

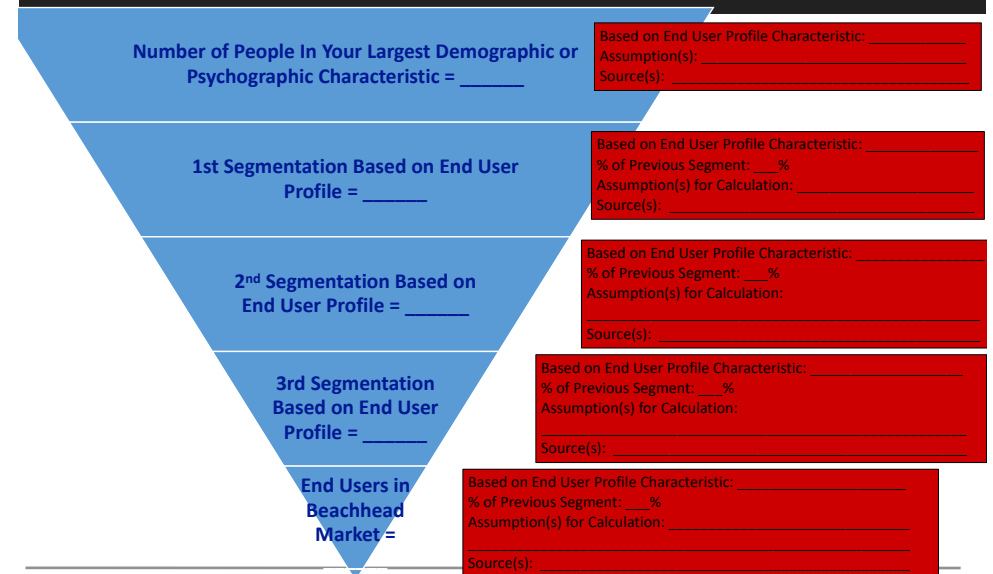


Entrepreneurs often tend to **inflate** the TAM with excessive optimism, but **a big number is not necessarily better.**

Bottom-up Analysis

- **Best way** to calculate the number of end users that fit your End User Profile.
- Use: Customer lists, trade associations, and other sources of customer information
- Identify numbers of:
 - Customers
 - End users with each customer
- Sometimes this is called “counting noses:”
 - you are getting very specific and you know where each potential customer is.

Top-Down Estimate of Number of End Users in Beachhead Market



The goal of the TAM calculation is **not to impress others**, but to develop a **conservative, defensible** TAM number that you have faith in.

Top-down Analysis

- Starts by using secondary market research (**market analysis reports**), to determine **how many end users meet different characteristics**.
- This data is usually expressed with an **inverted pyramid**:
 - Several horizontal levels;
 - Bottom-most level is the smallest - contains all end users who meet your End User Profile.
- Should be complementary to bottom-up analysis for two reasons:
 - ▶ In top-down analysis, you will often **overestimate** the number of end users in the market because you are not being as specific in your analysis.
 - ▶ Too much top-down analysis will lead you to **focus on spreadsheets, not customers**.

From End Users to \$\$\$

- Determine **how much annual revenue an individual end user is worth**.
- Multiply the revenue per end user by the number of end users to calculate the **TAM as dollars per year**.
- Make some assumptions about **how much a customer is willing to pay per end user**.
 - ▶ Base the number on the budgets of the potential customers you have identified.
 - ▶ **How much are they spending today** to accomplish what your product does?
 - ▶ **How much have they paid in the past** for other **new products**?
 - ▶ **How much value does your product create** for them?

Why TAM calculation is important?

- Determining the TAM is **a fundamental part of creating a successful product or service**.
- You will need to have a clear understanding of your market when presenting your idea or technology to others, such as advisors and investors, because they will expect you to present a TAM figure and explain your logic behind it.
- Do not spend an inordinate amount of time on the TAM calculation, because there will be other factors that influence your success as well, such as gross margin, speed, potential for dominant and sustainable market.
- You will likely come back and revisit the TAM calculation and modify it to make it more credible.
- You will also be very interested in the **growth rate of the TAM**. You would measure that using something called the **Compound Annual Growth Rate (CAGR)**.

What should your TAM be?

- If the estimated value of your TAM is **less than \$5 million per year**, it is possible that your new venture **has not identified a big enough beachhead market**, especially because entrepreneurs often inflate the size of their market and their expected market share.
 - ▶ **An initial TAM of \$5 million per year could be a successful business**, if you can capture the market quickly and convincingly, especially if the gross margins on your product would be very high (e.g., 90 percent - software, mobile apps, information-based business models) and you do not need a lot of employees to do it.
 - ▶ This could create positive cash flow from the market, which would be a significant accomplishment and a good beachhead market.
- Generally, a **TAM that is between \$20 million per year to \$100 million per year is a good target**. Anything **over \$1 billion certainly raises flags**.

SensAble Case Study



- A bottom-up analysis in a reasonable amount of time, helped count real customers:
 - ▶ Talking with a few toy companies
 - ▶ Determining how many other major toy companies there were, from generally available free data at the library.
 - ▶ Personal communication with staff at the Industrial Design Society of America who helped refine the list.



How many toy companies?



- Realization that toy companies existed in three different geographic regions—the United States, Asia, and Europe, leads to further segmentation of the market.

Table 4.1 SensAble List of Customers for Toy Industry

Europe	United States	Asia
<ul style="list-style-type: none"> • Synapse • Hasbro • Schleich • Playmobil • Mattel • Disneyland 	<ul style="list-style-type: none"> • Hasbro • Mattel • Fisher-Price • FP Brands • Creaata • Equity Marketing • Marketing Store • Gemmy • Gentle Giant • Whitestone 	<ul style="list-style-type: none"> • Bandai • Tomy • Unitec • Creaata • Hermon Industries • Luen Shing • Mattel • Hasbro • Equity Marketing



Source: **DISCIPLINED ENTREPRENEURSHIP**

How many industrial designers?



- Using good relations with the user base and built up trust and confidence, helped determine with high confidence how many industrial designers were at three customers.

- This data led to:

- ▶ Calculating the "**designer density**," the number of designers per thousand employees and the number of designers per million dollars of revenue.
- ▶ Making educated guesses about other companies where we did not have sufficient time or connections to "count noses."

- The same process was followed for the footwear industry.



Source: **DISCIPLINED ENTREPRENEURSHIP**

How many footwear companies?



FOOTWEAR INDUSTRY LIST OF CUSTOMERS

- | | |
|--|--|
| <ul style="list-style-type: none"> • Adidas (United States, Europe, Asia) • Nike (United States, Asia) • New Balance (United States) • Reebok (United States, Europe, Asia) • Fila (United States, Europe) • Ecco Design (United States, Europe) | <ul style="list-style-type: none"> • Stride Rite (United States) • Spalding (United States) • Rockport (United States) • Timberland (United States) • Wolverine (United States) |
| <ul style="list-style-type: none"> • Doc Martens (Europe) • Alsa (Europe) • Gabor (Europe) • Kurt John (Europe) • Clark (Europe) • Regra Design (Europe) | <ul style="list-style-type: none"> • Pou Chen (Asia) • Feng Tay (Asia) • ASICS (Asia) |



Source: **DISCIPLINED ENTREPRENEURSHIP**

Budget estimates



- Determine **how much budget per designer existed for each customer**, which required additional data as well as some assumptions and calculations.

- Started by looking at how much customers were spending today for a similar but inferior digital product, or what they were spending to simply get the job done without a digital product.

- Despite other costs the customer may incur, the focus on **how much the customer spends per designer is an easier data point to tabulate** and seemed to best represent market potential.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Budget estimates



- Each customer budgeted for a clay workbench for each designer, which when fully equipped, cost approximately **\$20,000 per bench** in the United States and Europe, with a **five-year replacement cycle**.
- Each customer also budgeted for a digital workstation and software for each designer that costs about **\$15,000** in the United States and Europe and had a three-year replacement cycle.
- Both of these costs would be displaced by SensAble's product. (We found that these two items often cost less for companies buying for designers based in Asia)
- We also included an **estimated annual growth rate**, based on our primary market research.
- While it did not directly affect the TAM calculation, it was a useful data point for future steps that we could easily collect during this round of research. Also, a positive growth number is a good indicator of a healthy market opportunity.



Table 4.2 SensAble Technologies Beachhead Market TAM Calculation

	United States	Europe	Asia
Industrial Designers/Sculptors (Toys)	1,500	1,000	1,000
Industrial Designers/Sculptors (Footwear)	750	500	500
Estimated Annual Growth Rate	8%	8%	8%
Primary Market Research:			
Price per clay workbench	\$20,000	\$20,000	\$15,000
Price per digital workstation	\$15,000	\$15,000	\$10,000
Life of physical clay workbenches	5 years	5 years	5 years
Life of digital workstations	3 years	3 years	3 years
Annual expenditure per designer (based on assumption that each designer would otherwise have both a clay workbench and a digital workbench, and we can replace them both with our offering)	\$9,000	\$9,000	\$6,333
TAM Calculation:			
Industrial Designers/Sculptors (Toys)	\$13,500,000	\$9,000,000	\$6,333,333
Industrial Designers/Sculptors (Footwear)	\$6,750,000	\$4,500,000	\$3,166,667
Total TAM for Beachhead (\$/year)	\$20,250,000	\$13,500,000	\$9,500,000

Reading Assignment



Read the article “How to calculate your total addressable market and make a great TAM slide for investors” by David Skok

- ▶ <https://www.forentrepreneurs.com/calculating-tam/>

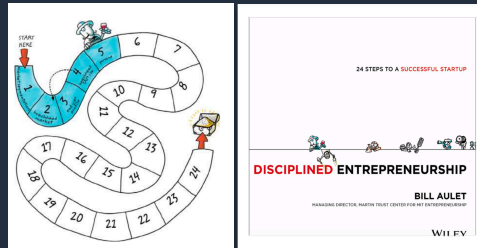
Section 3 Contents



- **DE Step 5: BH Market Persona**
- DE Step 6: Full Life Cycle Use Case
- DE Step 7: High-Level Product Specification
- DE Step 8: Quantify the Value Proposition
- DE Step 9 : Identify Your Next 10 Customers
- DE Step 10: Define your Core
- DE Step 11: Chart your Competitive Position

Section 2b: Who is Your Customer?

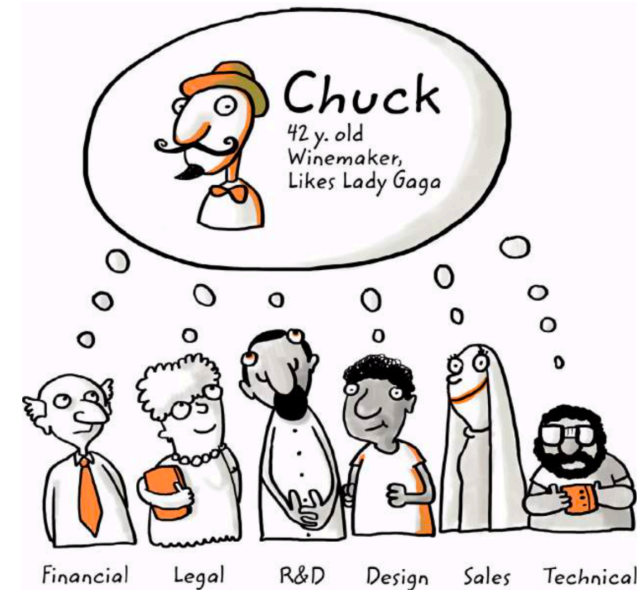
Step 5: the Persona for the Beachhead Market



Goals

- Choose **one end user** from one potential customer to be your Persona.
- Build a **detailed description** of that **real person**.
- Make the Persona visible to all in the new venture so that it gets referenced on an ongoing basis.

WHY DO YOU NEED A PERSONA ???



The Persona ensures that everyone is unambiguously focused on the same target.



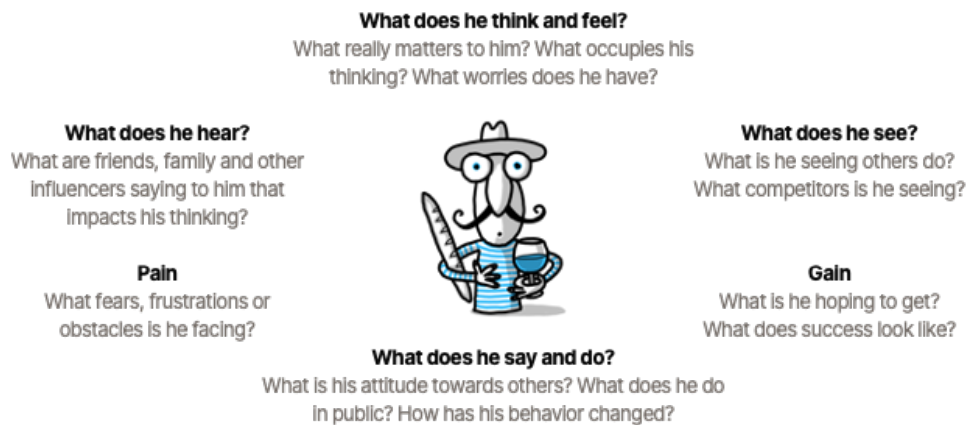
Who is the Persona?

- A person who **best represents the primary customer** for the beachhead market.
- One **end user** from one potential customer who best exemplifies your **End User Profile**.
- One who can **answer definitively all questions** about what your potential customers might want.
- While even a generic Persona can be helpful, it is best to push the process even further:
 - ▶ The Persona **should be a real person**, not a composite.
 - ▶ No one end-user represents 100% of the characteristics of every end user in your End User Profile.
 - ▶ But as you work toward defining the Persona, you will be able to find someone who matches the profile quite well. You will then focus your product development around this individual.

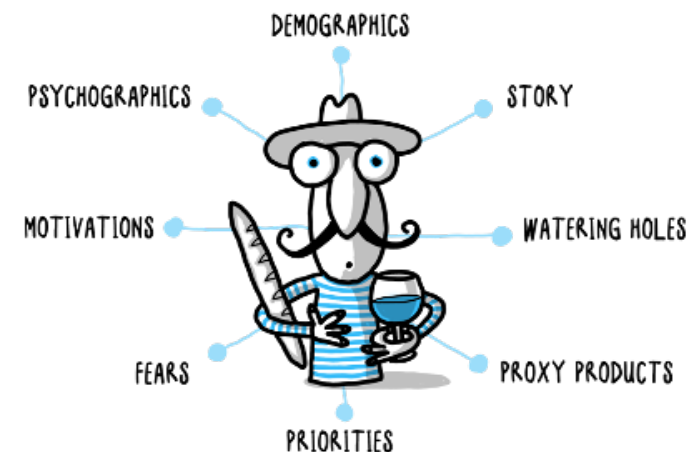
Key to Persona Development

- It must be a **real person**
- Be **visual**
- Understand all dimensions: **Rational**, **Emotional** and **Social**
- Err to start on side of too much detail & then take away
- Understand their **Priorities**
- **What do they fear most** in the world?
- **What motivates them more** than anything else?
- What **"water holes"** do they go to: i.e., where do they congregate with others like them?
- **Do this as a team** – it will help unify your team and will get everyone on the same (and proper) wavelength

Empathy Map



Persona





DEMOGRAPHICS

42, MALE, FRENCH, DIVORCED
LIVES IN BORDEAUX
MASTERS OF FINANCE
SMALL BUSINESS OWNER

PSYCHOGRAPHICS

STORY
BORN IN A WINEMAKERS FAMILY
STUDIED IN PARIS
WORKED IN CORPORATE FINANCE
CAME BACK FOR FAMILY
TAKING OVER FAMILY BUSINESS

MOTIVATION
PROVING THAT HE IS WORTH
INNOVATING WINEMAKING
WINNING WINE AWARDS AGAIN

FEARS
LACK OF FINANCING
CONFLICT WITH FAMILY
FAILING TO CHANGE COMPANY

WATERING HOLES

WINEMAKING FORUMS
THE WINEMAKER'S ASSOCIATION
SCHOOL ALUMNI CLUB
TRADESHOWS & FAIRS

PROXY PRODUCTS

APPLE PHONE, LAPTOP, HEADSET
WINEMAKING TECH
BUSINESS INTELLIGENCE TOOLS

PRIORITIES

FINALIZE AUDIT OF BUSINESS
DISCUSS PLAN WITH FAMILY
ANALYZE WINE TECH SUPPLIERS
GET FINANCING FOR WINE TECH

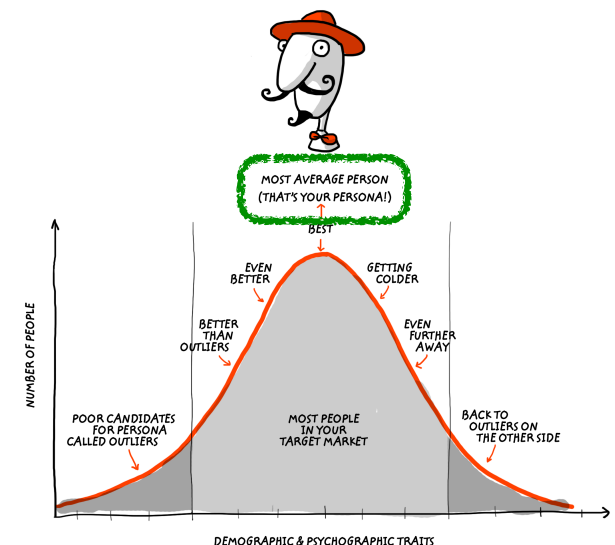
How to choose the Persona?

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Careers in EU
(MAI&CAREU)

- The process of creating a Persona is important: **involve all the key team members**, regardless of their role in the group.
 - ▶ Team members who are involved in the process will end up enjoying, embracing, and getting a lot of value out of the process of creating the Persona.
- Take the primary market research you have on **some of the most interested customers**, as well as the **End User Profile**, and discuss the pros and cons of making each customer the Persona.
 - ▶ Choose one to be the Persona - you might change it later as you get more information.
- **Don't spend too much time** worrying whether you have the perfect Persona
 - ▶ Just make your best guess and get the process started.



If you had only
one end user
to represent your
End-User Profile,
who would it be?



Mapping the Persona

- Prepare a **fact sheet** about the Persona, based on information you have.
- Include:
 - ▶ A **drawing or photograph** of the individual.
 - ▶ **Information** about the **person's life** (born, raised, education, family, age, etc.)
 - ▶ **Information** about the **person's job** (what company, how many years, training, managers, salary, performance metrics if a B2B case, etc.).
 - ▶ A list with the Persona's **Purchasing Criteria** in **Prioritised Order**.
- Be **specific**.
- Identify **key facts specific to your business** that you will want to include in order for the Persona to be useful to you.

Interviewing the Persona

- A list provided by the end user will get you started with the **purchasing criteria** and their **priorities**.
- After you have identified what facts you have and don't have, **interview the end user who is your Persona** again and fill in the gaps in what you know.
- **Beware!**
 - ▶ You **cannot necessarily believe everything** the end user tells you in an interview;
 - ▶ You should **validate what they say**. Often the end user actually believes what they are saying, but will in reality take very different actions
- Allow the **conversation to be open-ended**, because you will likely learn additional facts that are relevant to your Persona.
- Go beyond what Persona says; **carefully notice all the details** about her as well.
 - ▶ Is her desk organized?
 - ▶ Does she have pictures in her office?
 - ▶ What kind of clothes does she wear?
 - ▶ Are there particularly odd characteristics?



Prioritizing Purchasing Criteria

- **Prioritization** is very important: priorities dictate what purchasing decisions the Persona makes.
- **Crucial**: understand how your customer prioritizes their needs and wants.
- **Top priority** is:
 - The **concern** that keeps the **Persona awake at night**.
 - The thing that they either **fear the most** or **get most excited about**.
 - What will get them **fired** or **promoted** and often the **most visible thing** that could go right or wrong.

effort?			
Which does the Persona enjoy?			
Which does the Persona not enjoy?			
What makes it a good day for the Persona?			
What makes it a bad day?			
Who is the Persona trying to please the most?			
What is the top priority of the person/people the Persona is trying to please?			
Priorities:			
Priorities (what are your Persona's priorities – focus first on biggest fears, then biggest motivations – and assign a weighting to each so that it adds up to 100)	1. _____ Weighting: _____		
	2. _____ Weighting: _____		
	3. _____ Weighting: _____		
	4. _____ Weighting: _____		
	5. _____ Weighting: _____		
	Now, revisit the General Information Worksheet and update as needed, especially for items 3, 4, 6, and 7.		

NOTE: Persona Profiles for Multisided End User Market Requires All Sides

After the interview

- Add **information from the interview to the fact sheet** in another team meeting to make sure:
 - everyone is on the same page
 - no crucial details have been omitted or overlooked.
- Once you have finalized your fact sheet:
 - **summarize a few key areas on a sheet of butcher paper**
 - post it on the wall so that your team does not forget who they are in business for
- Some companies make a **cardboard cutout of the Persona** and keep it in the office.
- Other companies pull up an **electronic version of the Persona** when **making important decisions** in order to discuss what the Persona's perspective would be on the subject.

Persona Case Study



Silviu

35 y.o.
Alternative channels
manager (small bank)
Earns 2,500 EUR/mo

STORY: Energetic and ambitious.
Has a family, but is a social person.
Likes gadgets (Apple fan), motorbikes, and snowboarding.
Likes good wine & dining w/ friends.
Prefers doing business with people he likes.

GOALS: Go up the ladder (VP/CEO in 10 y).
Do something different/stand out.
Be appreciated for results.
His bank to become more competitive.

NEEDS: To get quick measurable results (customer loyalty & satisfaction).
To lower his costs.
To move faster/smarter than competitors.
To find a good technology partner.

PAINS: Large IT projects are expensive and take long time to implement.
Low competitiveness means more pressure (small bank).
Upper management doesn't understand the leverage of usable, user-friendly technology.

Figure 5.1 Making the Persona visual means everyone on your team will be more engaged in the process and will keep the Persona in the front of their minds.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Persona: More than an exercise

- The Persona should become a **touch point** as you think about decisions going forward.
 - What features should you prioritize and/or drop?
 - How should you allocate resources?
 - Who should you hire to sell the product?
 - What should your message be?
 - Who should you partner with?
 - Where do you go to meet your customers?
 - Who is influencing your customer's mindset on your product?
- The process of answering these questions starts to **bring alignment among the team** and **resolves misunderstandings** that are bound to occur **from imprecise communications**:
 - Once the Persona is done, it is also useful to maintain this alignment going forward.
 - If done effectively, it will help guide all kinds of decisions and create a consistent vision throughout the company.

Persona Example

- Chuck Kirby, Facilities Manager, IBM NE Data Center in Littleton, MA
- 20K Blade servers today growing at 15% per quarter for past two year and for the foreseeable future
- Second generation American
- Lives in Medford
- Medford High to Middlesex Community College
- Moved to Winchester
- Family with 2 kids (12, 15)
- Mid-career, many years at company, technical, maintenance focus, vocational degree
- Been in job for 5 years and seen three managers already
- Promotion path forward is to manage more facilities
- AFCOM, Uptime Institute, Green Grid, starting to read blogs (Hamilton & Manos)
- Ford 150 pickup truck, Beeper always on, volunteer fireman mentality
- Customers' Customer and Their Priorities (think mindset of a utility customer):
 1. Reliability, 2. Growth, 3. Costs, 4. "Greenness" – PUE

Persona Case Study



Table 5.1 Chuck Karroll Persona

Facilities Manager, IBM NE Data Center, in Littleton, MA

Environment	<ul style="list-style-type: none"> Now has just over 20K Blade servers today growing at 15 percent per quarter for the past two years and for the foreseeable future.
Personal Information	<ul style="list-style-type: none"> He is second-generation American (parents from Ireland). Born in Medford, Massachusetts. Medford High to Middlesex Community College. Moved to Winchester. Family with 2 kids (12, 15). Just turned 40 this year.
Career Context	<ul style="list-style-type: none"> Mid-career, 18 years at IBM and not looking to leave. He is technical in the technician sense, not the engineering development sense. He is maintenance-focused and his vocational degree is relevant. Has been in current job for five years and has had three different managers already but hopes to keep this job for next five years at least. Promotion path forward is to manage more facilities. Makes \$65K per year and has the potential for a 5 percent bonus at the end of the year, based on the unit's overall performance and his contribution as determined by his boss, the data center manager. Eligible for salary increase each year, based on his appraisal (can be between 0 and 12 percent). He has been consistently ranked a 1 or 2 (on a scale of 1–5 where 1 is the best) in his yearly performance review, with reliability and supporting the business unit's growth as two key metrics upon which he is rated.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Persona Case Study



Information Sources

- He prefers people to websites when he looks for information and answers to questions.
- Belongs to AFCOM (association for data center management professionals) and gets a lot of information from them, and especially likes to go to the Data Center World conference in early October each year in Las Vegas.
- Second-biggest influence is the Uptime Institute.
- Has started to look at Green Grid but not impressed.

Purchasing Criteria in Prioritized Order

1. Reliability (highest priority)
2. Growth (high priority)
3. Costs (medium priority)
4. "Greenness" (low priority—extra credit)

Other Noteworthy Items

- Also starting to get forwarded e-mail about a blog (Hamilton and Manos) that other influential facilities managers are starting to read, and he has recently bookmarked it himself
- Drives a Ford F-150 pickup truck and always buys American
- He wears a beeper that is always on
- Listens to country music
- He used to be a volunteer fireman and is proud of it. He makes level-headed decisions when there is a crisis, calling in his training to act fast and put out fires

Source: **DISCIPLINED ENTREPRENEURSHIP**

Persona Case Study



Table 5.2 Ed Champ Persona

Name	Ed Champ
Title	Sculpting Manager, Boys' Toys R&D, Hasbro, Pawtucket, Rhode Island
Age	40 (he is about 10 years older than the developers he hangs out with; but he fits in well with the group and is thought to be one of the guys—they are almost all guys—even though he is their supervisor)
Income	\$73.5K (he is the highest paid in the group, by a good margin, due to his seniority; he has been at Hasbro in this location for 14 years and has been a top performer and promoted through the ranks)
Schooling	Missouri State University—Bachelors of Fine Arts & Science: Sculpture and Anatomy (he secretly admires Rhode Island School of Design—RISD—graduates but that is not how he got here)
Personal	Has a girlfriend, but no talk of marriage; he seems to be married to his job. He has a child from a previous relationship, but the child does not live with him; many of his friends are gay.
Career Promotion	It is very unlikely he will get further promoted as he does not like management and it is not his forte. He hopes to make more money to keep up with inflation, but mostly he just loves his job and living in Rhode Island with creative types—and at his age, the job security is good.
Industry Associations	A very strong and active member of IDSA (Industrial Design Society of America) above all else. There are local meetings which he looks forward to. These can be epic, in part because of the relevant content, but even more so because he gets

Source: **DISCIPLINED ENTREPRENEURSHIP**

Persona Case Study



Music

to hang out with people from RISD, Pasadena Arts Center College of Design, and the like, and talk into the night about the latest in art and design. There are national meetings as well, and he sometimes he goes to the big SIGGRAPH conference (often held in Los Angeles) where there are some great parties.

Socializing

His group listens to technopop artists like Thomas Dolby; while he is not wild about it, he likes it.

His social life often revolves around his work. He likes to hang out with designers; but they don't have much money so when they go to bars, they drink wine (but not beer) and sip whatever drink they get so that it lasts. They have little disposable income so they have to be very careful to not blow money. Interestingly, they are more likely to do designer drugs (e.g., ecstasy) than to lose control by getting drunk. At the bars they go to in Providence, he and his friends often wear all black. It is also common for them to have body piercings, wear jewelry, and have discreet tattoos. But always, their life revolves around art and talking about art.

Heroes

Milton Glaser, John Lasseter (Disney & Pixar), Steve Jobs

What Gets Him Motivated

Making great products and seeing them get to market with his design intent.

What He Fears Most

1. Having to leave Hasbro because it is bought or something worse. This is not true for the other designers, but unique to him.
2. Putting out a product that he feels is crap because he ran out of time to get it done right.
3. Having his design intent ruined by the engineers after he sends it on to them.

Priorities

1. Time to market.
2. Being able to express his design intent.
3. Being assured his design intent is not lost when engineers get ahold of it.

Source: **DISCIPLINED ENTREPRENEURSHIP**



Focus on your one Persona!



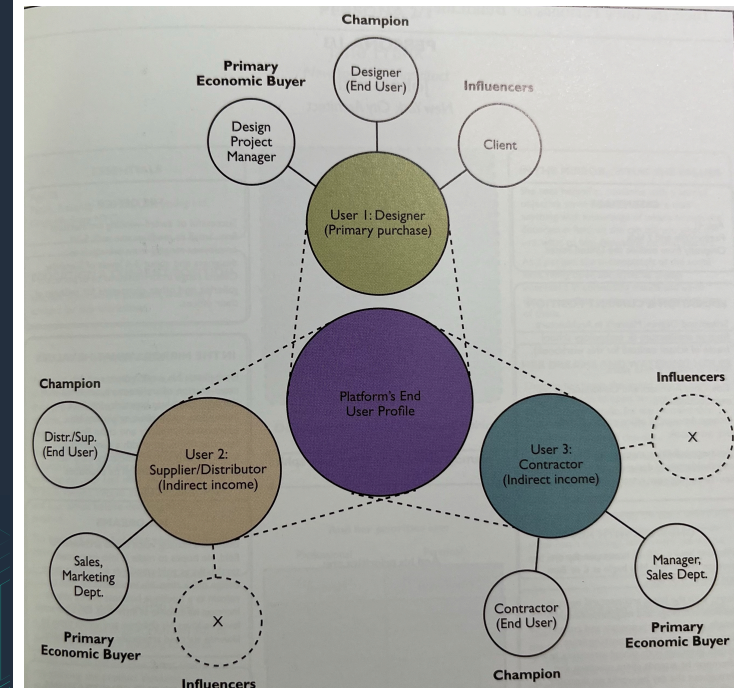
WHAT ABOUT MULTI-SIDED MARKETS?

What about multiple Personas?

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

- When your company aspires to address a **two-sided market** you should actually start out with **two Personas**:
 - ▶ Your core business is two-sided markets; you need **one Persona / market**.
- For example:
 - ▶ When eBay first started its auction site, it would have had one Persona for a **buyer** and a completely different Persona for a **seller**.
 - ▶ Google, at the beginning, should have had one Persona for its **target search user** and another Persona for its **target buyer of advertisements**.
- Google and eBay are so large today that they have many personas to match the many areas of their business, and entrepreneurs sometimes like to point to the two companies as reasons why startups too can have multiple personas.
 - ▶ However, large companies have the resources to cover multiple markets and use multiple personas.
 - ▶ You do not have this luxury, so don't be led astray by what large companies do with personas.

BuildLine case study: designers, contractors, suppliers



Source: **DISCIPLINED ENTREPRENEURSHIP**

**BuildLine case study:
designers,
contractors, suppliers**



PERSONA 2/3
Jane Frank
New York City Architect

ESSENTIALS
Age: 35
Family: Wife and 2 kids
Originally from NYC.

EDUCATION & CURRENT POSITION
School/major, current position, and salary omitted for this workbook.

HER OFFICE
Works in the brand's flagship store. Designers and clients from all over the city come to see their products. She manages the Bathroom section, where there are two other employees.
She receives the people and presents the collection, then she derives them to others, who repeat over and over the characteristics of each variant. People come between one and four times before deciding about a product.
She needs to push for sales, and keep up with trends.

ONE WEEK WITH HER
Typical day: (10am to 8pm, Mon-Sat) 50% of time at her desk, 50% speaking to clients.
Events outside the routine: items renovation, reorganizing the product exhibition, organizing sales campaigns. A lot of fairs...
Typical weekly objectives: sell, sell, sell. Manage stock.

IN THE MIRROR...WHAT SHE VALUES
She sees herself as someone with a sort of objective sense of taste, but more than anything with knowledge of what's next in the decoration field, so she can tell you what to use, what to buy, depending on who you are.
As a person, she is completely of the social kind, really open and dynamic always interested in consuming trends and up to date, more than in deeply understanding any of them.

HER DREAMS AND WATERING HOLES
Deep in her heart, she would love to apply that taste sense to open her own store or interior design studio, for the moment this paycheck seems logical, and she can also do that on the side, until one day...
Anyway, that dream does not prevent her from sleeping. This aspect is important, but as much as having fun, having a family and keeping in contact with trends.
Waterholes are generally the place where she mixes with admired people: design exhibitions, show room openings, fairs, where she works, and any related ones.

ALSO FEARS AND FRUSTRATIONS...
This job is quite active, but not as creative as she can be. Will staying here mean renouncing or losing some of her capacities? And on the other hand, she cannot quit like that... Any other design option is risky.
Family and friends are very important, anything that contradicts that seems inappropriate.
Finally, her environment is quite a high-end one. She fears not keeping up with the page in that job.

Demographics, facts + Psychographics

And her priorities are:

Professional	Personal
Sell, sell, sell. Capture clients, if they are not individuals, better.	Family and friends.
Maintain high presence in the field's events.	Image, relation with the right people, a door to her dreams.
Keep up with stock and showroom.	Income.

PHOTOGRAPH: Photograph of her goes here (omitted for this workbook)

Source: **DISCIPLINED ENTREPRENEURSHIP**

**BuildLine case study:
designers,
contractors, suppliers**



John Smith
New York City Architect

ESSENTIALS
Age: 41
Family: Wife and 2 kids
Originally from outside the United States.

EDUCATION & CURRENT POSITION
School and Degree: Master's in Architecture from an architecture or technology school (name of school omitted for this workbook).
Years in industry: 4-15 years.
Title: Chief Architect and Co-founder of his own boutique firm.
Income: Amount of office profit omitted for this workbook.
Key responsibilities: manage project, stakeholders, lead designer and visionary, source and approve contractors & suppliers

ONE WEEK WITH HIM
Working hours: 10-12 hours per day on average. Typical day: May begin at 6 or 8am and end at 6 or 8pm.
Starts with the latest architectural news in publications, blogs, and magazines. Answers emails, reviews new proposals and current project statuses, attends morning team update meetings with senior associates. In the afternoon he attends client meetings and throughout the day he works on sketches, software drawings, fields phone calls, checks in on consultants, contractors and suppliers for progress.
Summary of typical weekly objectives/tasks:
Review and approve proposals.
Lead sketches and virtual drawings for the client.
Make decisions in existing projects to move through phases.
Check in with key stakeholders and progress of materials and projects.

HIS OFFICE
Successful or award-winning architectural firm. Small to medium size with 5-20 employees ranging from principals to designers and about 3-4 levels of hierarchy. Clients range from museums to airports, galleries, and other companies for redesign of their offices.

IN THE MIRROR...WHAT HE VALUES
He believes his work happens at the cross-section of architecture, academia and the arts. He values creativity, intellect, innovation, and artistic originality. He appreciates simplicity and clean lines. Functionally elegant with a non-obtrusive form. He also values efficiency, hard work, and passion in the design he produces.

HIS DREAMS
Become a leading voice in the architectural field. He hopes to make it into renowned textbooks as gold standards for architectural design of his time. He would like his firm to remain as a boutique business but be able to increase its income at little cost. On a personal level, he loves his children, and wants them to likewise succeed artistically and intellectually.

ALSO FEARS AND FRUSTRATIONS...
Lack of stable work for his firm and not being able to provide for staff and family.
Frustrated with the increasing cost of and time spent finding and securing contractors and and time constraints with clients.
He fears erosion of margins on his projects as clients begin negotiating harder on his fees.
Frustrated with the lack of trust and quality of his collaborators, risking his own reputation.

Demographics, facts + Psychographics

And his priorities are:

Professional	Personal
Quality designs within budget and time	Family, Wife and kids.
Recognition in industry and academia (nice projects).	Intellectually keeping abreast.
His staff	Health and wellbeing

PHOTOGRAPH: Photograph of him goes here (omitted for this workbook)

Source: **DISCIPLINED ENTREPRENEURSHIP**

**BuildLine case study:
designers,
contractors, suppliers**



PERSONA 3/3
Peter MacDonald
New York State Contractor

ESSENTIALS
Age: 45
Family: Wife and 2 kids (ages omitted for this workbook).
Originally from upstate New York.

EDUCATION & CURRENT POSITION
School/major, current position, and salary omitted for this workbook.

HIS OFFICE
His office is half in the construction fields, half in the company headquarters. He is pretty much on the phone every day at every moment, managing people and fighting to keep risk under its limits. He decides everything—the sales, the relationships, the subcontractors...
He has three employees who are direct collaborators, who can strongly influence his decisions: the crew and materials coordinator, the 2nd chief engineer, and the budget manager. The rest are interpreting drawings, sourcing materials and people, and bidding constantly.

ONE WEEK WITH HIM
Construction works starts early (7am) in the morning, and can go until very late. Usually has several important field visits per day. He moves in a pick-up from building sites to clients' offices, to product factories, etc.
Events outside the routine: every day there is one issue to solve. But bidding is the most important moment, where everything needs to be played at one time.

IN THE MIRROR...WHAT HE VALUES
He is a "doer" with a fairly high amount of technical expertise. He is a simple person, with a certain taste for craftsmanship. He can find a point of connection with designers through it, although he does not really understand what's the point on worrying so much for minor or overcomplicated things. Overall he has a sense of practicality, which he puts on top of every decision and work he makes.
Although he likes his work and he needs it to feel alive, he is not extremely attached to what he does, apart from the sense of pride of well-done work.
His family is the most important thing.

HIS DREAMS!!!
Making his company grow. Working in bigger and bigger challenges.
Finding works that are different to what everybody does.
Becoming a recognized working expert in some particular field of construction.
A house for vacations in a beautiful countryside landscape. And a future for his family.

ALSO FEARS AND FRUSTRATIONS...
Professionally, he fears three types of risk:
• Risk for underpricing a work in a bid—losing money.
• Risk for technical problems which imply overexpenses.
• Risk for his or his workers' health. In the construction field, accidents can happen very easily.

Demographics, facts + Psychographics

And his priorities are:

Professional	Personal
Getting new works. Winning bids.	Family, Wife and kids.
Finding and managing the right people (subcontractors).	Wealth. Not excessive, but to maintain a fairly good life.
Reducing risk as much as possible.	Doing interesting work.

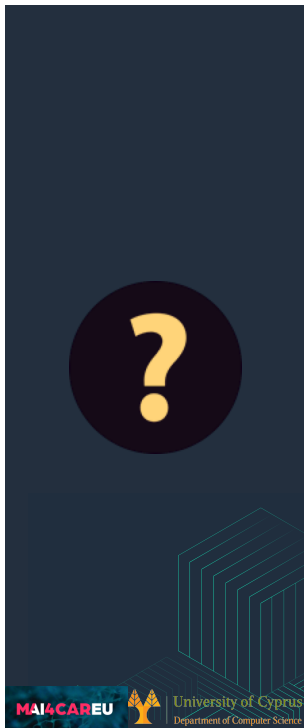
PHOTOGRAPH: Photograph of him goes here (omitted for this workbook)

Source: **DISCIPLINED ENTREPRENEURSHIP**

What no to do

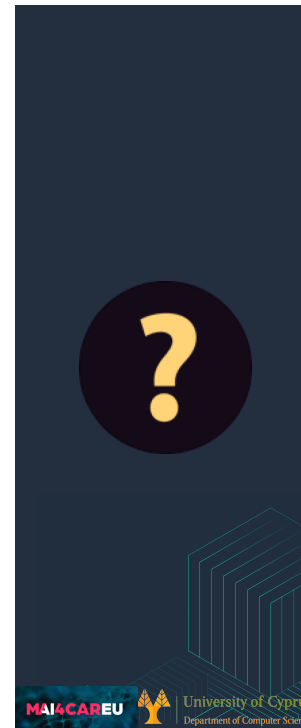
- The Persona exercise can even be extended to make personas who you explicitly decide **not to serve**.
- Such an exercise can help you to focus and not distract your precious resources.
- You can even talk about how you handle these customers and efficiently redirect them.
- It is very hard and takes practice for entrepreneurs to turn away business, but it is exactly that type of focus that will allow you to build a scalable and profitable business.
- Often in entrepreneurship, your success is determined as much by **what you do not do** as by what you do.





SOME QUESTIONS TO UNDERSTAND THE CONCEPTS

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WHICH ADVERTISEMENT WILL BE MORE EFFECTIVE TO GET PEOPLE TO DONATE MONEY?

M. D. Dikaiaikos

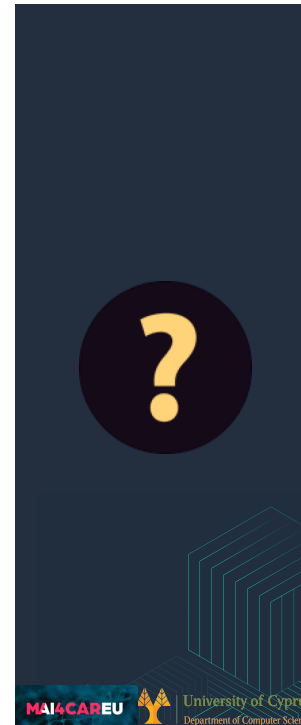


Ad #1: Data-driven

- 795 million ppl w/o enough food
- Developing countries: 12.9%
- 3.1 million deaths for kids under 5
- 66 million primary school students go hungry
- \$3.2 billion is needed
- Won't you give to this cause?

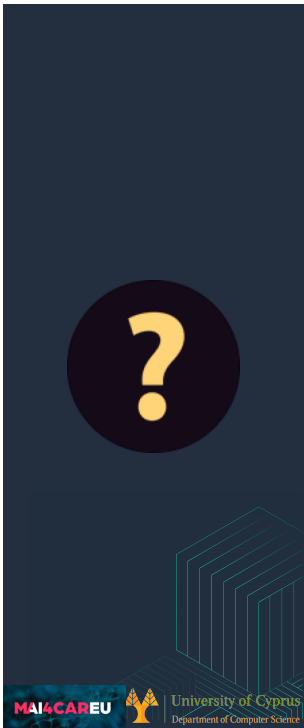
Ad #2: Story-driven

- Raj Shah – 12 years old, lives in New Delhi, works mornings & evenings to support mother, Anjali, who is sick with diabetes & still has to take care of her parents with limited mobility
- His younger sister, Tanya, is 7
- Going to school but is lethargic & has hard time focusing in school
- Raj has barely eaten for 3 weeks & it is to the point that if he does not get a good meal in the next 2 weeks lots of very specific bad will happen
- There are 66 million people like Raj
- Won't you give \$50 to help him help himself and his family?



WHY?

M. D. Dikaiaikos




WHAT IS A BIGGER CHALLENGE FOR A STARTUP?

M. D. Dikaikakos



Problem A

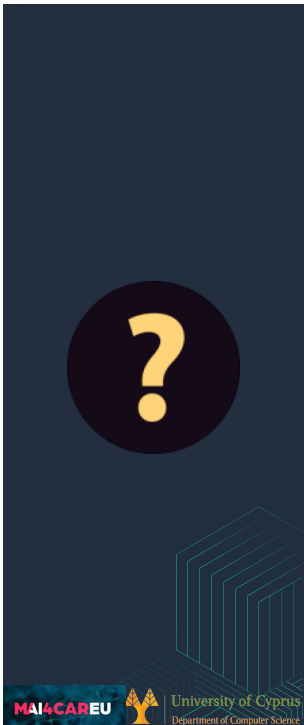
Having enough time to research and figure out the best strategy

- a. 
- b. 
- c. 

Problem B

Motivating people to keep making progress so you can generate momentum and convince others to join

206 Source: **DISCIPLINED ENTREPRENEURSHIP**



PERSONA OR NOT?

WHEN YOU SEE A SPOKESPERSON FOR A PRODUCT, ARE THEY LIKE THE PERSONA?

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Is She the Persona?



Is He the Persona?



208 Source: **DISCIPLINED ENTREPRENEURSHIP**





**NOT PERSONAS BUT
ASPIRATIONAL FIGURES:
INSPIRE AND ATTRACT THE
REAL TARGET CUSTOMERS**

Video Assignments



- **How to Run a User Interview? by Emmett Shear, Y Combinator (2014)**
▶ <https://youtu.be/qAws7eXItMk>
- **How to talk to users? by Eric Migikowski, Y Combinator (2019)**
▶ <https://www.startupschool.org/videos/63>
- **How to do a user interview? by Konstantinos Kazakos, Google Ventures (2016)**
▶ <https://www.youtube.com/watch?v=Qq3OiHQ-HCU>

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**Master Programs in
Artificial Intelligence
for Careers in EU
(MAI4CAREU)**

Module 4: Disciplined Entrepreneurship

Section 3: What can you do for your customer?

Section 3 Contents



- DE Step 5: BH Market Persona
- **DE Step 6: Full Life Cycle Use Case**
- DE Step 7: High-Level Product Specification
- DE Step 8: Quantify the Value Proposition
- DE Step 9 : Identify Your Next 10 Customers
- DE Step 10: Define your Core
- DE Step 11: Chart your Competitive Position

Learning Objectives



After attending this module, studying its case studies and reading assignments, and watching suggested videos you should be able to:

- Be able to develop a full life cycle use case for your product.
- Produce a high-level product specification.
- Quantify your value proposition.
- Apply the process to find your next 10 customers and understand what you get out of this.
- Define the Core of your value proposition.
- Chart your competitive position.
- Understand and apply methodologies for exploring customer needs.
- Understand and apply Lean methodologies for defining your value proposition.
- Re-work on your idea applying the Lean Startup principles explored earlier.
- One-to-one mentoring about your idea.

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Step 6: Goals

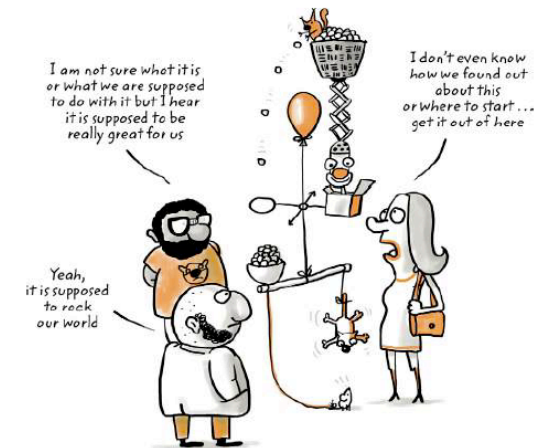
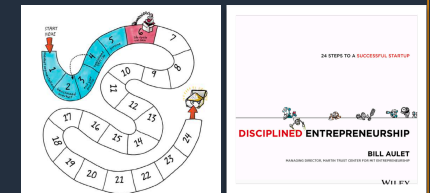


- Describe in detail how your Persona finds out about your product, acquires it, uses it, gets value from it, pays for it, and buys more and/or tells others about it.
- Understand why this expanded use case is important to identify and resolve problems in the most timely and cost-effective manner.
- Gain additional clarity and alignment throughout your team by detailing the various aspects of the Full Life Cycle Use Case.

M. D. Dikaiaikos

Section 3: What can you do for your Customer?

Step 6: Full Life Cycle Use Case



Building a Full Life Cycle Use Case further focuses the discussion on what specifically your product will do for your customer . . . and what your customer will do with it.

Using the Persona

- The **Full Life Cycle use-case** determines how your product **fits** into your **Persona's value chain**.
- The Full Life Cycle Use Case should include:
 - ▶ how the customer would **use** the product,
 - ▶ the **acquisition** (including the payment for the product)
 - ▶ post-installation **support** processes.

Key factors of Use Case

1. How end users will **determine** they have a **need** and/or **opportunity** for your product?
2. How they will **find out** about your product?
3. How they will **analyze** your product?
4. How they will **acquire** your product?
5. How they will **install** your product?
6. How they will **use** your product?
7. How they will determine the **value gained** from your product?
8. How they will **pay** for your product?
9. How they will **receive support** for your product?
10. If and when the user would **purchase** your product **again**?
11. If and how they will **spread awareness** (hopefully positive) about your product?

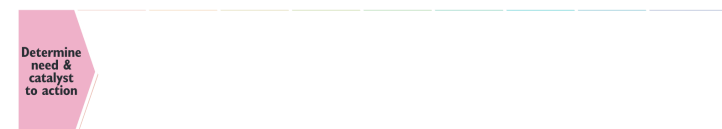
Use primary market research and see your product through the eyes of the customer!

How to?

- Start by **mapping** out the process from **beginning to end** for your **Persona**.
- Check to see if it is *consistent* with other potential customers as well.
- Advice:
 - ▶ **Easiest way to start** is by mapping out **how your Persona uses the product** once it is acquired.
 - ▶ From there, map out the **acquisition** and **post-acquisition support** cases.

Stage 1

10 Stages of Full Life Cycle Use Case



Stage 2

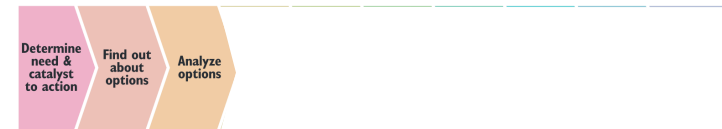
10 Stages of Full Life Cycle Use Case



221 Source: **DISCIPLINED ENTREPRENEURSHIP**

Stage 3

10 Stages of Full Life Cycle Use Case



222 Source: **DISCIPLINED ENTREPRENEURSHIP**

Stage 4

10 Stages of Full Life Cycle Use Case



223 Source: **DISCIPLINED ENTREPRENEURSHIP**

Stage 5

10 Stages of Full Life Cycle Use Case



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Stage 6

10 Stages of Full Life Cycle Use Case



Stage 7

10 Stages of Full Life Cycle Use Case



Stage 8

10 Stages of Full Life Cycle Use Case



Stage 9

10 Stages of Full Life Cycle Use Case



Stage 10

10 Stages of Full Life Cycle Use Case



What to include?

- Outline the customer's **current** workflow:
 - ▶ Be visual
 - ▶ Use diagrams, flowcharts, or other methods that show sequence (UML).

Case study: Satisfier



- The hospitality industry (hotels, restaurants, entertainment venues, etc) lives and dies by the quality of their customer service.
- Regional managers with many locations to oversee:
 - ▶ Need to guarantee the satisfaction of a large number of customers.
 - ▶ Look constantly for tools to more accurately and rapidly measure customer satisfaction for their specific environments.

Case study: Satisfier The idea



- Take advantage of smartphones to provide **real-time survey feedback for businesses**.
- Primary market research determined that:
 - ▶ the quickest and most capital-efficient way to get their company off the ground would be targeting **a specific group of food service companies that served universities**.
- Team's idea:
 - ▶ Create posters with a picture of the food offerings available on each day and put it at the exit of the eating establishment
 - ▶ Under each picture put two **QR codes** that allow the consumer to easily register either their **approval** or **disapproval** of a food option.
 - ▶ In such a scenario, the food service companies could get instant feedback on their menu.

Mini Use case "How Will They Use Your Product?"



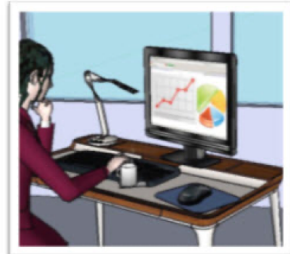
1) Management creates one or more surveys on Satisfier's website



2) Banner/flyer is placed on a key location



3) Customers rate their experience using smartphones



4) Results are immediately available on Satisfier's website

Way forward

- Build out the front and back ends.
- Explore how does the customer?
 - ▶ Find out about your product and
 - ▶ then decides to bring it in for a test;
 - ▶ pay for your product;
 - ▶ get service for it, and
 - ▶ ultimately help generate a following for your business by buying more products and/or generating word of mouth for your company

Benefits of mini use case

- It is an **easily understood** segment of the Full Life Cycle Use Case
- Can be presented to potential end customers for **feedback**.
- Team needs to **think through how its product would be used** by the customer to **create value**.
- The example **forced the team to be specific** about many things:
 - ▶ **What their product was** (from Step 7 of the methodology)
 - ▶ **Who the Persona was** (from Step 5)
 - ▶ **Key people and roles they needed to consider**
 - ▶ **How everything interacted and how the entire story would play out?**
- Generates **common understanding** and **alignment** regarding the problem being solved and how their product solved it.

A More Robust Case Study: FillBee

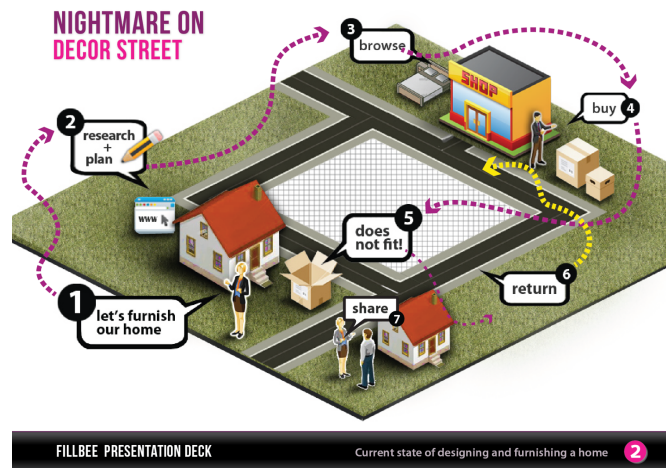


- Aspiration: Revolutionize the furniture shopping experience by **making it possible to see what any combination of furniture in your home would look like** before you buy it.
- Idea: Through a **sophisticated 3D rendering** platform that takes in the dimensions of your house or apartment, a 3D world is created where the user can use a computer to try out different pieces of furniture before purchase.
- What often works conceptually **does not work in reality**.

FillBee Case Study



- Developed by mapping the Persona's perspective on how they currently shop for furniture



Source: **DISCIPLINED ENTREPRENEURSHIP**

FillBee: Full Life Cycle Case Study



FillBee worked through many visual iterations with a multidisciplinary team to arrive at the conclusion that:

- A primary pain point in the furniture acquisition process is that **the furniture sometimes does not fit in the user's home** and has to be **returned**.
- Working backward, they identified “**research + plan**” as the step where improvements can be made regarding **measuring rooms** and **furniture**.
- FillBee's product condenses certain steps, such as “research + plan,” “browse,” and “buy” into **one online process** rather than a **combination in-person/online process**.

Source: **DISCIPLINED ENTREPRENEURSHIP**

FillBee: Full Life Cycle Use Case



- In the “*how they will use your product*” step, the FillBee team demonstrates using lots of details how their buyer Persona would use the product in **each step of the process**.
- The more detail provided, the easier it will be to **find weaknesses** or **flaws** in the plan, based on knowledge of the Persona.
 - ▶ The deeper your knowledge of the Persona, the better it will be for your analysis.
- This analysis should increase your confidence level and will be much more cost-effective than trying to fix the problems later on.
- Note: FillBee customers are both **furniture buyers** and **furniture sellers**:
 - ▶ A Full Life Cycle Use Case is required **for each side of the market**.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Multiple Initial Set-Up Options Aimed at Ease of Use

To get started, Consumers can:

- 1.) Start with standardized room shape templates
- 2.) Enter the dimensions of their room
- 3.) Start with a pre-loaded room layout
- 4.) Upload 2 pictures of their room
- 5.) Upload a 360° video of their room

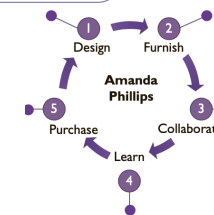


Figure 6.3 FillBee's Amanda Phillips Use Case; good but still missing some upfront and backend elements.

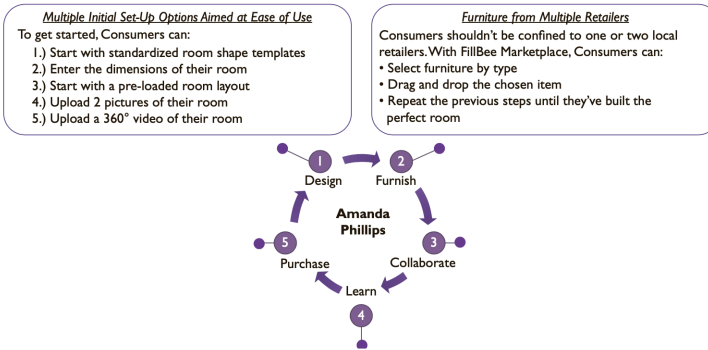


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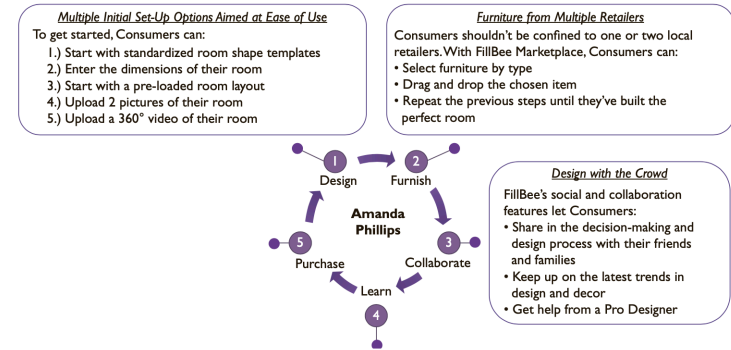


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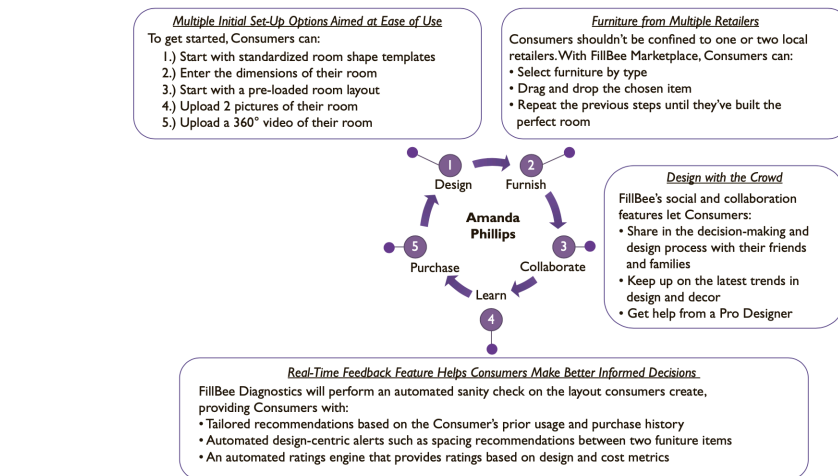


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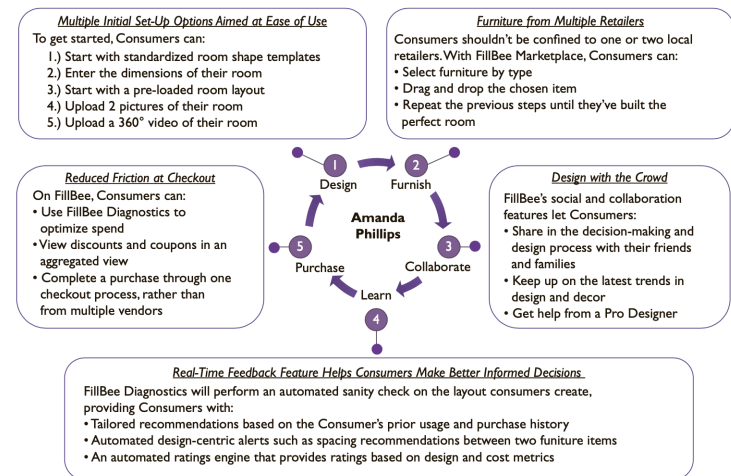


Figure 6.3 FillBee's Amanda Phillips Use Case; good but still missing some upfront and backend elements.



- Creating a visual representation of the **full life cycle of your product** enables you to see how the product will fit into the customer's value chain and what barriers to adoption might arise.
- Just showing **how the customer uses the product** (the typical definition of "use case") will **not provide an accurate enough picture** to fully understand what obstacles will come up when trying to sell your product to your target customer.

Current situation

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WORKSHEETS

Sketch of How the End User Currently Solves The Problem (or Doesn't)

How AI could transform this?

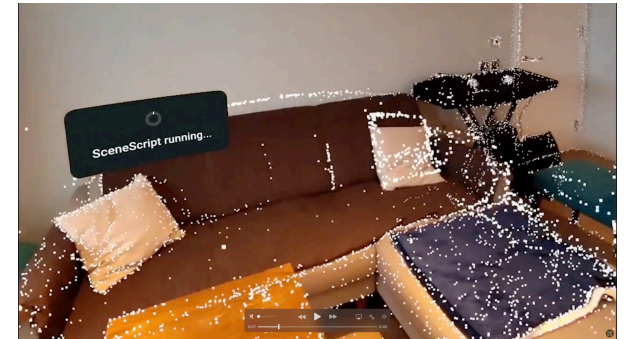


Large Language Models

Introducing SceneScript, a novel approach for 3D scene reconstruction



March 20, 2024



<https://ai.meta.com/blog/scenescript-3d-scene-reconstruction-reality-labs-research/>

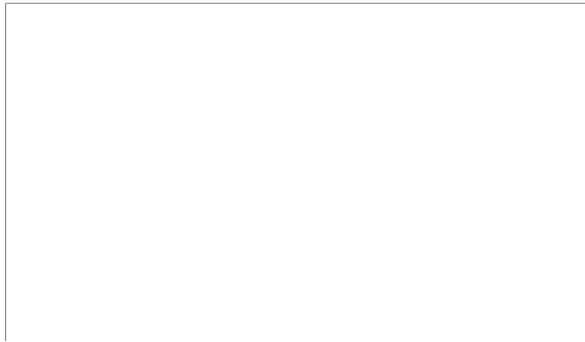
Full Life Cycle Use Case Worksheet << NOTE TO TYPESETTER: MAKE THIS LANDSCAPE / FULL PAGE >>

Stage #	1	2	3	4	5	6	7	8	9	10
Action	How do they determine need & what is their catalyst to take action?	How do they find out about their options?	How do they analyze their options?	How do they acquire your product?	How do they pay for your product?	How do they install or set up your product?	How do they use and get value out of your product?	How do they determine the value they gain from your product?	How do they buy more of your product?	How do they tell others about your product?
Who is involved										
When										
Where										
How										
Misc.										

How will the End User Use Your Product?

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Sketch of How the End User Will Use Your Product



Reflection on Full Life Cycle Use Case

1. Looking at these worksheets now, where do you see the gaps in your understanding?

2. How do you intend to fill those knowledge gaps?

3. Which stages of the Full Life Cycle Use Case are you most concerned about as posing risks to the adoption of your new solution?

You have completed your first draft of the Full Life Cycle Use Case! You are probably at least a bit uncomfortable with some aspects of it, and that's understandable; plan to circle back to it as you complete additional steps and gain more understanding. But let's keep moving forward and start to define what your product would be within this overall context.

249 Source: **DISCIPLINED ENTREPRENEURSHIP**



Section 3 Contents



- DE Step 6: Full Life Cycle Use Case
- **DE Step 7: High-Level Product Specification**
- DE Step 8: Quantify the Value Proposition
- DE Step 9 : Identify Your Next 10 Customers
- DE Step 10: Define your Core
- DE Step 11: Chart your Competitive Position



M. D. Dikaikakos

250 Source: **DISCIPLINED ENTREPRENEURSHIP**

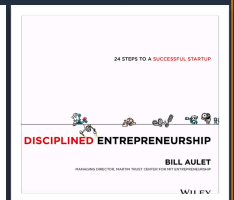
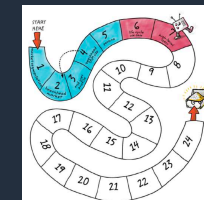


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Section 3: What can you do for your Customer?

Step 7: High-Level Product Specification



Goals

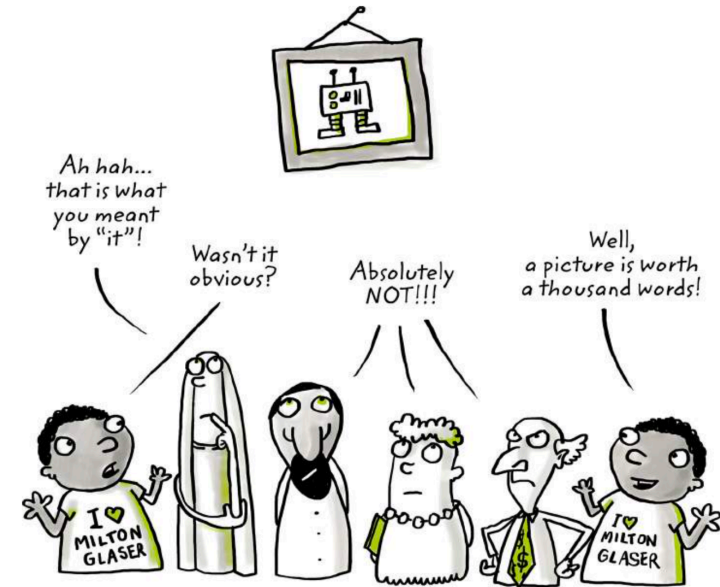


- Create a **visual representation** of your product.
- Focus on the **benefits of your product created by the features** and **not just the features**.

What is your product?

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- So far, you have defined your customer, what they need, and how they will use what you want to sell them.
- However, **the actual details of the product are still rather fuzzy**.
- You are already at Step 7 and only now beginning to outline **what your product will look like**.



Defining the High-Level Product Specification at this time ensures that it is more focused on your target customer and also that everyone agrees on what "it" is.



ISN'T THIS TOO LATE IN THE PROCESS?

Why not earlier?

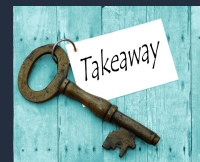
- If you start by defining the product rather than learning about your customer, your product **will likely not connect with customer needs**.
- Even if you believe you know what the product should be, **always start with the customer needs and work your way back**.
- This way, you are **tailoring your product to the specific beachhead market**, rather than trying to force a product on a market.

High-level Product Specification

- A H-L Product Specification is, at its core, **a drawing**.
 - ▶ A visual representation of what your product will be when it is finally developed, based on what you know at this point of the process.
 - ▶ It is something you draw **without understanding all the underlying details**.
 - ▶ The exercise of drawing a picture of what your product will be, forces **convergence** on a team and **removes misunderstandings**.
 - ▶ This simple visual representation of your product can now also be **shared with potential customers**, immediately generating an unambiguous understanding of your product.



WHAT IS A HIGH-LEVEL PRODUCT SPECIFICATION?



**High-level Product Specification:
You are not selling the product!
You are merely iterating with
customers so that you
more thoroughly understand the
strengths and weaknesses of your
product specification**

Do not build now

- At this stage, the product does not have to be built
 - ▶ To avoid unnecessary costs and something that your team is too attached to.
- Keep it high level and don't get distracted.
- Product specification will change over time and be refined.

Make a brochure

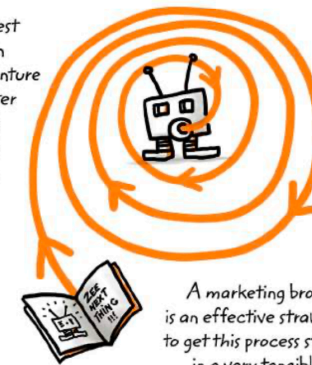
- At this point, you can make a brochure for your product, to:
 - ▶ Help you see your product from the customer's point of view
 - ▶ Provide you with a concrete "straw man" to test with your customer.
 - ▶ Force you to see your new venture from your customer's vantage point, in their words.
 - ▶ To validate your ideas and learn if you are on the right track.
- Target the brochure at your Persona, and draw on the work you have done in the Persona and Full Life Cycle Use Case steps (Steps 5 and 6) as well as the visual representation of the product that you have already created.
- Note: Often, when entrepreneurs begin to write down features, they become too inwardly focused. Creating a brochure helps to avoid that pitfall.

Extending the specification

- The process of identifying and outlining your High-Level Product Specification is strengthened by:
 - ▶ Describing the various features of your product
 - ▶ Explaining how these features translate into function
 - ▶ Describing the benefits your customer gains from each feature
- Always be specific about what you are offering, and how each component of the offering benefits the customer.
 - ▶ Why does your target customer need your product?

Spiraling Innovation

The ultimate best product solution for your new venture is arrived at after many iterations with customers and your team.



A marketing brochure is an effective straw man to get this process started in a very tangible way.

Figure 7.1 The spiraling process of innovation with a product can be significantly accelerated by making a brochure—but not getting too attached to it. It is a tool to focus the knowledge capture process.

Case study: SensAble Tech



- The “digital clay” solution, called FreeForm, included both hardware (the physical PHANTOM) and software.
- In the new digital clay molding bench, the hardware was not the critical item as it could get smaller, more stylish, and be contracted for production.
- The hard part was going to be designing the software, so that is what they focused on.
- The goal was to produce a product that:
 - ▶ would have the ease of use of clay, and
 - ▶ the benefits of having digital files so that designs could be saved, modified, and sent electronically around the world, and upgrades and enhancements could be provided to users as well.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: SensAble Tech



- The High-Level Product Specification was developed as a set of PowerPoint slides showing:
 - ▶ the tools that designers used at the time
 - ▶ how that tool set would not only be replicated, but expanded with the new digital clay molding bench
 - ▶ drop-down menus that would allow the user to digitally select the materials, the tool, the end effector, and whether a template was to be used
- This made it much easier to focus and test the viability of some concrete ideas with the team and potential customers.

Source: **DISCIPLINED ENTREPRENEURSHIP**

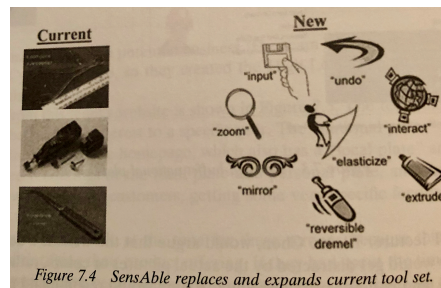


Figure 7.4 SensAble replaces and expands current tool set.

High-Level Product Specification

Materials:	Tools:	End Effector:
<input type="checkbox"/> Soft Clay	<input type="checkbox"/> Sculpt	<input type="checkbox"/> Point
<input type="checkbox"/> Medium Clay	<input type="checkbox"/> Hot Sword	<input type="checkbox"/> Ball
<input type="checkbox"/> Hard Clay	<input type="checkbox"/> Push/Pull	<input type="checkbox"/> Triangle
<input type="checkbox"/> Blue Foam	<input type="checkbox"/> Extrusion	<input type="checkbox"/> Square
<input type="checkbox"/> Ren	<input type="checkbox"/> Dremel	<input type="checkbox"/> Half Ellipse
<input type="checkbox"/> Metal	<input type="checkbox"/> Scribe	<input type="checkbox"/> Hook
<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other
		Template:
		<input type="checkbox"/> Yes
		<input type="checkbox"/> No

Figure 7.5 SensAble user selections.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Altaeros Energies



- **Idea:** building a wind turbine in the sky, high enough to get consistent wind, and anchored to a platform in the ocean.
- Problems:
 - ▶ Lots of questions regarding what exactly this meant in terms of implementation.
 - ▶ Building an image of what the product would be, uncovered disagreement within the team of what the product would look like.
- By the end of the product specification design process, the team:
 - had a **common understanding** of the product, and
 - could easily use the product spec as a **basis for more in-depth customer research**.

Case study: Altaeros Energies

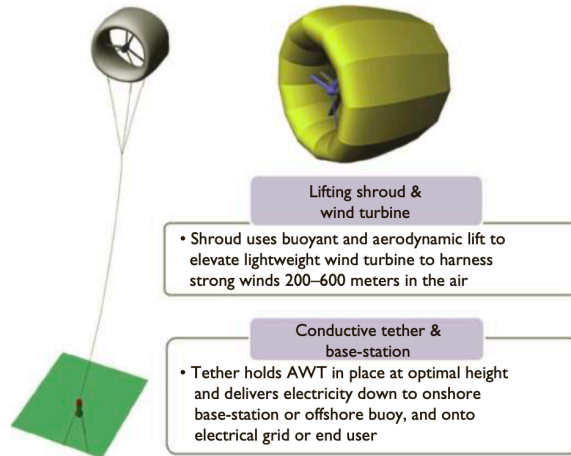


Figure 7.2 High-level product spec: Altaeros.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Lifetime Supply



- **Idea:** provide customers with lifetime supply of any of the products that they offer.
- **Persona:** A well-to-do young male, Ivan the Investment Banker, would not want to go shopping but knew he would need white athletic socks for the rest of his life and this product would not change. As such, the new venture would take a payment and provide Ivan this service in perpetuity.
- Primary market research results:
 - Making this a subscription business, where both sides had the option to renew annually and where the pricing could be adjusted.
 - **Convenience** was a major attraction of this service: make it accessible from the mobile phone, with customers being able to reorder with one touch on their mobile phone.
- Hard part: decide what **exactly to build** and **getting people to buy into their service**.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Lifetime Supply: Beachhead



- After some analysis and talking to many potential customers, they chose parents of college students as their beachhead market as they had:
 - The financial means to buy the subscription
 - A strong interest in supporting their children
 - A strong wish to staying in touch with their children, especially when it came to areas like personal hygiene.
- Describe product to these key constituencies in as easy and efficient a manner with a **brochure**.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Brochure design



- Building the brochure forced the team to clarify many questions:
 - What are the benefits to the student?
 - What are the benefits to the parents?
 - What are the products that Lifetime Supply will offer?
 - How should we start to think about the pricing?
- **However:** By choosing to include pricing, the team created a detail with the **potential to distract** both itself and potential customers.
- If customers disagree with the prices presented, they may be less likely to give feedback on the venture's main idea, which is providing supplies to college students on an all-you-can-use basis.

Source: **DISCIPLINED ENTREPRENEURSHIP**

How it Works

- Subscribe**
Pick what you need and pay once for the semester
- Ship & Re-ship**
Request more at any time for no additional cost
- Free Shipping**
We ship your products to your doorstep for free!

Why buy?

It's super convenient

- Stop wasting time going to the store
- Focus on studying hard and having fun

Stay supplied


- Never worry about running out of the things you need again
- Unlimited access to any product in your supply

Great products

- We offer a wide variety of top brands
- New products added to your supply monthly

Five more reasons parents

- Your kid will love you
- We send phone calls
- Dirty underwear is gone
- It costs less than taking care of
- Someday you'll need



<p>Shower Supply "Squally Clean"</p> <p>Shower - \$100/semester • Select from body wash, bar soap, shampoo, and conditioner</p> <p>Shaving Supply "Now with unlimited blades"</p> <p>Shaving - \$150/semester</p> <p>Deodorant Supply "You're gonna like the way you smell"</p> <p>Deodorant - \$40/semester</p>	<p>Oral Hygiene Supply "Fresh breath"</p> <p>Deluxe Bundle - save \$55 \$130 \$75/semester</p> <ul style="list-style-type: none"> Toothpaste Supply Toothbrush Supply Floss Supply Mouthwash Supply <p>Essential Bundle - save \$20 \$70 \$50/semester</p> <ul style="list-style-type: none"> Toothpaste Supply Toothbrush Supply <p>Toothpaste - \$40/semester Toothbrush - \$30/semester Floss - \$30/semester Mouthwash - \$30/semester</p>	<p>Snack Supply "Cure the munchies"</p> <p>Snacks - \$200/semester • New snacks rotated in regularly</p> <p>Undergarments Supply "Dress Comfortable - Dress Clean"</p> <p>\$150/semester • Socks, underwear, and tees</p> <p>Breath Supply "Fresh Breath Forever"</p> <p>Breath - \$75/semester • Select from gum and mints</p>
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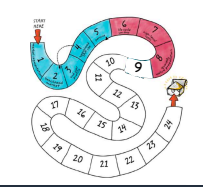
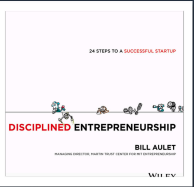
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Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

Section 3: What can you do for your Customer?


Step 8: Quantify the Value Proposition







University of Cyprus
Department of Computer Science

University of Cyprus
Department of Computer Science

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Goals








- Determine how the **benefits** of your product **turn into value** that the **customer gets out of your product**.
- Calculate **quantitative metrics** (in most cases) to show this value to the customer.

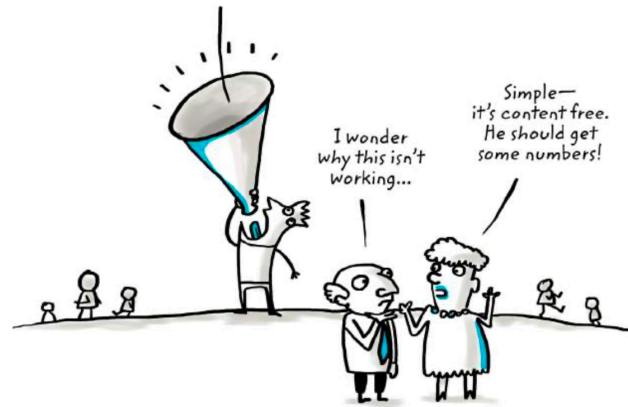
Value for customer

- When a customer purchases a product, they are asking themselves

“What value do I get out of this product?”

- Customers **must justify the investment required** to acquire your product by **offsetting** this against:
 - **how much money your product will make for them**, or
 - **how you will improve their life** in a way that really matters to them.

Superfantastic!!!
Awesome!!!
Sooooo much better
than anyone else's!!!



The relentless march for specificity continues. The Quantified Value Proposition gives you a concrete understanding of the measureable benefits your product will bring to your target customers.

Quantified Value Proposition

- Converts the benefits your Persona gets from your product into a **tangible metric** that **aligns with the Persona's top priority** (or priorities).
- Focus on **what potential customers want to gain** rather than going into detail on technology, features, and functions.

Types of benefits

- Products often have a large number of benefits - may help a customer to
 - **simplify a process** or
 - **reduce their environmental impact** or
 - gain **additional sales** for their own products.
- In a simple view of the world, **benefits** fall into three categories:

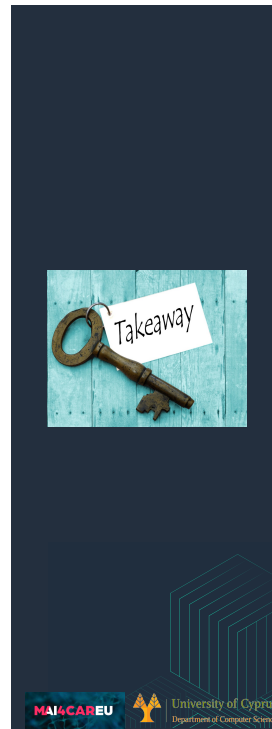
better faster cheaper

Alignment - Fit

- Create a value proposition **focused on the criteria you identified as your Persona's top priority**.
- If their top priority is *time to market for producing goods*, and **your product's value is that it will lower the cost of production**, your value proposition—"Our product saves \$XX per month"—will **not persuade** your target customer to buy your product.
 - ▶ Your value proposition is **not aligned with their highest priority**, so purchasing your product will not be a high priority for the target customer, and will get lost in their pile of less-than-urgent things to do.
- If your **product also lowers the time to market**, you should **focus your Quantified Value Proposition on that**.

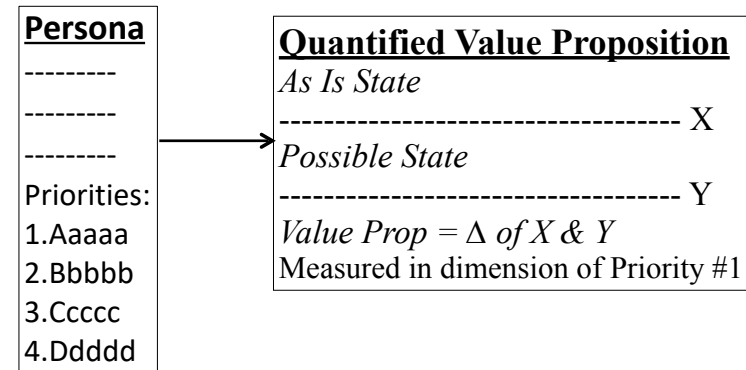
Value proposition: Keep-it Simple

- Set up a simple **comparison** of the "as-is" state with the "**possible**" state that you are confident will exist when the customer is using your solution.
- In both cases, you **make it as quantifiable as possible**.
- The **difference in value** between them is your **Quantified Value Proposition**.
- **It is that simple!** Don't make it too complicated.



Once you know **the priority of your Persona**, simply focus all your efforts on this factor when quantifying your value proposition.

Quantifying Value Proposition



Case study: SensAble tech



- Persona selected: industrial designer in the toy industry.
 - ▶ The Persona could be applied to the footwear industry as well because the two industries are similar.
- Persona's top priority: **time to market for new toys**.
- For new toys based on **currently hot** movie or video game characters, less time to market means:
 - ▶ **Less turnaround time** before being able to sell toys around that **temporary window of opportunity**.
- For new toys based on **a movie**, less time to market means:
 - ▶ The **company can gather more information about how successful a movie might** be before manufacturing toys for it.

Source: **DISCIPLINED ENTREPRENEURSHIP**

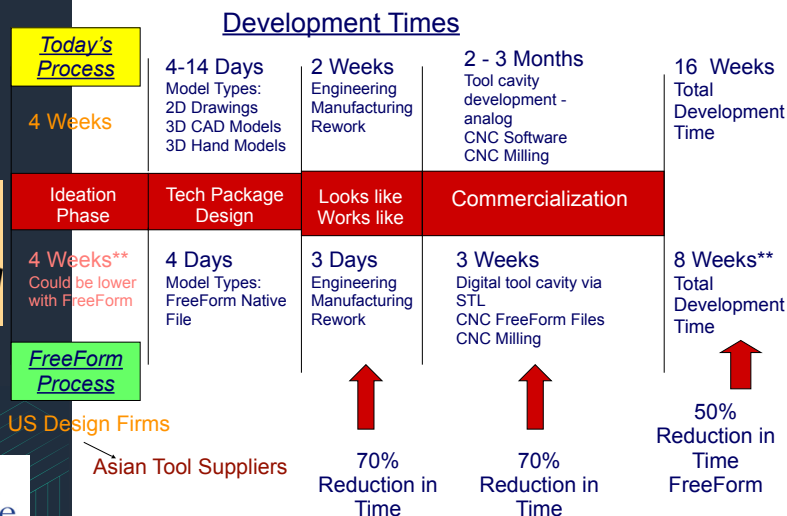
Case study: SensAble tech



- Determine the average time to market for a new toy using the current software available.
 1. Examined the development process the way the customer does, using the customer's own words to describe the process.
 2. Iterated with toy manufacturer until they felt the process was understood properly.
 3. Then went to another toy manufacturer to check if their process was similar.
- After enough iterations, **a very good "as-is" state for the process** was captured, without getting into insignificant details.
- The process was validated with footwear companies and found to be identical.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: SensAble tech



Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Meater



- This team started with **biosensor technology** that was significantly better than what was currently available in the market at the time in terms of size, efficiency, and pricing.
- Appropriate beachhead market: cattle ranching industry.
- The proposed solution was a biosensor that could be affixed to a cow's ear, much like how cows are currently tagged, to detect disease earlier.
- Sick cows identified earlier can be separated from the herd, **reducing infection rates**, and **allowing more effective treatment** of diseases due to **earlier detection** than current methods.
- **Persona's (a rancher) top priority:** making as much money as possible.

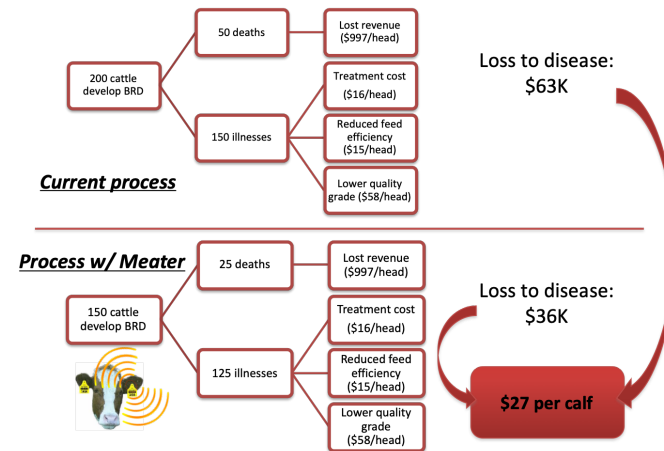
Source: **DISCIPLINED ENTREPRENEURSHIP**

Quantified Value Proposition study



- Determine the current economics for a typical herd of cattle (the “as-is” state), verifying it with numerous ranchers and refining it until it was clearly valid and credible.
- Determined the “possible” state from using their product, making some conservative assumptions they could support with compelling validity evidence.
- Showing how much money a rancher would save by using their product - the Quantified Value Proposition.
 - ▶ A compelling and highly specific Quantified Value Proposition that made it much easier to engage and quickly close their target customer on acquiring the product.
 - ▶ Also provides great help in later steps when the team looks to determine its Business Model and Pricing Framework.

Source: **DISCIPLINED ENTREPRENEURSHIP**



Section 3 Contents



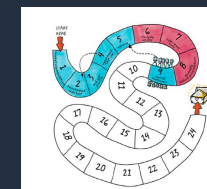
- DH Step 6: Full Life Cycle Use Case
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Section 2: Who is Your Customer?

Step 9 : Identify Your Next 10 Customers

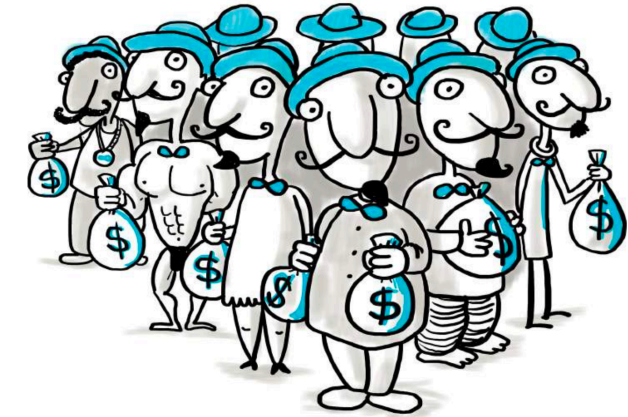


Goals



- Identify at least 10 potential customers, besides your Persona, who fit the End User Profile.
- Contact them to validate their similarity to your Persona, and their willingness to buy your product.

Goals



Explicitly identifying the next 10 customers after the Persona increases your level of confidence that you are on the right path and may also help you refine earlier steps.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Why Step 9?

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- Focusing **solely on one Persona** could lead you to build a very specific business without the ability to sell to other customers.
 - ▶ If the **Persona** is done **correctly**, this will **not** happen.
- Having **a list of 10 potential customers** beyond your Persona, will be highly beneficial to you, as you proceed:
 - ▶ If you are successful in this step, you can be significantly more confident that your business has **a high probability of success**—and you will be able to convince others, such as future partners, employees, customers, advisors, and investors.
 - ▶ If you run into issues in this step, you will be able to **go back and determine the flaws** in your plan are and **improve** them before going further.
- By listing and interviewing 10 potential customers, you are **directly testing every hypothesis** you have built over the past eight steps.
 - ▶ You may encounter some negative feedback if your plan is not quite right. That is not only okay, **but probably good**.

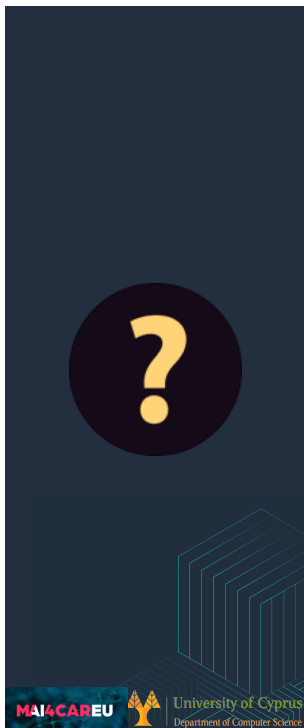
How to complete Step 9?

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1. List **more than 10 potential customers** (aside from your Persona), and include any pertinent information you have about them from your existing research.
 - ▶ Each of these customers should be **similar to each other and the Persona**; if not, revisit the list, and potentially revisit your selection of Persona. It is important to have homogeneity in your list. They should all be powerful purchasing references for each other.
2. Contact **each** of the **potential customers** on your list and present your **Full Life Cycle Use Case, High-Level Product Specification, and Quantified Value Proposition** (Steps 6–8).
 - ▶ Be sure while having these conversations that you are operating in **"inquiry" mode**, not "advocacy/sales" mode. Determine whether the customer's needs and ideas are in line with what you've established thus far from your Persona, Full Life Cycle Use Case, Quantified Value Proposition, TAM assumptions, and so on.
 - ▶ Especially validate with these customers the hypothesis you have **regarding the Persona's top purchasing priorities**.

How to complete Step 9?

3. If a customer validates your hypotheses from the previous steps, now is a good time to ask the customer if they would consider providing a letter of intent to buy your solution, **once it is available**.
 - You are still in "inquiry" mode, so you are asking, "If a company were to offer this product, would you be interested in purchasing it?" rather than "Will you buy this product?" If they are extremely enthusiastic, you can even ask them to prepay for the product, which is a fantastic level of commitment.
4. If a customer's feedback is **not aligned** exactly with your assumptions, take good notes and think how this affects your analysis.
 - Do not overreact to each new interview, even if there is a major disconnect, unless you see a pattern. You will know intuitively if there is a major disconnect after a few interviews.
5. After you have contacted each customer, you may have new data. Go back and modify your earlier assumptions and determine whether to contact additional customers.
 - Your end goal is a homogenous list of 10 customers who are truly interested and aligned with your Persona and other assumptions.



WHAT HAPPENS IF YOU DO NOT GET POSITIVE RESULTS?

How to complete Step 9?

6. If you find that you **cannot create a list of 10 customers** who are excited about your High-Level Product Specification, then you may need to **reconsider your beachhead market**.
7. While this step is conceptually simple, contacting customers and getting information from them **will require a good amount of work**, but will be invaluable as you move forward.
 - ▶ **Do not share this list** of customers or the information you gather with others outside your company.



Dealing with negative feedback

- Getting **negative results will** happen: you will get feedback that **does not support your hypotheses**.
- How the entrepreneurial team responds to them will be a fundamental factor to the team's success.
- Treat negative feedback as **valuable information** that there may be an error in the research and data you have been using up to this point.
- Negative results at one step is not the end of the venture in most cases, but **moving forward with a faulty plan that was based on hope and not facts is a recipe for failure**.

#	General Info			Fit			Engagement					
	Customer Name	Relevant Info	Title	Email/Phone	Demo-graphic	Psycho-graphic	Use Case	Value Prop	Overall	Contacted	Level of Interest – Letter of Intent?	Source
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Note -1: Like with other worksheets, this is meant to give some structure but it can and should be customized as appropriate for your situation
 Note - 2: Relevant info is other relevant info that is not captured elsewhere, such as "Total Megawatts Installed" for the Methane Capture example from Disciplined Entrepreneurship.

301 Source: **DISCIPLINED ENTREPRENEURSHIP**



Source: **DISCIPLINED ENTREPRENEURSHIP**

#	Fit			Engagement			Source
	Demo-graphic	Psycho-graphic	Use Case	Value Prop	Overall	Contacted	
1	A	A	A	A	A	YES	A+ (NEEDS IT NOW) From Industry Group
2	A	A	A	A	A	YES	A From Persona
3	B	A	A	A	A	YES	A Cold Call /Email
4	A	A	A	A	A	YES	A From Industry Group
5	B	A	A	A	A	YES	Needs to Know More but Interested Cold Call /Email
6	A	A	A	A	A	Early Stages	Needs to Know More but Interested From Industry Group
7	A	A	A	A	A	Early Stages	Needs to Know More but Interested From Persona
8	B	A	A	A	A	Early Stages	Needs to Know More but Interested From Industry Group
9	A	A	A	A	A	Not Yet	Needs to Know More but Interested From Industry Group
10	A	A	A	A	A	Not Yet	? From Industry Group

Legend:
 Fit: A = Excellent, B = Medium, C = Poor
 Level of Interest: A = Signed a letter of intent, B = unwilling to sign letter of intent, C = refuses to buy the product
 "Use Case" means that the Full Life Cycle Use Case resonated with how the end user operates. "Value Prop" means the benefit your product delivers is in line with that end user's top priority.

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#	Fit			Engagement			Source
	Demo-graphic	Psycho-graphic	Use Case	Value Prop	Overall	Contacted	
1	A	A	A	A	A	YES	A From Persona
2	B	B	C	B	B	YES	A School Friend
3	C	B	B	B	B	YES	A Neighbor
4	C	A	B	A	B	YES	A From Persona
5	B	B	B	A	B	YES	A Family friend
6	B	B	B	B	B	YES	A Alumni Database
7	B	B	B	B	B	YES	A Classmate
8	C	A	B	B	B	YES	A Classmate
9	C	B	B	B	B	YES	A/B Friend of a Friend
10	C	C	C	B	B/C	YES	A/B From Persona

Legend:
 Fit: A = Excellent, B = Medium, C = Poor
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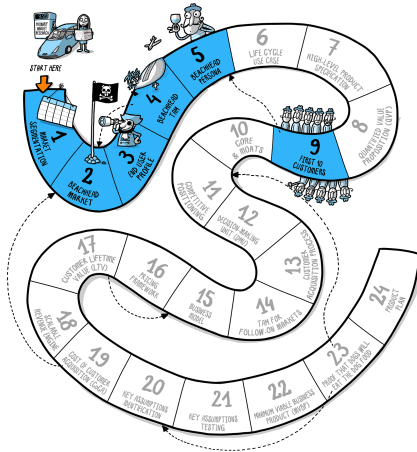
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Lecture 27/3/2024

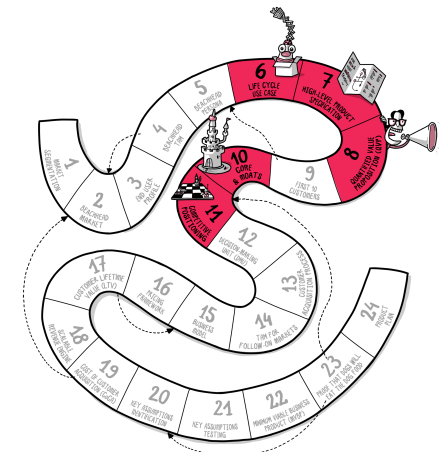
Recap



- 01 Segment your markets
- 02 Select a beachhead market
- 03 Build an end-user profile
- 04 Calculate TAM for beachhead
- 05 Profile the beachhead persona
- 09 Identify first customers

Source: **DISCIPLINED ENTREPRENEURSHIP**

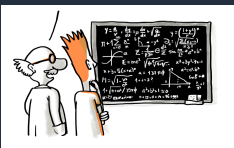
Recap



- 06 Full life cycle use case
- 07 High-level product specifications
- 08 Quantify value proposition
- 10 Define your core
- 11 Chart your competitive position

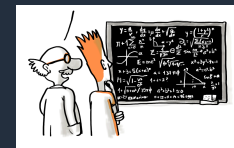
Source: **DISCIPLINED ENTREPRENEURSHIP**

Previous Week



- DH Step 6: Full Life Cycle Use Case
- DH Step 7: High-Level Product Specification
- DH Step 8: Quantify the Value Proposition

Step 6: Full Life Cycle Use Case



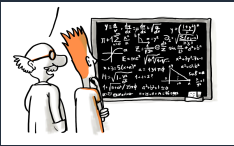
- Use the Persona to determine the full lifecycle of your product use case,
- Exploring the 10 stages of the full life cycle

10 Stages of Full Life Cycle Use Case

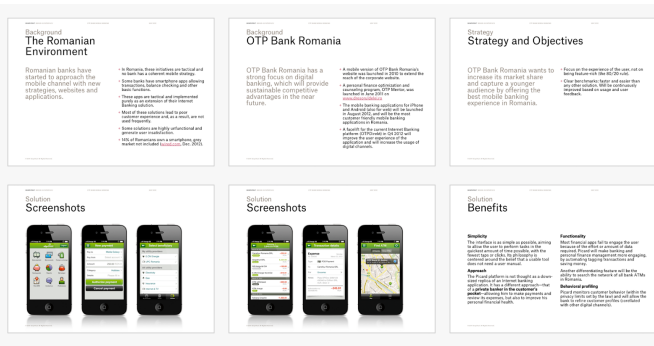


Stage #	1	2	3	4	5	6	7	8	9	10
Action	How do they determine need, and what is their catalyst to take action?	How do they find out about their options?	How do they analyze their options?	How do they acquire your product?	How do they pay for your product?	How do they install or set up your product?	How do they use and get value out of your product?	How do they determine the value they gain from your product?	How do they buy others' product?	How do they tell others about your product?
Who is involved										
When										
Where										
How										
Misc.										

DH Step 7: High-Level Product Specification

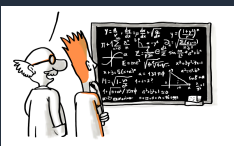


- A High-Level Product Specification is, at its core, a drawing.
- Goal: Use it to iterate with customers so that you more thoroughly understand the strengths and weaknesses of your product specification

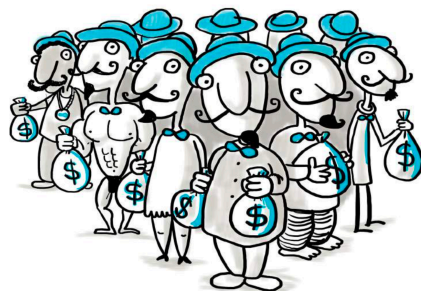


M. D. Dikaiakos

Step 9: Identify Your Next 10 Customers



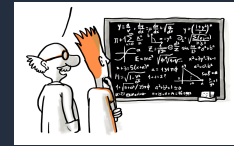
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Explicitly identifying the next 10 customers after the Persona increases your level of confidence that you are on the right path and may also help you refine earlier steps.

M. D. Dikaiakos

Step 8: Quantify the Value Proposition



- “What value do I get out of this product?”
- Converts the benefits your Persona gets from your product into a tangible metric that aligns with the Persona's top priority (or priorities)

Quantified Value Proposition

As Is State

X

Possible State

Y

$Value Prop = \Delta of X \& Y$

Measured in dimension of Priority #1

M. D. Dikaiakos

Section 3 Contents

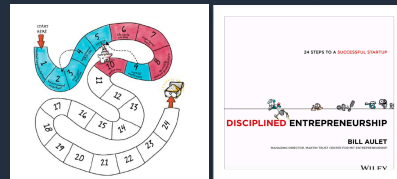


- DH Step 6: Full Life Cycle Use Case
- In search of use cases for the “AI Company”
- The “Lean AI” Playbook
- DH Step 7: High-Level Product Specification
- DH Step 8: Quantify the Value Proposition
- **DH Step 10: Define your Core**
- DH Step 11: Chart your Competitive Position

M. D. Dikaiakos

Section 3: What can you do for your customer?

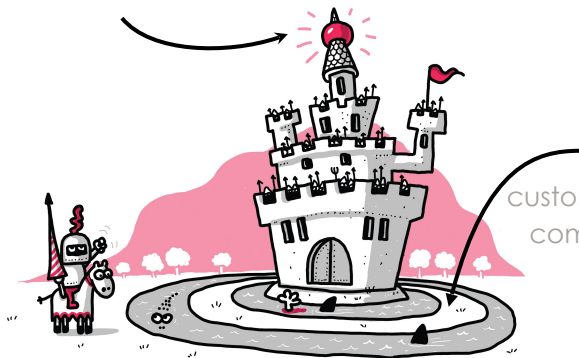
Step 10: Define Your Core



Core and Moats

Core

The single thing that you do better than anyone else and will be very difficult for others to copy



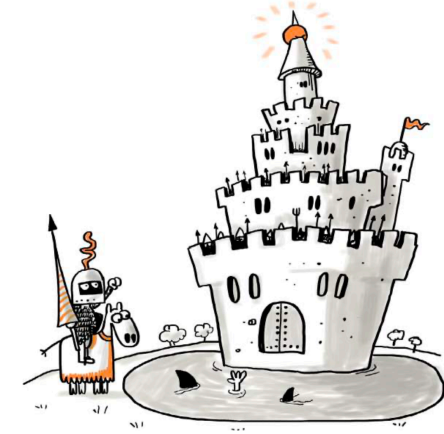
Moats

Protection mechanisms that keep your customers in and your competitors behind.

Goal



Explain why your business can provide customers with a solution that other businesses cannot nearly as well.



You need to figure out something that you do that will make you better than anyone else at producing a solution for your customers. This will be the new venture's eventual crown jewels.

What is the "Core"?

What is it that your product does that your competitors cannot duplicate, or cannot duplicate easily?

- The **Core** is something that allows you to deliver the benefits your customers value with **much greater effectiveness** than any other competitor.
- It is that **single thing** that will make it very difficult for the next company that tries to do what you do.
 - ▶ It could be a very small part of the overall solution, but **without it, you don't have nearly as valuable a solution**. What is it that you do better than anyone else?
- The Core provides **a certain level of protection**, ensuring that you don't go through the hard work to create a new market or product category only to see **someone else come in and reap the rewards** with a similar business of their own.
- It is your business's **last defence against the competition**.

How to determine your Core?

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- Determining your core is a very situation-specific exercise.
- Requires great thought; there may be multiple options.

Network Effect

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- If **Network Effect** is your Core, you become the standard by achieving **so much critical mass in the marketplace** that it does not make sense for potential customers to use another product.
- The value to the user of this product falls under **Metcalfe's Law**: the value of the network to any individual on that network is related to the square of the number of users on the network.
 - ▶ The company with the most users is the most valuable; hence it is logical for new users to choose that network.
 - ▶ As a result, the network becomes even more powerful; it is a **positive feedback loop**.
- Examples: **eBay** (for both buyers and sellers), **LinkedIn**, **Facebook**, and **Google** for Advertisers.

Categories



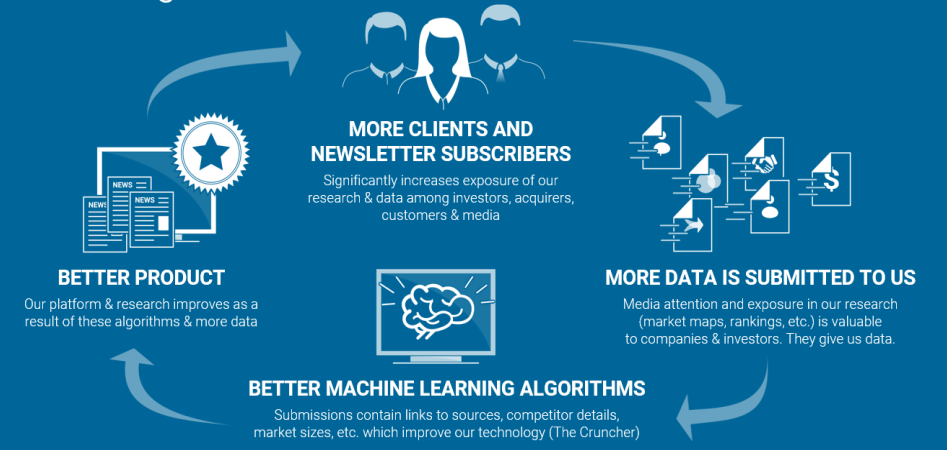
Examples from categories that could inspire (or become) your Core:

- Network Effects
- Customer Service
- Lower Cost
- User Experience

Data Network Effect as Core

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CB Insights DATA NETWORK EFFECT



Customer Service

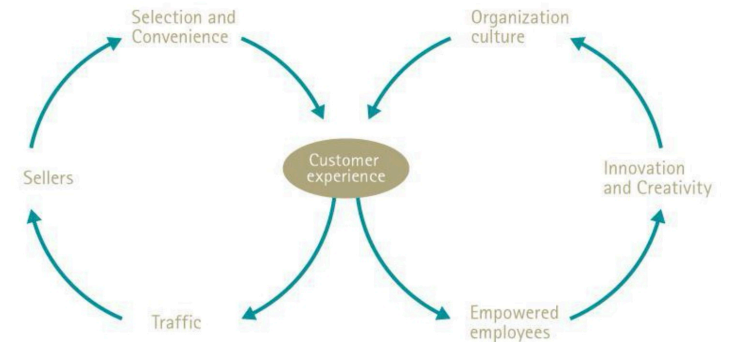
- By establishing **processes** and **culture** that focus on **excelling at customer service**, this potential core allows you to:
 - ▶ **Retain customers at a very high rate** as compared to competitors, and thereby avoid costly churn.
 - ▶ **Attract and obtain customers in a much more efficient way** than others in the market, as your customers are thrilled with their experience with you and become salespeople for you by creating positive word of mouth.
- This core requires:
 - ▶ An **incredibly strong commitment** from the entire organization and a **fanatical focus** to execute a high level of customer satisfaction in a consistent fashion.
 - ▶ **Extraordinary measures** that are hard for others to follow, such as “no questions asked refunds” or other costly policies.
- This strategy is difficult to execute such that a competitor is unable to copy and negate your core, but when it works, it can be very effective.

Customer Service



A systemic view of Zappos' growth model

The key to Zappos' success is to consistently deliver an outstanding customer experience. The model is driven by a culture of employee empowerment tightly aligned with the company's purpose.

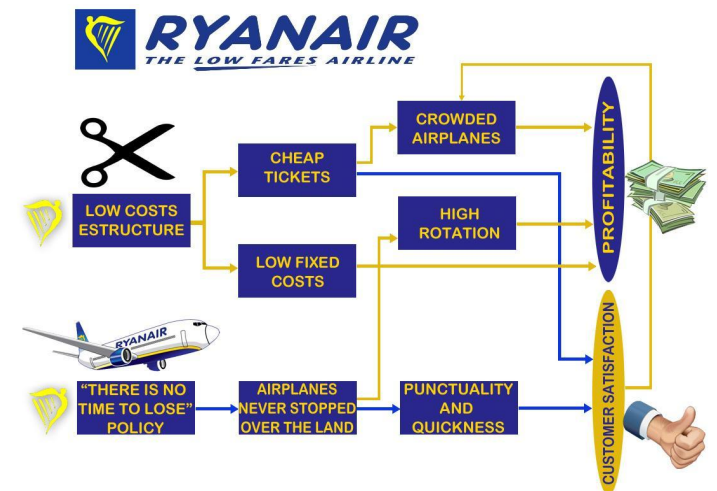


Source: Accenture analysis

Lower Cost

- Develop the skills, relationships, processes, volumes, financial overhead, and culture to outcompete anyone else in the market on **cost** and **become the long-term low-cost player**.
- This has been a successful Core for **Walmart** and it is also part of the strategy behind many Asian companies, especially with Chinese companies that have recently entered sectors like **clean energy (PV)** and **electric vehicles (EV)**.
- It may be facilitated by **achieving economies of scale**.
- Often not a Core, but an **entry strategy** for companies who then choose to compete on something else.
 - ▶ For example, Honda entered the U.S. market as a low-cost provider of weed whackers, scooters, motorcycles, lawnmowers, and cars; but, eventually they no longer were the low-cost option. In fact, **their Core was the capability to build great motors**
 - ▶ the low cost was just a way to get into a new market.

Low Cost



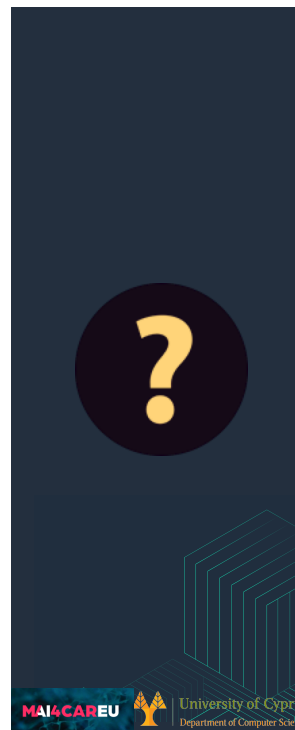
User Experience

- There are a multitude of new strategies that have evolved into potential Core strengths and a common one now is **user experience (UX)**.
 - ▶ Often embraced by the market in places where **design** and **fashion talent** is **available** to address this challenge.
- The strategy here would be to become the **best at developing and continually improving the UX through the company's emphasis on it.**



How to define your Core?

- This step is more **inward-looking** and **less research-based** than the others.
- Rely on:
 - ▶ internal **introspection**, combined with
 - ▶ **external data gathering** and **analysis**.
- Process at first broad and general
- End definition of your Core should be **concrete and specific**.



HOW DO YOU DEFINE YOUR CORE?

Core definition process

- It must integrate many different considerations:
 - ▶ What the **customer wants**?
 - ▶ What **assets** you have?
 - ▶ What you really **like** to do?
 - ▶ What **others** outside your company can do?
 - ▶ What the personal and financial **goals** of the owners are?
- It must be done efficiently and very specifically such that you arrive at an answer you are highly confident is accurate.
- You **cannot be changing your Core** like other elements in this process; it **has to remain fixed over time**, once you lock in on it.

IP and your Core

- One common starting point when determining your Core is to conclude it is your **intellectual property**.
- However, the effectiveness of IP as a Core depends heavily on **your industry**:
 - In the medical & biotech industries: **patents are incredibly important** in ensuring success of a product or a new company.
 - In other industries, there may be some value, but often patents are insufficient for ensuring business success. They tend to be **static** and markets are **dynamic**.
- **Capability is generally better than a patent**—but it is best to have both for sure.
 - For instance, teams with high levels of capability in an area will **continually produce innovative goods**, over time **overwhelming a company that is built around one or a small number of patents** (except in such specific cases as biotech).

Innovation Capacity as a Core

- Some companies find an advantage in the marketplace by **creating a process and culture that innovates incredibly fast**:
 - Stay close to the customer
 - Use strong product management
 - Use agile development to translate initial head start into a sustained / growing advantage.
- Difficult to sustain as a unique Core as the organization **scales**
- Most companies **do not rely solely on their speed of innovation** as their Core:
 - rather use it as a **motivator** and a **moot** before they finally settle on a Core.
- All businesses should aim to innovate quickly, regardless of their definition of Core; but, few businesses will find lasting success in rapid innovation without something else as a Core.

“Intangible capital tends to be **heterogeneous**: one idea, one brand, one operating process is usually not like any others.

One consequence of this heterogeneity is that the **tactics** that intangible-rich businesses use **to maintain competitive advantage (moats)** around their business model - are also **highly varied** and tend to require bespoke analysis.”

[“Restarting the Future”, Haskel & Westlake, 2018]

Core vs Competitive position

- Your customers very likely will not see your Core as the reason they buy from you.
- They will instead look at your Competitive Position (Step 11).
- Your Core:
 - Will **drive your ability to deliver certain benefits** to the customer, which has to translate into value for the customer, which then leads to a better Competitive Position.
 - Is **how you are building a capability to differentiate yourself from your competitors**, and it cannot be easily replicated by others.
 - Is the **most concentrated way to gain differentiation** from your current and potential competitors so you can really focus your small amount of resources to gain maximum value for your new venture.



First-move advantage vs Core

- The term refers to a company being successful solely by **being the first in the market**.
- However, most companies that are first to market end up losing the market to a later entrant who outperforms the first company, so:
 - **First-mover advantage by itself cannot translate into a sustainable Core and could be seen as a disadvantage.**
- First-mover advantage can help a company with a well-defined Core, but it cannot win the market by simply by being first.
- This must be translated into something else:
 - locking in key customers
 - achieving positive networking effects for your company
 - recruiting the best talent in a certain area, etc.



You need to figure out something that you do that will make you better than anyone else at producing a solution for your customers. This will be the new venture's eventual crown jewels.

Locking up suppliers & Core



- One way to gain a competitive advantage is to anticipate the key elements of your solution and **lock in vendors on an exclusive or a functionally exclusive** arrangement.
- Locking up key suppliers is a good "outside the core moat" strategy to slow down your potential competitors and should be aggressively used when appropriate, but it is not your ultimate Core, just a **trap** along the way for those who might follow.
- It is a **very valuable strategy to have multiple traps along the way** to make it hard on your competitors; but, **you should have only one Core**.
- The Core is the Crown Jewel that is the final barrier through which the competitors should not be able to break through.

Defining Your Core Worksheet		
	What is your value proposition (from Step 8)?	
	What assets does your team have? Prioritize from strongest to weakest.	
1.		Strongest
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		Weakest
	What are your proposed moats for your business?	
1.		Strongest
2.		
3.		
4.		
5.		
6.		Weakest
	What are potential Cores for your business?	
1.		
2.		
3.		
4.		

What is your quantified value proposition?	
What assets does your team have?	Strength
	Very strong
	Very strong
	Strong
	Strong
	Weak
	Weak
	Very weak
	Very weak
What are your proposed moats?	Strength
	Very strong
	Very strong
	Strong
	Strong
	Weak
	Weak
	Very weak
	Very weak
What are your potential cores?	Strength
	Very strong
	Very strong
	Strong
	Strong
	Weak
	Weak
	Very weak
	Very weak

337

Case study: SensAble tech






MAI&CAREU University of Cyprus
Department of Computer Science

- A unique hardware robotic device called the PHANToM, a device that was renowned for its clever design.
- An extremely fundamental patent for “force reflecting haptic interface” (U.S. patent #5,625,576) which was one of the most referenced patents of its time.
- Thomas Massie, the driving intellect behind the technology, and a rising engineering star at MIT, fully invested in the company.
- What was their core?

Source: **DISCIPLINED ENTREPRENEURSHIP**

SensAble constraints






MAI&CAREU University of Cyprus
Department of Computer Science

- Aspiring to achieve a high level of success in a relatively short period of time.
- 2 Co-founders wanted to return to Kentucky in four to five years,
- Wanted to do something big that could scale quickly and be of interest to venture capitalists, which would be a five-year timetable.

Source: **DISCIPLINED ENTREPRENEURSHIP**

SensAble Core: The IP?

MAI&CAREU University of Cyprus
Department of Computer Science

- Become dependent on others
- Unpredictable time frames
- Need to become legal experts to ensure others did not ignore or circumvent our patents
 - not interesting and not aligned to personal goals and passions
- Aggressively pursued building **intellectual property portfolio** with their IP lawyer and MIT
 - one of the outside moats of our castle

Source: **DISCIPLINED ENTREPRENEURSHIP**

SensAble Core: The hardware?



- Needs lot of time and money to achieve success
- Hardware companies not as attractive to investors as software companies
- Robotics was extremely out of favor during the mid-1990s.
- SensAble was not a robotics company at all. After all, their beachhead market was not about robotics, but about design.
- Aggressively protected and developed PHANTOM hardware, even though it was an outside wall, not the Core.

Source: **DISCIPLINED ENTREPRENEURSHIP**

SensAble Core: The plier?



- We had been able to lock up the supply of a key component (the high-fidelity motors) that made our hardware far superior to what other companies were offering, presenting a substantial barrier to entry.
- But if market conditions had been right, our competitors would have found a way to produce the key component themselves.

Source: **DISCIPLINED ENTREPRENEURSHIP**

SensAble Core: The software



- The software behind PHANTOM was very complicated:
 - ▶ Not just the interface software but also
 - ▶ how it represented weight, shapes, texture, deformations, and many other physical properties of the objects rendered for touching in the computer and
 - ▶ then how the user interacted with them.
- Ended up defining the Core as **“the physics of three-dimensional touch.”**
 - ▶ This Core was to be embodied in *a software engine that rendered 3D objects on the computer, not for visual representations, but for touching them.*

Source: **DISCIPLINED ENTREPRENEURSHIP**

Taking advantage of the Core



- Translate the Core into a **sustainable advantage** that would **grow over time**
- Identified **key people on our team** who had the **skills** to support the Core.
- Identified the **people outside** the company who were **leaders** in this field and moved quickly to build **strong relationships** with them and **lock** them in with SensAble.
- Identified the **organizations and institutions** where these people would be found (specific departments at MIT, Brown University, and Stanford University) and developed **visibility, reputation, and relationships** there to recruit the best and the brightest future stars.
- This became a **top priority** of Thomas Massie as the CTO and he reviewed this at least quarterly in his technical strategy discussions.
 - ▶ Made sure to have a **strong skills development plan** in this area and our incentive system reflected this as a priority with strong compensation and large stock option grants.

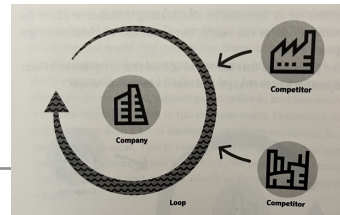
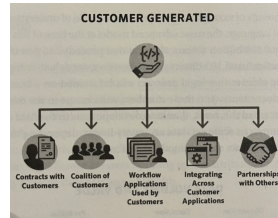
Data as Core in AI Companies

- The metaphor of a moat doesn't work with **Data Learning Effects**:

▶ *Data Learning Effects: economies of scale to data + data processing capabilities + data network effects*

- When **unique data is the source of a competitive advantage**-the water in the moat-and that data is **automatically increasing, at an increasing rate**, thanks to the output of an intelligent system, **the moat changes shape**.

- The metaphor of a **loop** is more useful because it goes in the same direction with each iteration but can increase in size.



Source: Ash Fontana (2021)

345 "The AI-First Company"

Summary



- The Core is **what you have that your competitors do not**, that you will **protect over time above all else**, and that you **continually work over time to develop and enhance**.
- Once you agree on a Core, it should not change without a great deal of thought; instead, you should continually make your Core stronger.
 - ▶ However, it can change as you discover what your customers value most and what you do best.
- Defining your Core is not easy and may seem abstract, but it is an essential step to maximize the value of your new business.

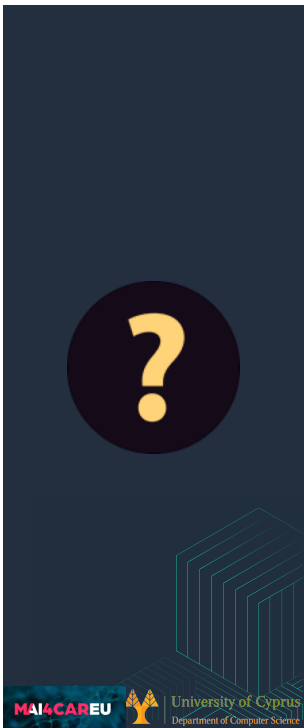
?

WHAT MAKES FOR
A GREAT CORE?

3 Dimensions:

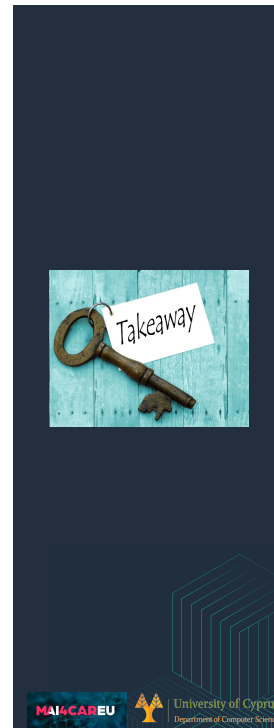
- **Unique**: Difficult for anyone else to duplicate
- **Important**: Ties directly to your quantified value proposition
- **Grows**: Increases in strength over time relative to competitors



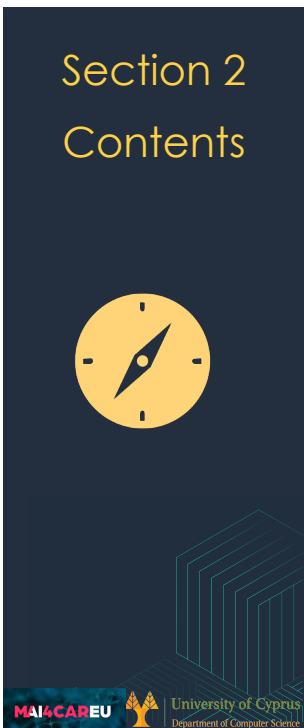


WHAT MAKES A BAD CORE?

M. D. Dikaikakos



Source: Marius Ursache



- DH Step 1: Market Segmentation
- Talking to Customers
- DH Step 2: Select Beachhead Market
- DH Step 3: Build End-User Profile
- DH Step 4: Total Addressable Market (TAM) size of Beachhead Market
- DH Step 5: Persona of the Beachhead Market
- DH Step 10: Define Your Core
- **DH Step 11: Chart Your Competitive Position**

M. D. Dikaikakos

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Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

Section 3: What can you do for your customer?

Step 11: Chart Your Competitive Position




University of Cyprus
Department of Computer Science

Step 11: Goals



- Show how well your product meets the Persona's **top two priorities**.
- Show how well the Persona's priorities are met by **existing products** in comparison to your product.
- Analyze whether the market opportunity you have chosen fits well with both your Core and your Persona's priorities.

Customer decision making

- Customers usually make purchasing decisions on a **comparative basis**, considering all options and determining which solution best fits their priorities.
- The **Competitive Positioning Chart** helps you:
 - ▶ analyze how much better you are vis-à-vis your competition;
 - ▶ highlight areas of weakness.
- Taken together with the Quantified Value Proposition, it shows that **your product is needed** and **you are the right organization to provide it**.
- The Competitive Position is the **link** between your Core and your Persona's priorities, and shows that they logically make sense for the target market you have chosen.



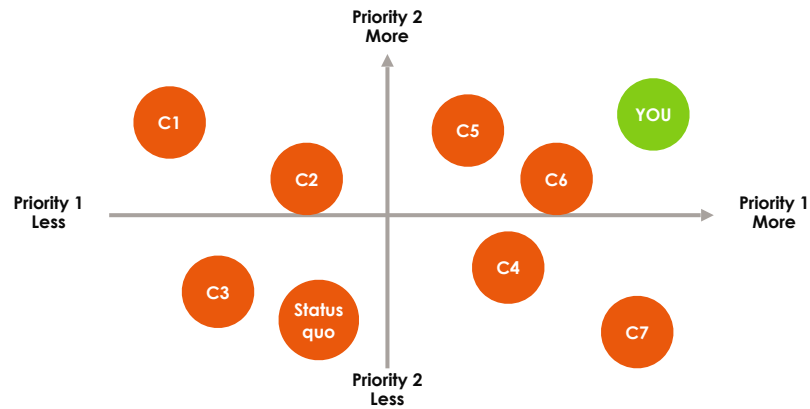
*How does your core
map to what your customer
really wants?*

The Competitive Position is where you take your Core and translate it into something that produces real value for the customer, something that they will care deeply about.

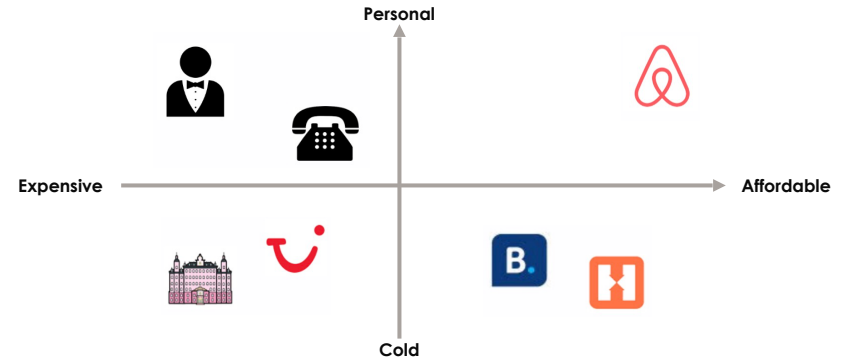
Competitive Positioning Chart

- Shows visually how well you fulfil your **Persona's top two priorities** versus how well your competition does so.
- The goal is to show that your Competitive Position both **leverages your Core** **and** that your **product satisfies your Persona's priorities far better** than existing or logical future products.
- If **both** of these are **not true**, you may need to **revisit** your **market selection** or your Core.
 - ▶ Flexibility with your Core it usually limited.
 - ▶ Inability to translate your Core into benefits for your customer does not necessarily mean your Core is wrong, because **the Core is a reflection of your team's assets and capabilities**; instead, **there may be a better market opportunity** where your Core is more suited.

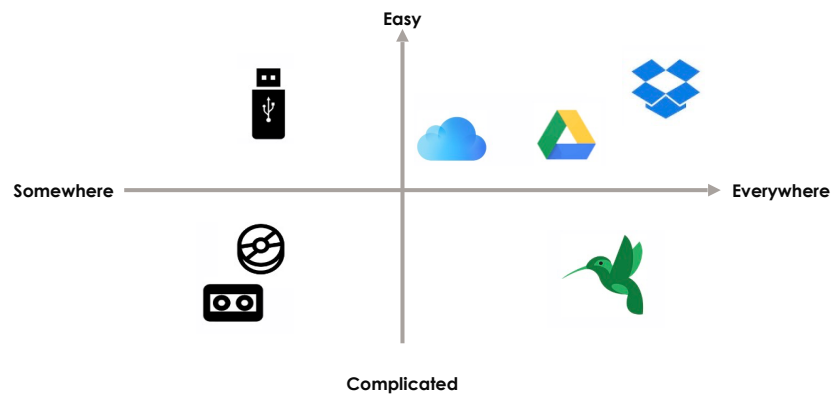
Competitive Positioning Chart



AirBnB

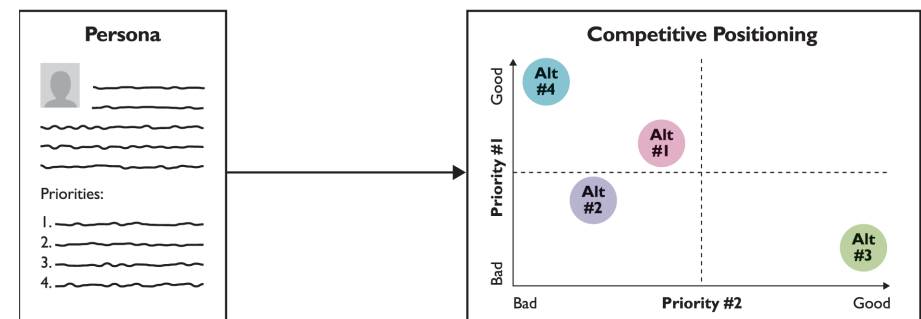


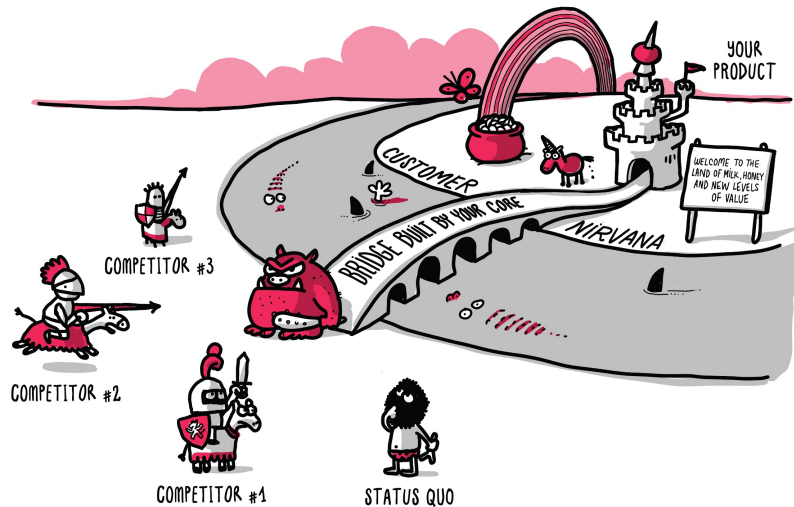
Dropbox



Remember!

Customers don't care about your features. They care about their priorities



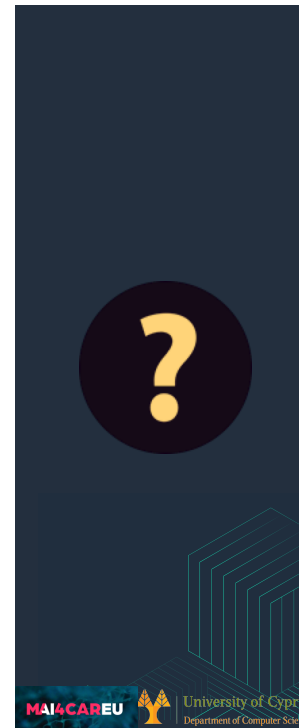


361 Source: **DISCIPLINED ENTREPRENEURSHIP**

The toughest competitor of all

Master Programs in
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- The customer's **STATUS QUO**
- Often, your largest obstacle will be convincing customers to make a change from their status quo.
- Comparing your product to the status quo ensures that you have a valid real market and not a conceptual, fictitious one.
- The **much bigger share of the TAM comes from getting people to change what they are doing today**, overcoming natural human and organizational inertia.
- It is far better to address the untapped market of "customer doing nothing" than focusing on some other brand-new startup.



WHO IS YOUR TOUGHEST COMPETITOR?

M. D. Dikaikakos

The toughest competitor of all

Master Programs in
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- If you have a good Core and people convert from the status quo to a new solution, the market will take off and both you and the other small competitor will win big.
- In such an outcome, it is likely that the two of you will merge, both get bought by bigger firms, or both go public.
- Once you have your Core and Competitive Position, **don't focus too much precious time on competitors**; rather, spend most of it working with customers, developing your Core, and getting products out the door.

Step1: Charting competitive position

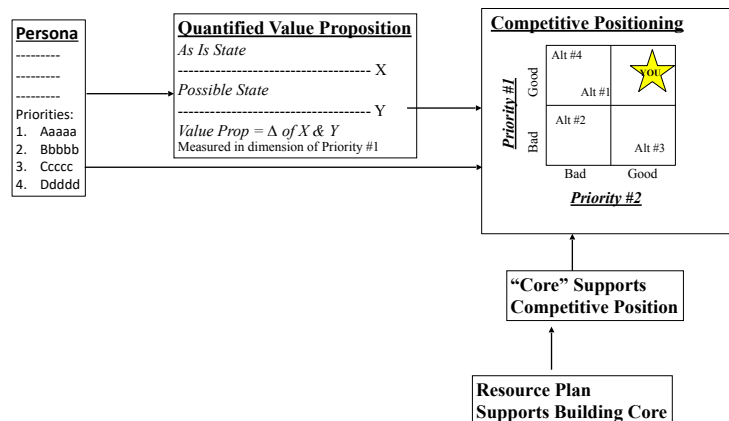
- Key: get the right information from your primary customer research
- **Identifying the top two priorities** of your Persona and assume that these two priorities are all that matter.
- Your core is probably inspirational and thoughtful, and your product's features are great, but **they do not dictate the customer's priorities.**

Step2: Charting competitive position

Create a **simple matrix/graph** as follows:

- Divide both the x-axis and y-axis into two halves.
- On the x-axis, write the **number-one priority** of your Persona.
- On the half of the x-axis closer to the origin, write the "bad state" of this priority (e.g., if the priority is "reliability" then write "low" here).
- On the other half of the x-axis, write the "good" state of this priority (e.g., "high" for "reliability").
- On the y-axis, place the **number-two priority** of your Persona. Write the "bad state" on the half of the y-axis closer to the origin, and the "good state" on the other half of the y-axis.
- Plot your business on the graph, along with those of your competitors (current and future). Also include the customer's "do nothing" or "status quo" option.

Linkage of Various Steps Is Critical



Competitive position chart

- If you have done good primary market research, your business should be **positioned in the top-right quadrant of this graph**, at the high end of the "good" states of each priority.
- The **bottom-left quadrant is where you absolutely do not want to be.**
- Other locations on the chart are not necessarily bad.
- But if you find yourself somewhere other than the top-right of the chart, you should reevaluate your product core compared to your competition.

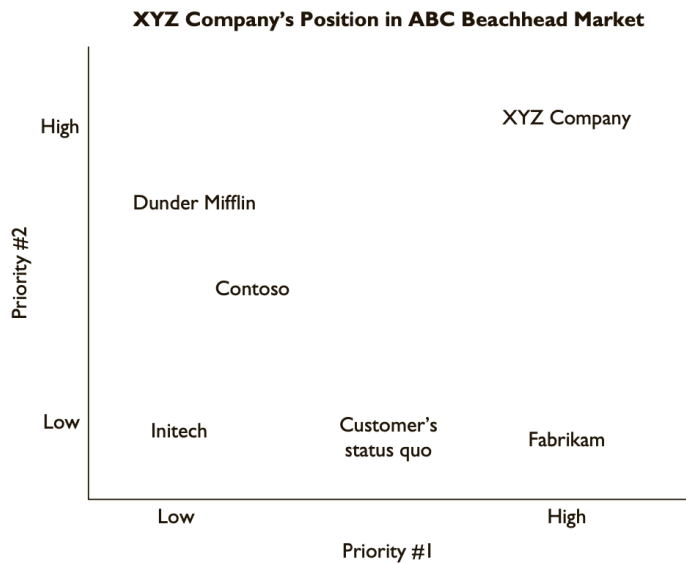


Figure 11.1 Competitive Positioning chart.

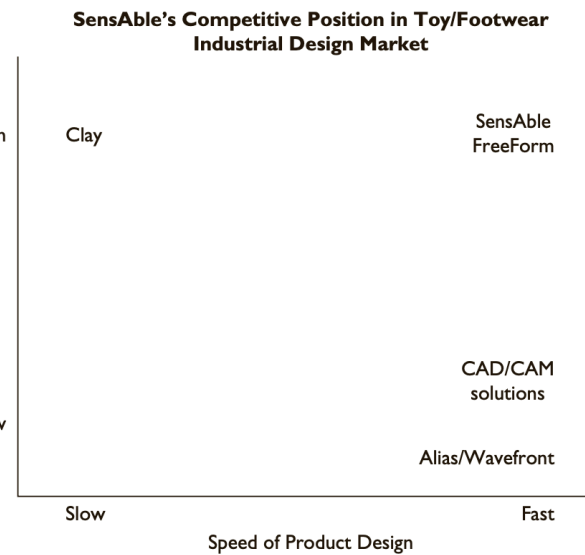


Figure 11.2 SensAble's Competitive Position.

SunSpring Case Study

- Solution to use solar energy to filter water.
- Beachhead market of filtering drinking water for military teams stationed in places that were off the grid or lacked access to reliable electricity.
- Cost was not a top priority for the military.
- Rather, the key elements were **reliability** and **efficiency**.

SunSpring Case Study

- SunSpring's value proposition is increased efficiency, flexibility, mobility, reliability, and operation simplicity vis-a-vis its competitors

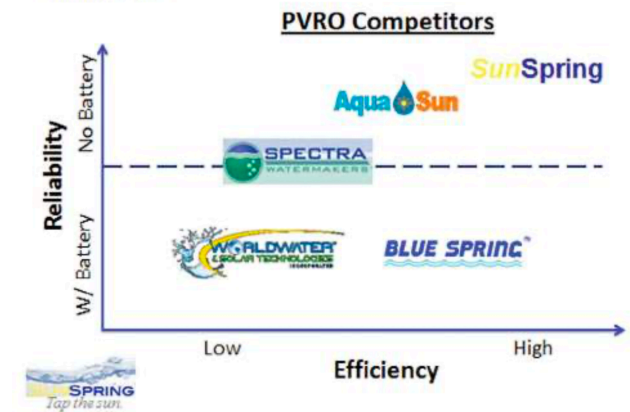


Figure 11.3 SunSpring's Competitive Position.

- Defining your Competitive Position is a quick way to validate your product against your competition, including the customer's status quo, based on the top two priorities of the Persona.
- If you are not in the top right of the resulting chart, you should **reevaluate your product**, or at least the **way you are presenting it**.
- This will also be a very effective vehicle to communicate your qualitative (not quantitative) value proposition to the target customer audience in a way that should resonate with them.



M. D. Dikaiakos

Reading Assignment and Practice



Review and apply the following tools:

- “Create a Customer Empathy Map” in 6 Easy Steps! by Conceptboard:
 - <https://conceptboard.com/blog/create-a-customer-empathy-map-in-6-easy-steps/>
- Value Proposition Canvas by Strategyzer.
 - <https://www.strategyzer.com/canvas/value-proposition-canvas>
- Competitive Mindshare Maps: a visualization of how products are positioned in a competitive landscape.
 - <https://blog.cauvin.org/2013/11/competitive-mindshare-maps.html>
- Read Chapter 5 (Define your Value Proposition). *The Lean Product Playbook* by Dan Olsen. Wiley 2015.

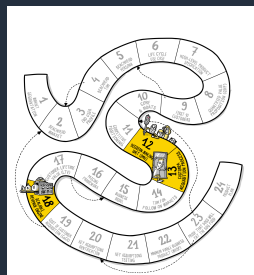
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Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

Module 4: Disciplined Entrepreneurship

Section 4: How does your customer acquire your product?



What's Next?



- 12 Determine the customer's decision-making unit
- 13 Map the process to acquire a paying customer
- 18 Design a scalable revenue engine

Source: **DISCIPLINED ENTREPRENEURSHIP**

Section 4 Contents



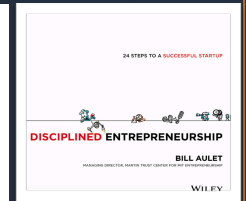
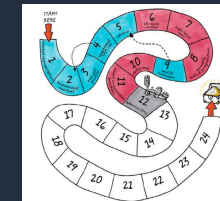
- **DH Step 12: Determine the Customer's DMU**
- DH Step 13: Map the Process to Acquire a Paying Customer
- DH Step 18: Design a scalable revenue engine

Step 12: What is this step?

- Define the **DMU (Decision Making Unit)** for the target customer:
 - ▶ Makes the **ultimate decision to purchase** your product, and will be advocating for purchasing it
 - ▶ Will be **involved** when your product or service is **acquired**
- Carefully define **each party** and the nature of power in the acquisition process.
- Meet the **influencers** who have sway over the purchasing decision.

Section 4: How does your customer acquire your product?

Step 12: Determine the Customer's Decision-Making Unit (DMU)



Step 12: Why do we do it?

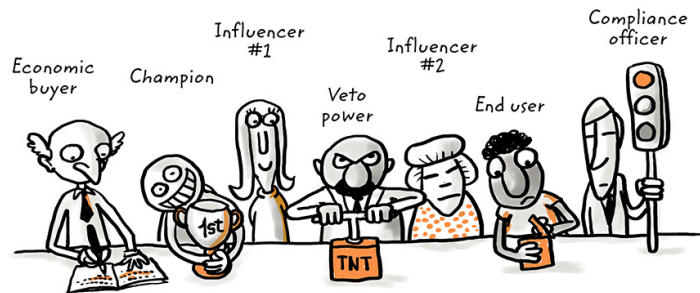
- To sell your product successfully, you need to identify all the people who will be involved in the decision to acquire the product for the end user.
- Some people will actively **approve** or **block** acquisition, while others will present opinions that **can sway** the acquisition process.
- This process:
 - Has been presented in many different ways in **sales training programs** and put to practice for decades.
 - Works for both B2B cases and B2C cases, though B2C cases may involve fewer people, each of whom may have multiple roles.

Step 12: Why do we do it now?

- At this step, you should be confident that your Persona will get substantial value from your product and that your offering is unique.
- Now, you need to become equally confident that your Persona and Next 10 Customers **can buy your product**.

Rarely is the purchasing process simple.

- When almost any product of significance is acquired or adopted for use, whether in a B2B or consumer market, **multiple people will have to be convinced that your product is worth purchasing**.



The Decision Making Unit

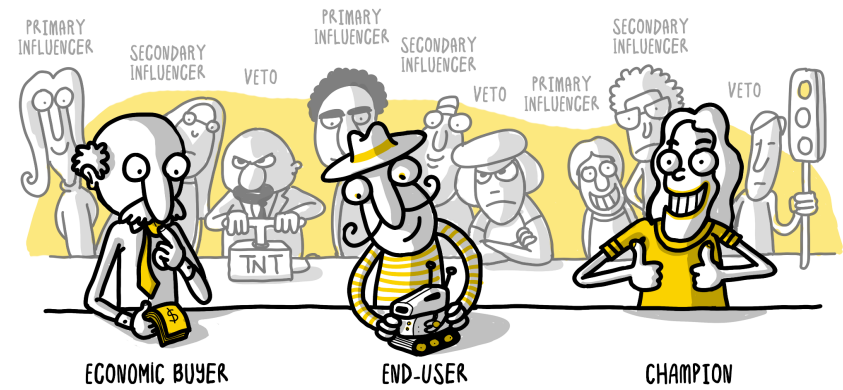
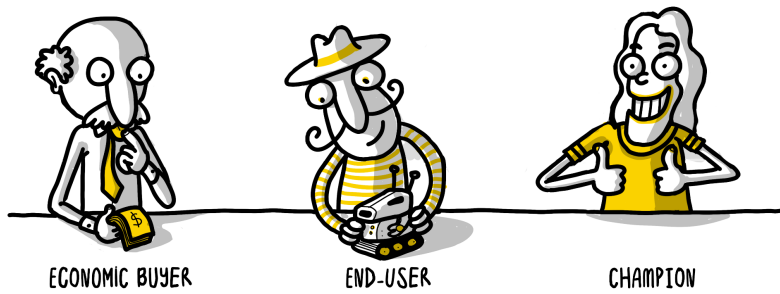
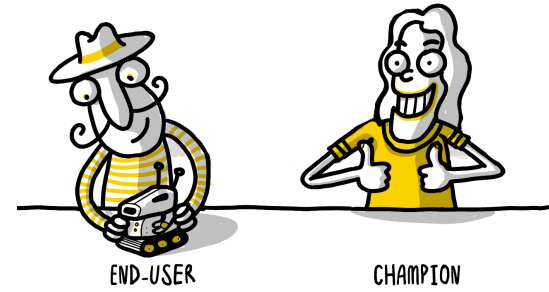
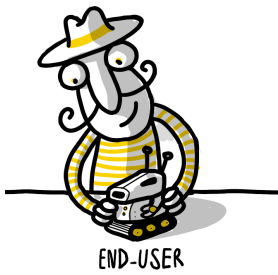
Your target customer almost surely has a decision-making group of more than one person. Understanding this group and explicitly mapping out each person's role and interest is of critical importance not just for the sale, but also much earlier in the process when you are developing the product and all of its attributes.

Primary Roles in DMU

- **Champion:** The **champion** is the person who **wants the customer to purchase** the product, typically but not necessarily your end user. Multiple people can play this role. The champion can also be referred to as the **"advocate."**
- **End User:** This is the person who will **actually use the product to create the value** described in the Quantified Value Proposition (step 8). Hopefully this person is your champion as well; the end user typically plays a significant role in the purchase of a product.
- **Primary Economic Buyer:** This is the **primary decision maker**; everyone else looks to this person to **sign off on spending money to purchase your product**. Most often, this person **controls the budget**. Sometimes, the primary economic buyer is also the champion and/or the end user, which makes your job easier, but does not completely neutralize influencers or individuals who object to the purchase.

Additional Roles in DMU

- **Primary and Secondary Influencers:** often have a depth of experience in the subject matter, and can influence the rest of the DMU.
 - Primary / secondary: play a major / some role in the decision-making process
 - Influencers may have **formal Veto Power**, or may be **trusted** enough to have **de facto veto**.
 - Other influencers may include media publications, individual journalists, outside contractors, friends and family, industry groups, websites, blogs, etc.
- **Person with Veto Power:** These individuals have the ability to reject a purchase for any reason. Often, in a B2B environment, this individual outranks the advocate or end user in a corporate hierarchy.
 - In a consumer market, an individual rarely has Veto Power; rather, the primary influencer(s) may have the authority or be well-respected enough to exert a de facto veto..
 - Unions and collective bargaining agreements may also block purchase of your product because of certain provisions that have become essentially regulations in the business in question.
- **Purchasing Department:** handles the logistics of the purchase. Can be another obstacle, as this department often looks to drive prices down, even after the decision to purchase has been made by the Primary Economic Buyer. They can try to disqualify you based on certain purchasing rules that the company has set.





How to Determine the DMU?

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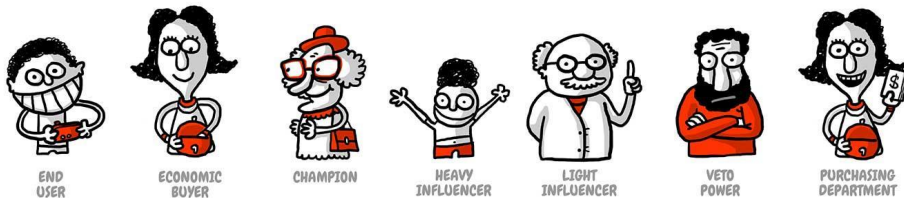
- Operate in "inquiry" mode rather than "advocacy/sales" mode:
 - If the customer believes that your product provides a strong value proposition, the conversation will flow naturally.
- This is an excellent time to ask the customer:

"Assuming we could produce the product we have described, what would need to be done to bring a product in to test out?"

"Who besides you (make sure you make them feel good!) would be involved in the decision to bring our product in?"

"Who will have the most influence? Who could stop this from happening?"

"Assuming the product does what we believe it will do, whose budget will the money come from to pay for it? Does this person need anyone else to sign off on this budget? Who will feel threatened by this and how will they react?"



How to Determine the DMU?

- Refer back to your prior research:
 - Your Persona fact sheet should document who or what influences the Persona.
- If the Advocate or Primary Economic Buyer are not your Persona:
 - Build a [fact sheet](#) for the individual in each role.
 - Think about how you will appeal to them, so you get a “yes” or at least a “neutral” response.
- Once you have gathered this information:
 - Plot it out visually so the information is unambiguous.
 - Show this map to your Persona & Next 10 Customers to get feedback quickly.
 - Communicate the map within your team. The DMU for each customer should be similar, and you should see patterns emerging.

Determine the Decision-Making Unit (DMU)									
	End User Persona (Step 5)			Economic Buyer Persona			Champion Persona		
Name									
Title									
Demographic Summary									
Psychographic Summary									
Proxy Products									
Watering Holes									
Day In the Life									
Priorities (Top 4 in order)	1.			1.			1.		
	2.			2.			2.		
	3.			3.			3.		
	4.			4.			4.		
Key Selling Points to this Person	1.			1.			1.		
	2.			2.			2.		
	3.			3.			3.		
	Primary Influencers	Secondary Influencers	Veto Power	Primary Influencers	Secondary Influencers	Veto Power	Primary Influencers	Secondary Influencers	Veto Power
People									
Organizations									
Info Sources									
Others									

Case study: Mechanical Water Filtration



- New water filtration/purification system
- **Beachhead market:** [cooling data centers](#), specifically those at large companies or real estate entities that manage large data centers shared by multiple clients.
 - Initially planning to sell system to [new data center constructions](#) because that would not involve having to replace an existing system or sell against a solution that already worked for the data center.
 - Inquiries came primarily from new data center constructions as opposed to retrofit situations.
- **TAM** was calculated to be [\\$50 million per year](#), with a compound annual growth rate of 20 percent: attractive, properly sized market, would rapidly attract competitors as well.

MWF - End user profiling



- The team initially thought the end user would be the [data center manager](#).
- Primary market research finding: actual end user is the [facilities manager](#):
 - Reports to data center manager.
 - Controls budget that would purchase a water filtration system.
- After a [half-dozen interviews](#) with facilities managers at data centers a clear picture of the end user emerges.

Persona's profiling



- Career information
- Performance incentives—promotions, wages, and recognition
- How established he/she is at the company?
- Information sources used (he will be vetting everything that the team tells him against these sources)

Source: **DISCIPLINED ENTREPRENEURSHIP**

Persona's priorities



- **First priority:** preventing data center downtime.
- **Second priority:** meeting the business unit's growth objectives.
- **Third priority:** not exceed budget.
- **Fourth priority:** environmental issues.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Mechanical Water Filtration



- Persona: Chuck Karol
 - ▶ Primary Economic Buyer
 - ▶ Advocate
 - ▶ End user

Source: **DISCIPLINED ENTREPRENEURSHIP**

MWF Case Study



Table 5.1 Chuck Karroll Persona

Facilities Manager, IBM NE Data Center, in Littleton, MA

Environment	<ul style="list-style-type: none"> • Now has just over 20K Blade servers today growing at 15 percent per quarter for the past two years and for the foreseeable future.
Personal Information	<ul style="list-style-type: none"> • He is second-generation American (parents from Ireland). • Born in Medford, Massachusetts. • Medford High to Middlesex Community College. • Moved to Winchester. • Family with 2 kids (12, 15). • Just turned 40 this year.
Career Context	<ul style="list-style-type: none"> • Mid-career, 18 years at IBM and not looking to leave. • He is technical in the technician sense, not the engineering development sense. • He is maintenance-focused and his vocational degree is relevant. • Has been in current job for five years and has had three different managers already but hopes to keep this job for next five years at least. • Promotion path forward is to manage more facilities. • Makes \$65K per year and has the potential for a 5 percent bonus at the end of the year, based on the unit's overall performance and his contribution as determined by his boss, the data center manager. • Eligible for salary increase each year, based on his appraisal (can be between 0 and 12 percent). • He has been consistently ranked a 1 or 2 (on a scale of 1–5 where 1 is the best) in his yearly performance review, with reliability and supporting the business unit's growth as two key metrics upon which he is rated.

MWF Case Study



Information Sources	<ul style="list-style-type: none">• He prefers people to websites when he looks for information and answers to questions.• Belongs to AFCOM (association for data center management professionals) and gets a lot of information from them, and especially likes to go to the Data Center World conference in early October each year in Las Vegas.• Second-biggest influence is the Uptime Institute.• Has started to look at Green Grid but not impressed.
Purchasing Criteria in Prioritized Order	<ol style="list-style-type: none">1. Reliability (highest priority)2. Growth (high priority)3. Costs (medium priority)4. "Greenness" (low priority—extra credit)
Other Noteworthy Items	<ul style="list-style-type: none">• Drives a Ford F-150 pickup truck and always buys American• He wears a beeper that is always on• Listens to country music• He used to be a volunteer fireman and is proud of it. He makes level-headed decisions when there is a crisis, calling in his training to act fast and put out fires

Source: **DISCIPLINED ENTREPRENEURSHIP**

DMU analysis



- DMU definition and validation shows:
 - ▶ A number of other key players to consider **besides** Chuck
 - ▶ The DMU within the company is rather complex.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Secondary influencers



- The Hamilton and Manos blog
- The AFCOM meetings Chuck attended.
- Occasional Uptime Institute events that he was involved with (including their newsletter).

Source: **DISCIPLINED ENTREPRENEURSHIP**

Data Center Manager



- Typical **data center manager** is generally more involved in the purchasing process than Chuck's data center manager was.
- Data center managers typically view themselves as secondary buyers, since the facilities manager's budget is contained within the data center manager's budget, providing the data center manager with veto power.
- However, if the facilities manager made a strong and convincing case for purchasing something, it would be unlikely the data center manager would veto the decision.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Chief Information Officer



- The **CIO** of the organization is involved in a tangential way:
 - ▶ The CIO would never drive the decision, but if a purchase ran counter to his goals or he saw the purchase as risky, he would **veto** it.
 - ▶ He would ask questions to test the proposal but had little influence.
 - ▶ He was also very **unlikely to block** a decision jointly supported by the facilities manager and the data center manager.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Chief Green Officer



- The team initially thought the company's **Chief Green Officer** (CGO) would be an advocate for the product.
- However, the research showed that the **CGO was not taken seriously** by the facilities manager.
- The CGO could advocate to the CEO of the company to secure some one-time funds in support of the purchase, but the CGO was a secondary player who was more helpful as a source of information to the company on how they could adjust their sales strategy, rather than a driver of the process.

Source: **DISCIPLINED ENTREPRENEURSHIP**

External contractors

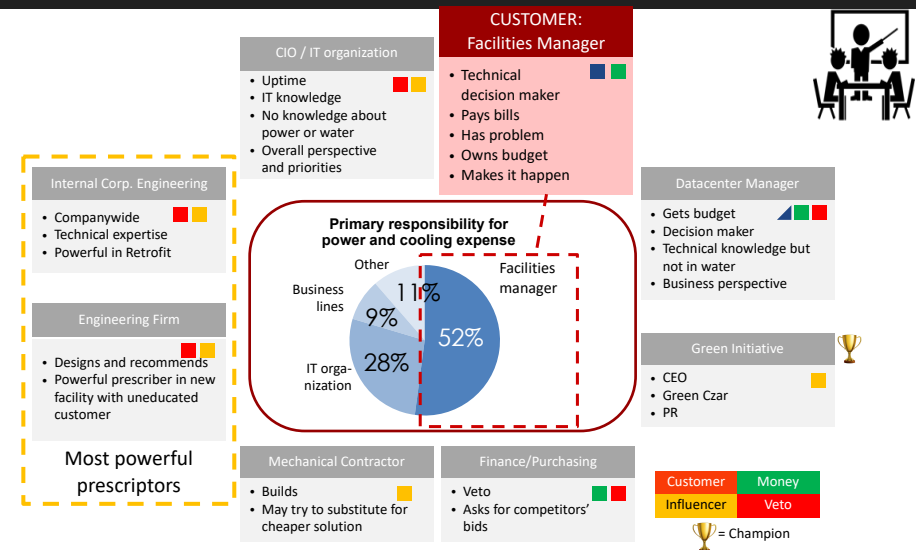


- The team, **underestimated** the influence **external contractors had** on the decision-making process.
- External contractors had a heavy influence on the facilities manager because they built and retrofitted data centers on a regular basis, while the facilities manager did not.
- Therefore, the facilities manager looked to them as **a major source of information on water cooling solutions**.
- The team realized that they needed to build a Persona-like fact sheet on the contractors and come up with a value proposition as to why their solution was a positive event for them too.
- The team also needed to understand the internal group within the company who recommended and handled outside consultants on a regular basis.

Source: **DISCIPLINED ENTREPRENEURSHIP**

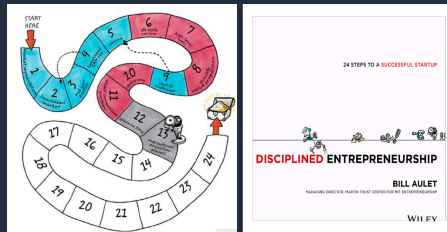
DMU Example: Helios

Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)



Section 4: How does your customer acquires your product?

Step 13: Map the Process to Acquire a Paying Customer



Section 4 Contents



- DH Step 12: Determine the Customer's DMU
- **DH Step 13: Map the Process to Acquire a Paying Customer**
- DH Step 18: Design a scalable revenue engine

Goal



Once they see my product, they are going to have to have it and sales will immediately go to the moon!



Source: **DISCIPLINED ENTREPRENEURSHIP**

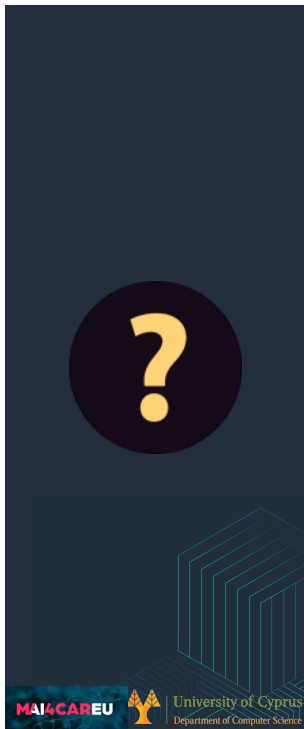
What are we doing?



- Map out the **Decision Making Process (DMP)** by which a customer decides to purchase your product:
 - ▶ the various **steps** with the different **players**
 - ▶ note the roles and various approval/ authority levels for each person
- Estimate the **sales cycle** for your product.
- Identify any budgetary, regulatory, or compliance **hurdles** that would slow down your ability to sell your product.

Why a DMP map?

- Understand and be realistic about the **time frame involved for each step** and give a reasonable (80% certainty) range.
- **Sales cycle length** importance:
 - Crucial determinant in how expensive it will be to acquire new customers.
 - Critically important to project cash flow accurately.
 - Need to go from initial contact to paying customer quickly enough to create sustainable business.
- Be sure to account for the **budgeting process** if your product/service requires this.
 - Build the foundation for the **Cost of Customer Acquisition (COCA)** calculation.
 - Reach a point where you make **more money from current customers than you spend attracting new customers**. It always costs more than you would think to acquire customers.
- Identify **hidden obstacles** that will inhibit your ability to sell your product and get paid.
 - If something about your business will be a **deal breaker**, you want to know now.
- Be able to **show potential lenders and/or investors** that you understand the customer's buying process, which for many is a **prerequisite to investing in your business**.



WHY DO YOU NEED A DMP MAP?

How to map the DMP?

- The following items from the Full Life Cycle Use Case (Step 6) will be the basis for mapping the process to acquire a paying customer:
 - How customers will determine they have **a need and/or opportunity** to move away from their status quo and how to activate customers to feel they have to do something different (purchasing your product)?
 - How customers will **find out about your product**?
 - How customers will **analyze your product**?
 - How customers will **acquire your product**?
 - How customers will **install your product**?
 - How customers will **pay for your product**?

10 Stages of Full Life Cycle Use Case



Clarification

- What is the difference between Step #6 (Full Life Cycle Use Case) and this one?
- Two Views of Similar Process
 - Step #6: Customer (End User) View
 - Step #13: Seller's View

Mapping the process

- Goal: capture more detail about the DMU, and map out the internal purchasing mechanisms of target customers.
- Basic **components** of the process include:
 - ▶ Lead generation
 - ▶ Access to influencers
 - ▶ Pre-purchase planning
 - ▶ Purchasing
 - ▶ Installation
- Factor in any **regulations** from governmental or quasi-governmental organizations that would potentially impact your ability to sell your product.
- Some elements in your map will vary depending on the industry.

Converting Full Life Cycle Use Case (Step 6) to First Draft Sales Funnel										
Full Life Cycle Use Case Stages	#1 - Determine Need & Catalyst to Action	#2 - Find Out about Options	#3 - Analyze Options	#4 - Acquire Your Product	#5 - Pay	#6 - Install	#7 - Use & Get Value	#8 - Determine Value	#9 - Buy More	#10 - Tell Others
Sales Funnel Elements	#1 - Identification: Lead Generation Output: Leads	#2 - Consideration: Create Awareness to Potential Customers Output: Suspects	#3 - Engagement : Develop Initial Dialogue Output: Prospects #4 - Purchase Intent: Develop Interest to Intent Output: Qualified Prospects	#5 - Purchase: Close Deal & Pay Output: Customers	#6 - Loyalty: Customer Support Output: Satisfied Customers	#7 - Advocacy: Sell More & Positive Word of Mouth Outputs: Repeat Customers and/or Evangelists				

Details to be considered

- For each component in the process, include:
 - Who are the **key players** from the DMU that will be involved?
 - What is their **influence** on the process?
 - ▶ Put this in **temporal** order and develop educated estimates on how long each component will take.
 - What is their **budget authority** (amount and type)?
 - **How long** will it take to complete each component you identify?
 - ▶ List them in **temporal sequence** noting any that can run in parallel. (Be diligent. You need to have at least 80 percent certainty in each step.)
 - What are the inputs and outputs of this component?

Process to Acquire a Paying Customer (Step #13)										
Stage #	1	2	3	4	5	6	7	8	9	10
General Description of Stage	Determine Need & Catalyst to Action	Find Out about Options	Analyze Options	Acquire Your Product	Pay	Install	Use & Get Value	Determine Value	Buy More	Tell Others
What does the customer do in this stage? (from the Full Life Cycle Use Case)										
Who is involved from the DMU?										
Budget limits & other considerations										
How much time will this stage take? (give a range)										
Action plan to accomplish stage										
Risks										
Risk mitigation strategy										
Misc.										

Budgeting/Purchasing Authority

Sales Funnel Element	Full Life Cycle Use Case Stage	Estimated Time to Complete
#1 – Identification: Lead Generation Output: Leads	n/a	
#2 – Consideration: Create Awareness to Potential Customers Output: Suspects	#1 - Determine Need & Catalyst to Action & #2 - Find Out about Options	
#3 – Engagement : Develop Initial Dialogue Output: Prospects & #4 – Purchase Intent: Develop Interest to Intent Output: Qualified Prospects	#3 - Analyze Options	
#5 – Purchase: Close Deal & Pay Output: Customers	#4 - Acquire Your Product & #5 – Purchase: Close Deal & Pay Output: Customers	
Total time for sales cycle:		

- An individual can only purchase items **up to a certain dollar amount without approval** from a more senior person.
 - ▶ Sometimes, approval **comes directly** from one decision maker, while other times, it kicks off **a long and involved process** with the purchasing department and its regulations.
 - ▶ Identifying these limits may help with your Pricing Framework later on: a price lower than an individual's limit means you can eliminate certain players from the DMU.
 - ▶ This could dramatically **reduce your sales cycle**.
- Identify if payment will come from the **yearly operating budget** or the **longer-term capital budget**
 - ▶ This could mean the difference between a three-month sales cycle and a one-year sales cycle, which could mean the success or failure of your new venture, especially if you are not aware of it a priori.

Timing

- Make sure you take into consideration the time it takes to move through each step in the process.
- Once you have made all your time estimates, go back and validate whether the estimates are reasonable.
 - ▶ Are you accounting for delays?
 - ▶ Are you being aggressive or conservative in your estimates?



Case study: Water Filtration System



- Secured first pilot program in a new data center in **less than nine months**, so they could have assumed that this was the sales cycle.
- But upon performing an analysis of developing the map of the Process to Acquire a Paying Customer more generally, they realized that the way they had secured **the pilot was not repeatable** for other customers.
- When they looked at the length of the acquisition process for new data centers after the pilot, they discovered that the sales cycle would take **an average of 2.5 years**.
- The team looked toward **retrofits** as a better way to enter the market due to its **shorter sales cycle**.
- The middle range for installing the product in retrofit projects was **just over a year**. (Even a year-long sales cycle is challenging for a startup, so even shorter would be ideal.)

Acquisition process: Water Filtr. System



- **New project**
- Contact CIO to get approval and gain access to internal company specialist
- Contact internal company specialist / green czar / Corporate Facilities Manager to influence Engineer
- Contact design engineer to work together in definition of water system, give specifications, and have them prescribe MWFS
- Contact general contractor and Purchasing to ensure purchase and proper installation
- **Retrofit**
- Contact Facilities Manager and help him sell to Data Center Manager
- If necessary, contact CIO to get approval and gain access to Data Center Manager and internal company specialists
- Contact Facilities Manager / Data Center Manager/ Purchases to ensure purchase of our product and proper installation

New vs Retrofit timing



Lead generation	Access to influencers	Access to design engineers	Design phase	Construction phase: actual sale to contractor	Installation
1-2 months	2-4 months	2-4 months	6-12 months	12-15 months	1 month

Retrofit project

Lead generation	Access to facility manager	Access to influencers	Negotiation with Purchases and Budget Owners	Installation
1-2 months	4-6 months	2-4 months	2-3 months	1 month

1st Worksheet for Step #13 (DMP)

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Process to Acquire a Paying Customer (Step #13)										
Stage #	1	2	3	4	5	6	7	8	9	10
General Description of Stage	Determine Need & Catalyst to Action	Find Out about Options	Analyze Options	Acquire Your Product	Pay	Install	Use & Get Value	Determine Value	Buy More	Tell Others
What does the customer do in this stage? (from the Full Life Cycle Use Case)										
Who is Involved from the DMU?										
Budget limits & other considerations										
How much time will this stage take? (give a range)										
Action plan to accomplish stage										
Risks Risk mitigation strategy										
Misc.										

2nd Worksheet for Step #13

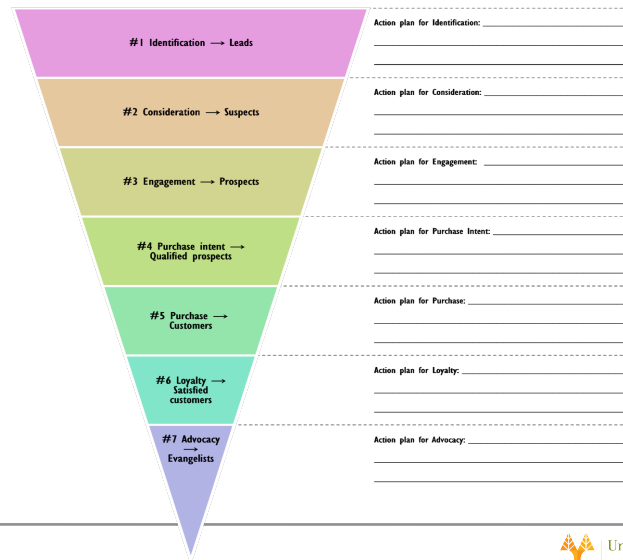
Master Programs in Artificial Intelligence for Careers in EU (MAI4CAREU)

Time Element

Sales Funnel Element	Full Life Cycle Use Case Stage	Estimated Time to Complete
#1 – Identification: Lead Generation Output: Leads	n/a	
#2 – Consideration: Create Awareness to Potential Customers Output: Suspects	#1 - Determine Need & Catalyst to Action & #2 - Find Out about Options	
#3 – Engagement : Develop Initial Dialogue Output: Prospects & # 4 – Purchase Intent: Develop Interest to Intent Output: Qualified Prospects	#3 - Analyze Options	
#5 – Purchase: Close Deal & Pay Output: Customers	#4 - Acquire Your Product & #5 – Purchase: Close Deal & Pay Output: Customers	
Total time for sales cycle:		

3rd Worksheet for Step #13 (DMP)

Draft Sales Funnel



Sales Funnel Evolution

- This is just the first draft
- There will be many updates of this as you go forward in the process
- It will provide key metrics to measure your success, failures and bottlenecks

What is Going On? I

- We Have Done Steps #1-13
 - Persona
 - FLUC
 - QVP (faster, cheaper, same quality)
 - DMU & DMP
- This All Makes Sense But **The Dogs Aren't Eating the Dog Food**
- Customer Adoption is **Not** Happening

What is Going On? II

- Mental Model
- Habit
- Easy to change?



- Getting the first customers can be very difficult
- All Decision Making Processes for the customer are not the same ... Even if it is the same customer!
- Timing matters
- To get that first customer, you must overcome an enormous amount of inertia because it is significantly easier for the customer to not buy your product and keep doing what he or she is currently doing.
- ▶ The status quo is an extremely powerful force to overcome, especially before a product is widely accepted and people change their purchasing habits accordingly.

M. D. Dikaiakos

NEWTON'S FIRST LAW OF MOTION



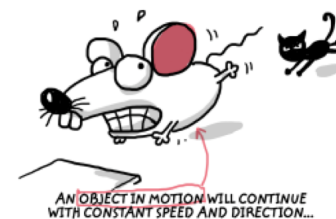
434 Source: DISCIPLINED ENTREPRENEURSHIP

NEWTON'S FIRST LAW OF MOTION



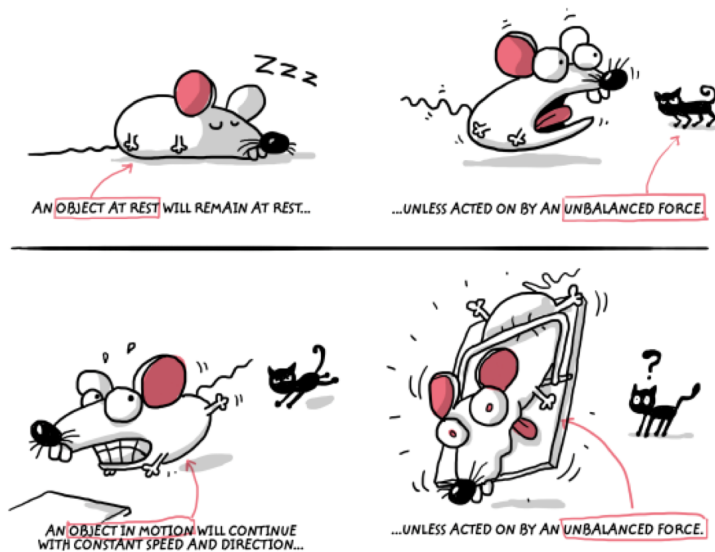
435 Source: DISCIPLINED ENTREPRENEURSHIP

NEWTON'S FIRST LAW OF MOTION



436 Source: DISCIPLINED ENTREPRENEURSHIP

NEWTON'S FIRST LAW OF MOTION



437 Source: **DISCIPLINED ENTREPRENEURSHIP**

WoO Examples

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- **Seasonality** (selling lemonade in summer and Christmas wreaths in winter)
- **Crisis** (e.g., blackout, security breach) or **impending potential crisis** (e.g., forecast for a storm, the potential Y2K computer bug)
- **End of fiscal year** (extremely relevant for business, but also for some consumers due to taxes)
- **Budget planning** cycle
- **Life transitions** (e.g., graduation, first job, first home, pregnancy)
- **Change in leadership** (e.g., company hires a new chief information officer)
- **Change in regulation** (e.g., enactment of the Affordable Care Act)
- **Searching the Internet** and **finding your product** (more on this later)



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Windows of Opportunity & Triggers

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- A **Window of Opportunity** is a time period in which your target customer (end user, economic buyer, and/or champion) will be particularly open to considering your offering.
- A **Trigger** is a specific action you take within that Window of Opportunity to create an urgency and/or strong incentive for the customer to act.

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Know your Windows of Opportunity and take advantage of them with well-designed Triggers—timing is crucial!

440 Source: **DISCIPLINED ENTREPRENEURSHIP**

You need well-designed triggers

- A **salesperson suddenly appearing**, in person, on the phone, or in an online chat interface
- Offering a **discount that expires after a short period of time**
- Indications of **scarcity of supply**
- **Limited time availability** to join a special community
- **Special offer of additional value** to reward quick decision
- **Clear action** that will help you **avoid a disaster**—such as a security assessment to avoid a devastating event
- **Cybersecurity breach that just hit** a competitor and is making headlines today

HOW TO CREATE A TRIGGER



EXPIRING DISCOUNTS



TIME-LIMITED OFFER



SCARCITY



FREE GIFT



SALES REP INTERACTION

Examples

Windows of Opportunity

Expedia – you are looking at a flight
 IBM – end of fiscal year at a utility
 Students – beginning of the school year
 Enterprise SW – competitor is acquired by Oracle
 Hubspot – Visiting website
 Security Company – after a high visibility breach
 Politicians – Bad Obama sound bite

Trigger

- ➔ 1. “2 seats remaining at this price”
- ➔ 2. “I need to schedule my people for December”
- ➔ 3. Back to schools sales or give aways
- ➔ 4. Time bound Trade-in Program
- ➔ 5. Free Website Grader
- ➔ 6. Free audit of customer's status
- ➔ 7. Immediate letter to 'faithful' soliciting donations

WORKSHEET

Now use the following worksheet to identify Windows of Opportunity for your product and choose one to focus on. Once you have chosen the Window of Opportunity, develop a spectrum of options of Triggers for that specific Window of Opportunity and choose which one you will focus on first to test for effectiveness.

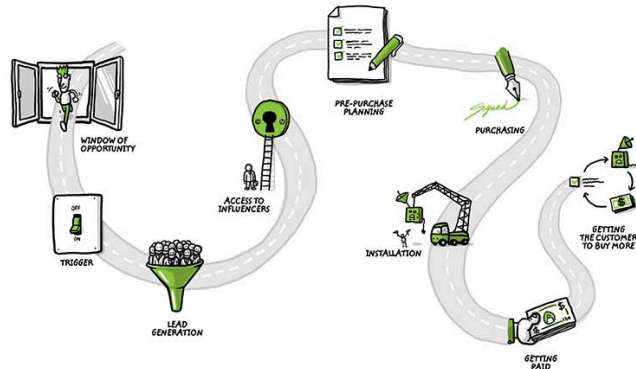
Windows of Opportunity and Triggers

	Window of Opportunity Candidates: What? When? Why?	Who is the Window of Opportunity relevant to?		
		Champion	End User	Economic Buyer
1	What: Where: Why:			
2	What: When: Why:			
3	What: Where: Why:			

Where are we going?



THE SALES PROCESS MAP



Understanding and utilizing Windows of Opportunity and Triggers help tremendously in kicking off the sales process and getting your customers to buy your product.

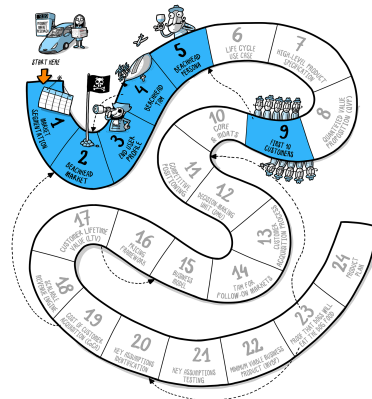
Source: **DISCIPLINED** ENTREPRENEURSHIP

Lecture 10/4/2024

Recap



Who is your customer?



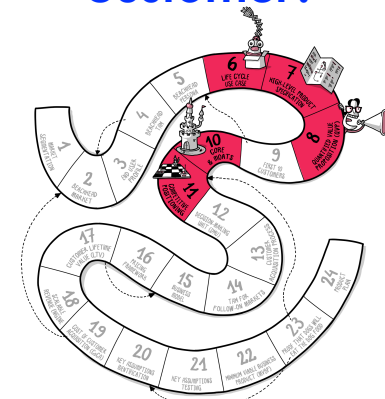
- 01 Segment your markets
- 02 Select a beachhead market
- 03 Build an end-user profile
- 04 Calculate TAM for beachhead
- 05 Profile the beachhead persona
- 09 Identify first customers

Source: **DISCIPLINED** ENTREPRENEURSHIP

Recap



What can you do for your customer?



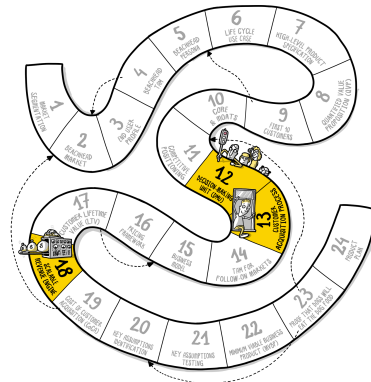
- 06 Full life cycle use case
- 07 High-level product specifications
- 08 Quantify value proposition
- 10 Define your core
- 11 Chart your competitive position

Source: **DISCIPLINED** ENTREPRENEURSHIP

Recap



How does your customer acquire your product?



- 12 Determine the customer's decision-making unit
- 13 Map the process to acquire a paying customer
- 18 Build a scalable revenue engine

Source: **DISCIPLINED ENTREPRENEURSHIP**

Step 13: Map the process to acquire a paying customer



Windows of Opportunity:

- Seasonality
- Crisis
- End of fiscal year
- Budget planning cycle
- Life transition
- Change in regulation
- Change in leadership



Step 13: Triggers



EXPIRING DISCOUNTS



TIME-LIMITED OFFER



SCARCITY

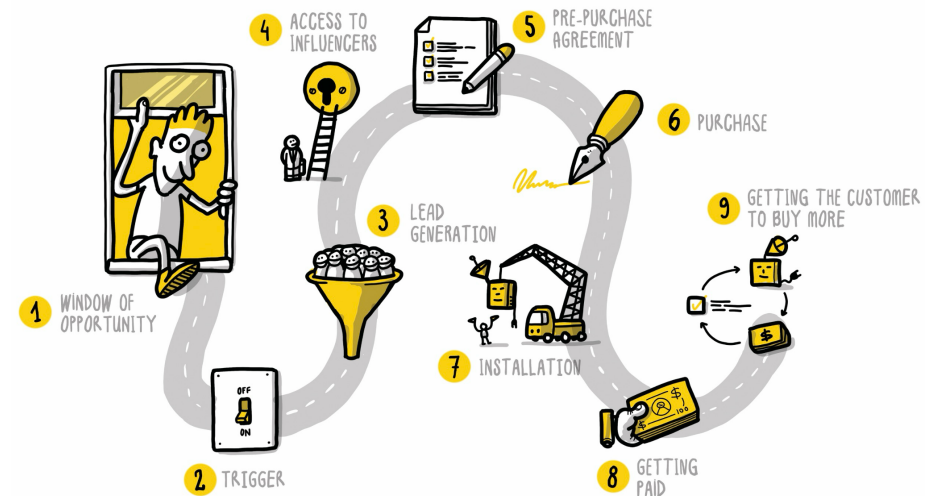


FREE GIFT



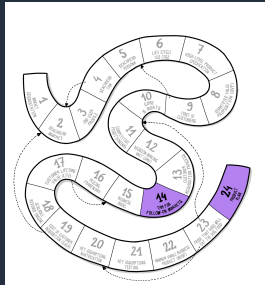
SALES REP INTERACTION

Step 13: The sales process

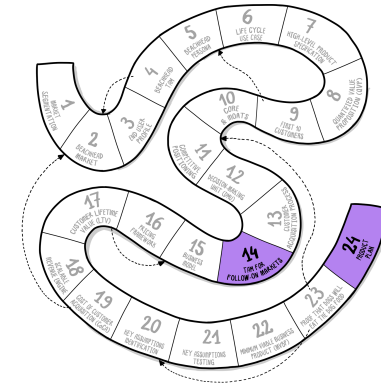


Module 4: Disciplined Entrepreneurship

Section 5: How do you Scale your business?



How do you scale your business?



- 14 Calculate TAM size for follow-on markets
- 24 Develop a product plan

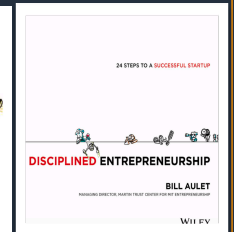
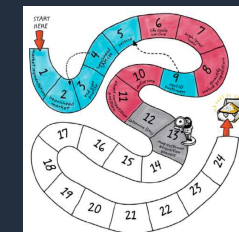
Section 5 Contents



- DH Step 14: Calculate the Total Addressable Market Size for Follow-on Markets
- DH Step 24: Develop a Product Plan

Section 5: How do you Scale your Business?

Step 14: Calculate the Total Addressable Market Size for Follow-on Markets



Section 5 Learning Objectives



After attending this module, studying its case studies and reading assignments, and watching suggested videos you should be able to:

- Identify follow-up markets and estimate their size (Step 14).
- Understand how to identify follow-up markets and estimate their size (Step 24).

Broader TAM Sizing

• What?

- Calculate/Estimate the annual revenues from the top **follow-on markets** after you are successful in your beachhead market.

• Why?

- Shows the potential that can come from winning your beachhead and motivate you to do so quickly and effectively.

• How?

- Refine the TAM for the initial market and develop an estimate the broader TAM that includes the follow-on markets.
- Will not be as certain and specific as the first market.
- At any time as more information becomes available, go back and update other sections and not be constrained by this simple linear framework.



While maintaining a relentless daily focus on your beachhead market, you should also do some small amount of analysis on what happens if and when you win the beachhead market; from a general standpoint and without a great deal of detail, what do you project will be your next markets and how big will they be?

Moving Beyond Beachhead

1. Is the target customer well funded & readily accessible to our sales force?
2. Do they have a compelling reason to buy?
3. Can we today, with the help of partners, deliver a whole product?
4. Is there entrenched competition that could block us?
5. If we win this segment, can we leverage it to enter additional segments?

6. Can we show results in an acceptable timeframe?

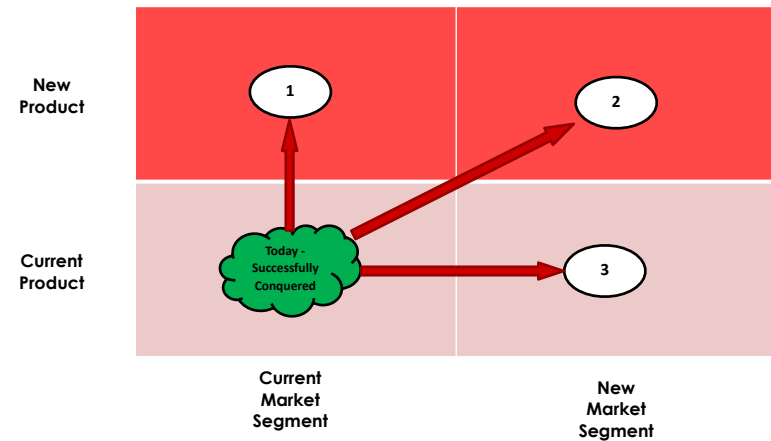
Follow-on Markets Definition

- Selling the **same customer additional products or applications**, which is often referred to as **up-selling**.
 - ▶ Keen awareness of your target customer can be used to determine what additional products you could create for or even resell to the customer.
 - ▶ Use existing sales and distribution channels to sell new products, leveraging the investment and positive relationship.
 - ▶ However, **making additional products will likely stretch your business** beyond your Core, which may hurt your Competitive Position in those markets, unless your Core is something related to customer relationships.
- Sell the same basic product to **"adjacent markets,"** which are markets similar to your beachhead.
 - ▶ Selling to these new markets **usually requires additional features, product refinement, and/or different packaging, marketing communications, or pricing.**
 - ▶ You are **leveraging the same Core**, and building off the expertise and scale developed in the beachhead market.
 - ▶ You will have to establish **new customer relationships in each adjacent market**, which can be risky and expensive.

Why look at follow-on markets?

- Keeps you cognizant of the **long-term potential of your business** as you begin to design your product and build capabilities.
- You will **excite** management, employees, and investors by showing that the business has the potential to be overwhelmingly successful.
- You will also get a **better sense of other potential markets** if your beachhead market turns out to be much more problematic than you envisioned and you have to either abandon it or revisit other options.

Follow-on Markets Definition



Strategy

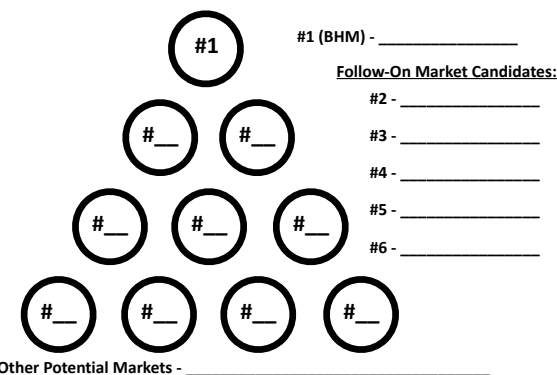
- While the Core of innovation-based startups often naturally leads to explore adjacent markets, you can pursue either strategy, or a mixture of the two, after dominating your beachhead market

Analogy of bowling pins:

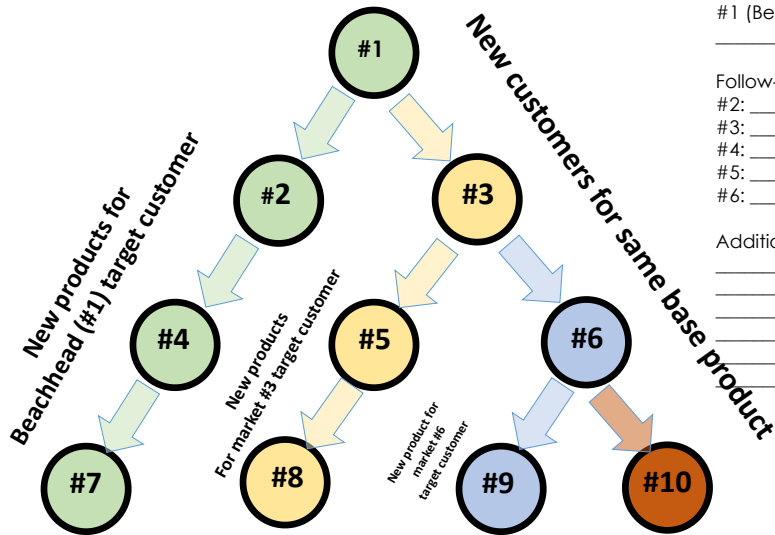
the pins on the left side of the set are adjacent markets;

the pins on the right side of the set are additional applications for the customer in a particular market

[Geoffrey Moore Crossing the Chasm]



Plan for Follow-on Markets



#1 (Beachhead Market):

Follow-on Markets:

- #2: _____
- #3: _____
- #4: _____
- #5: _____
- #6: _____

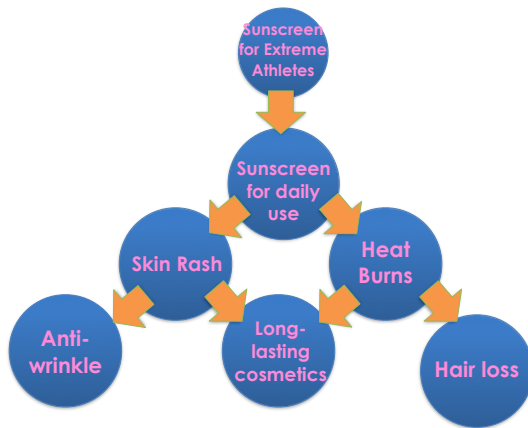
Additional markets:

- _____
- _____
- _____
- _____

How to calculate broader TAM?

- Think through the various adjacent markets and upselling opportunities that logically make sense with your product.
- You should be able to identify **at least five or six follow-on markets**.
- Use the same general methodology to calculate the TAM for each follow-on market that you did for your beachhead TAM in Step 4.
- If you want to attract venture capital and/or build a big business, the general rule is that the broader TAM (for 10 or less follow-on markets), plus your beachhead market TAM, should **add up to over \$1B**.
- Use all the techniques of Step #4, making sure the units are correct; but you need a lot less primary market research for now.
- Don't spend too much time for now.

Broader TAM Sizing Example



SMART SKIN CARE Long-lasting protection for your skin

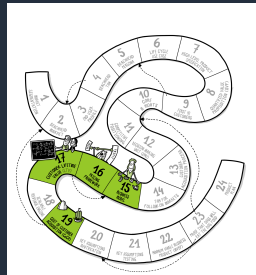
TAM calculation



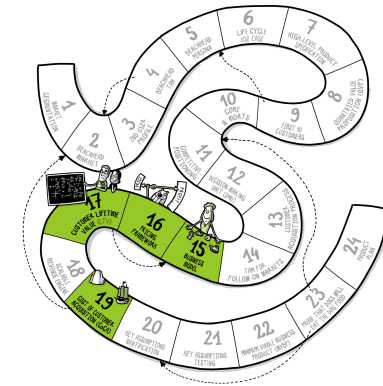
- Determine **how much annual revenue an individual end user is worth**.
- Multiply the revenue per end user by the number of end users to calculate the **TAM as dollars per year**.
- Make some assumptions about **how much a customer is willing to pay per end user**.
 - ▶ Base the number on the budgets of the potential customers you have identified.
 - ▶ **How much are they spending today** to accomplish what your product does?
 - ▶ **How much have they paid in the past** for other new products?
 - ▶ **How much value does your product create** for them?

Module 4: Disciplined Entrepreneurship

Section 6: Business Models



How do you make money off your product?



- 15 Design a business model
- 16 Set your pricing framework
- 17 Calculate the lifetime of an acquired customer (LTV)
- 19 Calculate the cost of customer acquisition (CAC)

Section 6 Contents



- DH Step 15: Business Model Design
- Business Model Patterns
- DH Step 16: Pricing Framework
- DH Step 17: LTV
- DH Step 19: COCA

Section 6 Learning Objectives



After attending this module, studying its case studies and reading assignments, and watching suggested videos you should be able to:

- Understand and explain the Business Model Canvas methodology.
- Understand innovative Business Model Patterns and apply them to your idea.
- Appraise techniques to help you design Business Models.
- Understand the significance of Business Models.
- Understand, analyze and apply Freemium, Bait & Hook and Open Business Models.
- Understand the significance of Business Models.
- Understand and explain the Business Model Canvas methodology.
- Understand innovative Business Model Patterns and apply them to your idea.
- Appraise and apply techniques and tools to help you design Business Models.

Readings



- Chapter 2: Patterns. *Business Model Generation*, Alexander Osterwalder and Yves Pigneur, Wiley 2010.
- Chapters 16, 17, 19. *Disciplined Entrepreneurship*, Bill Aulet, Wiley 2013.
- Business Model Canvas: A Complete Guide.
 - ▶ <https://www.cleverism.com/business-model-canvas-complete-guide/>
- Cost Structure Block in Business Model Canvas.
 - ▶ <https://www.cleverism.com/cost-structure-block-in-business-model-canvas/>
- Pricing Your Product by Sequoia.
 - ▶ <https://www.sequoiacap.com/article/pricing-your-product/>
- What's your TRUE customer lifetime value (LTV)? by David Skok.
 - ▶ <https://www.forentrepreneurs.com/ltv/>
- The 3 Pricing Strategies Your Startup Should Choose From by Tomasz Tunguz, *Inc.*
 - ▶ <https://www.inc.com/linkedin/tomasz-tunguz/only-3-pricing-strategies-your-startup-tomasz-tunguz.html>
- The 10 Most Popular Startup Revenue Models by Founders Intitute.
 - ▶ <https://fi.co/insight/the-10-most-popular-startup-revenue-models>

Videos

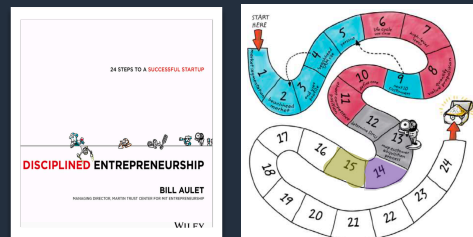


- Nine Business Models and the Metrics Investors Want by Anu Hariharan, Y Combinator (August 2019)
 - ▶ <https://www.youtube.com/watch?v=PTg3RZPXgLg>
 - ▶ Transcript: <https://jotengine.com/transcriptions/M7tQs9xzHM4N7V6MdXB6nw>
- Concrete Steps to Calculate COCA by Bill Aulet, MIT.
 - ▶ <https://youtu.be/Tn23iwj3gww>

Section 6: Business Models

Step 15: Business Model Design

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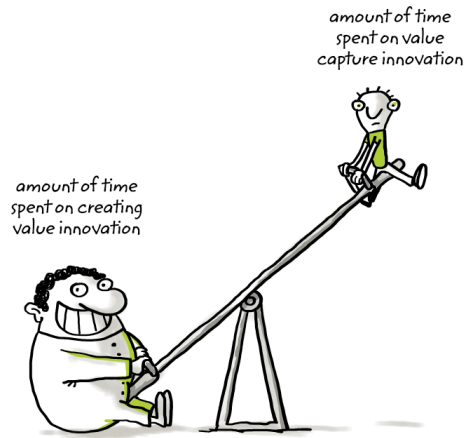
What are we doing?



Step #15

- Examine existing **business models** across industries for capturing some of the value your product brings to your customer.
- Use the work you have done in other steps to brainstorm an innovative model for your venture.

Why are we doing this?



Me thinks you need to get things more in balance!

477 Source: **DISCIPLINED ENTREPRENEURSHIP**

Why are we doing this?

- Entrepreneurs often invest a lot of time in
 - ▶ developing the End User Profile, the product definition, and the value proposition, **showing how they will create value for the customer**,
- but barely any time figuring out **how that value translates into a profitable business**.
- Why spend all this time focusing on innovation related to technology and product design without a commensurate amount of time on **innovating with your business model?**

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Companies that spend time and effort on innovative business models can see enormous payback.



WHAT IS A BUSINESS MODEL?

What is a Business Model?



A business model describes the rationale of how an organization creates, delivers, and captures value.

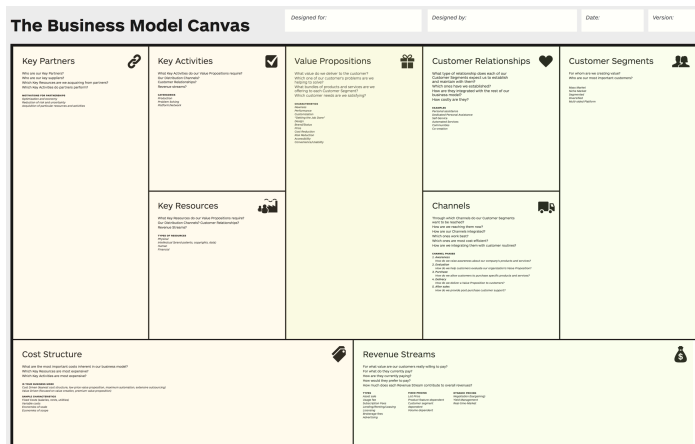
The business model is like a **blueprint** for a strategy to be implemented through organizational **structures, processes, and systems.**

A business model can be described through **nine basic building blocks** that show the logic of how a company intends to make money.

Business Model Canvas

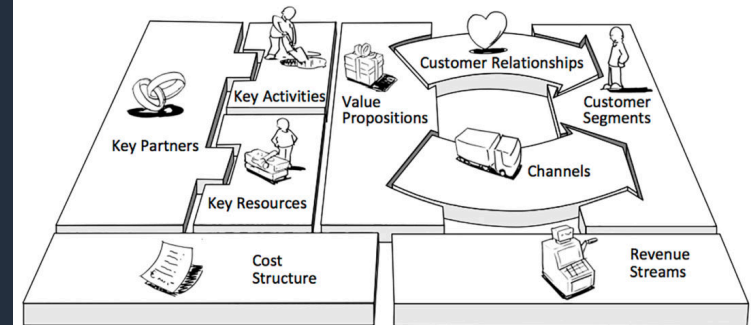


Left canvas: efficiency



Right canvas: Value

Business Model Canvas

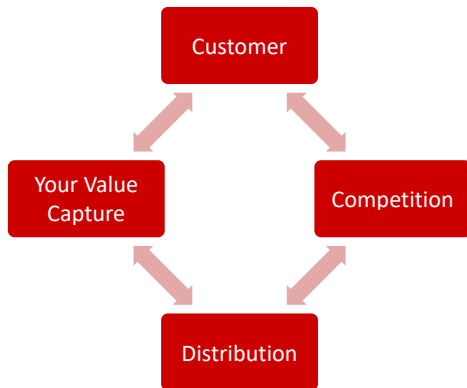


Business Model is NOT Pricing

- A business model is a framework by which you extract from your customers some portion of the value your product creates for them.
- It is the idea that the amount of money your venture gets paid is based on how much value the customer gets from your product, and not some arbitrary markup based on your costs.
- You should constantly be working toward achieving business models and pricing that are value-based even if you have to make temporary shifts along the way to get there.
 - ▶ Pricing matters surprisingly less than designing an effective business model, because the latter has a more direct influence on your ability to extract value over the lifetime of your business.

Key Elements for Business Model Design

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- 1. Customer:** Understand what the customer is willing to do.
 - ▶ Use knowledge from **Decision-Making Unit (step 12)** and **Process to Acquire a Paying Customer (step 13)**.
- 2. Value Creation and Capture:** Assess how much value your product provides to your customer and when. Then determine which ways of capturing value match up well.
 - ▶ Use your **Quantified Value Proposition analysis (step 8)**.
- 3. Competition:** Identify what your competition is doing (step 11).
- 4. Distribution:** Make sure your distribution channel has the right incentives to sell your product.

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Consumables

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- For the customer, the benefit is a **low up-front cost**, with **ongoing costs based on usage**, which the customer can usually control.
- The customer might not have an easy way to pay for a large up-front cost but has much more capability to procure once usage has started. Once usage has started, they can justify the purchase of some consumable product the solution uses.
- The amount of consumable that needs to be purchased is directly related to usage; and, in many cases, your customer can pass the cost on to their own customers.
- This is a very popular model for **medical devices**, but it is also used frequently in the consumer space:
 - ▶ Razor/razor blade model made famous by Gillette.
 - ▶ HP is another example: almost all if not all of their profit on printers comes from selling inkjet cartridges.

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What Types of Business Models are there to Capture Value?

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- One Time Upfront Charge (plus maintenance)
- Licensing
- Subscription/Leasing
- Shared Savings
- Consumables
- O&M (Operating and Maintenance)
- Cost Plus
- Upsell high margin add ons
- Advertising
- Transaction %
- Freemium
- Cell Phone Plan (or PPA in energy)
- Utility model (per usage)
- Franchise model
- Micro-transactions
- Parking meter
- Other

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Cost Plus Scenario

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- **Customer pays a set percentage above the cost of producing the product.**
 - ▶ Common in government contracts as well as situations where you and your customer want to share the risk of producing the product.
 - ▶ Attractive when product is immature and there will be scope creep - the offering should mature and then migrate to a different business model.
 - ▶ Requires agreement on the accounting assumptions, trusting that the numbers are correct and will continue to be correct.
 - ▶ It can also create incentives that reward activity rather than progress, which is bad for both you and your customer.

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Upsell with High-Margin Products

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- The **central product** is sold at a **very low margin**, but the overall margin is increased from the sale of **very high-margin add-on products**.
- Often used in consumer electronics stores or websites and frequently in new car sales:
 - ▶ In a **consumer electronics** retailer, frequently an item like a camera might be sold at **just above cost**, which attracts the customer, but then they buy add-ons that have a higher margin and customers are sold a **warranty extension** for one, two, or three years that also has a very high margin.
 - ▶ When **buying a car**, it is the additional items like **warranty extension, accessories, rustproofing** etc that are the high-margin products where sellers make the lion's share of their profits.

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Reselling the Data Collected—or Temporary Access to It

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- Somewhat similar to the advertising model.
- Reselling user data requires **first attracting end users with a free product**, then **receiving money from third parties who pay for access to demographic and other information** about your users.
 - ▶ This is a major source of revenue for **LinkedIn**, which sells a special package for recruiters that gives access to a wide array of LinkedIn user data.
 - ▶ The medical industry also resells access to user data for market research.

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Transaction Fee

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- Online retailers often **pay or receive a commission for referrals that lead to sales**.
- One obvious example is **eBay**, which receives a fee from each successful auction, paid by the seller.
- The model is similar to how credit card companies work, where a percentage of each transaction goes to the credit card company.

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Parking Meter

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- Charge very low prices but very high late fees.
- Used also by credit card companies and (for a while) Blockbuster.
 - ▶ The problem that **Blockbuster** discovered, however, is that loyal customers can become alienated by such late fees, so when Netflix emerged with the tagline “no late fees,” Blockbuster lost significant market share and never recovered.
- The lesson is: **do not take advantage of your customer's naiveté as a central pillar of your business model**.

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Operating and Maintenance

- A new business might not want to really sell a product but rather **get paid for running a plant** or **other operation for a fee**.
- While this is similar in some ways to a consulting agreement, the customer has more incentives to control or cut costs, as it will directly impact the customer's income.
- This model is common in the energy sector.

Microtransactions

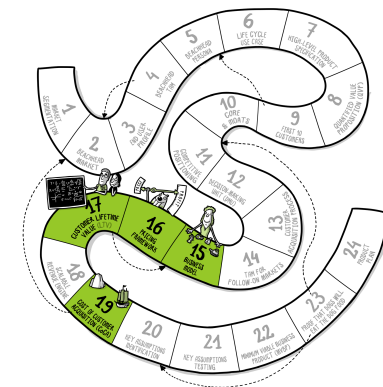
- A new successful model that came into vogue with online computer games, and is now being tested to try to save newspapers, is **microtransactions**.
- In this model, the customer is asked to provide their credit card and then they make very small (defined as less than \$12; often they are \$1 or less) transactions for digital goods (which have virtually no marginal cost because they are electrons).
- There are many of them so they can add up.

Section 7 Contents



- DH Step 16: Pricing Framework
- DH Step 17: Lifetime Value of an Acquired Customer
- DH Step 19: Cost of Customer Acquisition (COCA)

Outline



- 15 Design a business model
- 16 Set your pricing framework
- 17 Calculate the lifetime of an acquired customer (LTV)
- 19 Calculate the cost of customer acquisition (CAC)

Section 7 Learning Objectives



After attending this module, studying its case studies and reading assignments, and watching suggested videos you should be able to:

- Understand and explain the concepts and challenges of pricing your product.
- Explore and develop Pricing Frameworks (Step 16).
- Describe, analyze and evaluate the Lifetime Value of an Acquired Customer (Step 17).
- Understand the significance of Customer Acquisition (COCA), analyze and calculate COCA.

Pricing Framework

• What?

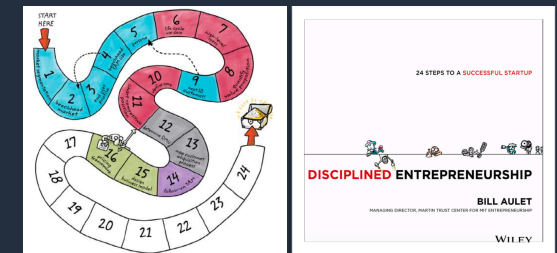
- ▶ Determine a framework to **test pricing for your new product** and make a decision on what the **initial price** will be.
- ▶ Create a first-pass strategy that will allow you to calculate the **Lifetime Value of an Acquired Customer**, which along with the **Cost of Customer Acquisition** is an important variable that indicates the **profitability** of your business.

• Why?

- ▶ Small changes in pricing can have a huge impact on your profitability.

Section 7: Pricing, LTV and COCA

Step 16: Pricing Framework



Now that you have a business model, it is time for initial Pricing decisions.

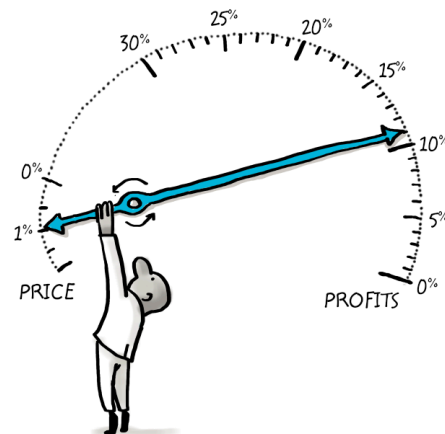
Again, always look at this from the customer's perspective and not just yours.

Consider competition as well when determining your pricing strategy.

Step #16: Pricing Framework

• How?

- ▶ Use your **Quantified Value Proposition** and **Business Model** to determine an appropriate **first-pass framework for pricing your product**.
- ▶ An iterative and ongoing process where you start at some point that is the best guess for that moment and then you spiral closer and closer to a better answer.



Improving pricing
can have big effect on profits...
but be patient until market matures
and you have enough info

Importance

- The Pricing Framework is extremely important in influencing your profitability, so it is important you price your product correctly.
- For companies in the Global 1200, a price that is 1% higher would lead to an 11% increase in overall profits, because: once costs have been paid, the remaining revenue is all profit ["The 1% Windfall", citing McKinsey study.]
- Of course, there is always an upper limit to your price due to the dynamics of the Decision-Making Unit, Process to Acquire a Paying Customer, and sales cycle.
- The Pricing Framework is your attempt to strike a balance between attracting as much revenue as possible and attracting as many customers as possible.

Basic Pricing Concepts

- Costs Shouldn't Be a Factor in Deciding Price.
- Use the **DMU** and the **Process to Acquire a Paying Customer** to Identify **Key Price Points**.
- Understand the Prices of the Customer's Alternatives.
- Different Types of Customers Will Pay Different Prices.
- Be Flexible with Pricing for **Early Testers** and "**Lighthouse Customers.**"
- It Is Always **Easier to Drop** the Price **Than to Raise** the Price.

Cost vs Price

- Set your pricing based on the value the customer gets from your product, rather than on your costs.
- Cost-based strategies almost always leave money on the table.
 - In software, for instance, the marginal cost (the cost of producing one more copy of the software) is virtually zero, so pricing based on cost would make it extremely difficult to make any money.
- Instead, use your **Quantified Value Proposition**, determine how much value your customer receives from your product, and **charge some fraction of that**. The exact fraction depends on the competition and the industry, but:
 - **20% tends to be a reasonable starting point**, leaving 80% of the value for the customer, who is taking a risk by incorporating your product into their infrastructure.
- Some companies, like Microsoft and Intel, have been able to take advantage of monopolistic positions to price even higher, but short-term gains through this strategy may create long-term problems for your business if your customers think you are gouging them and other companies emerge with different or lower-priced products.

Cost vs Price: Remarks

- **Don't give out your cost numbers to anyone** who does not have a real need to know. Definitely do not tell your sales group!
 - Any good salesperson will use any and all of their resources to make a sale, even if it means driving the price down to costs. This mentality is in fact why you hired them, love them, and what makes them effective.
 - If you open yourself up to conversations about costs it can lead back to inappropriate conversations about your pricing, which will lead to decreased morale, productivity, and potentially profitability.

Cost vs Price: Remarks

- The percentage of customer value that you can capture with your pricing depends on your **business model** and how much **risk you are pushing onto your customer**.
 - A monthly subscription model, where a customer is paying over time, but can also cancel at any time, will allow you to **price higher** than an up-front charge model, where the customer is taking **additional risk** by paying for the product in full before knowing how beneficial the product will be for them.
- If costs come up in conversations about your product, make it clear that your price is not based on cost. Immediately turn the discussion around to how much value you create for the customer.
 - **“My business is very simple. My customers give me two dollars and they get back ten. That is why we are so successful.”** [Steve Walske]

Identifying Key Price Points

- The **Decision-Making Unit** and **Process to Acquire a Paying Customer** provide invaluable information about **how your customer's budget works**.
- Knowing an individual's purchasing authority limits can help reduce friction in the sales process.
- One example of using this information to inform your pricing comes from Kinova of Montreal, Quebec.
 - Kinova sells the Jaco assistive robotic arm for disabled people in wheelchairs.
 - When Kinova entered the market in the Netherlands, primary market research found that consumers could get reimbursed up to **28,000 euros** from their health insurance for purchasing the product.
 - If the price went above 28,000 euros, Kinova would need the consumer to pay the extra amount out of pocket, creating friction in the sales process.
 - Despite an extremely strong value proposition that could have supported a higher price, Kinova priced its product at 28,000 euros, which **dramatically decreased the company's sales cycle length** and **Cost of Customer Acquisition**.
 - As a result, the company quickly ramped up sales and enjoyed a much larger market share than it would if it had priced the product at a higher amount.



Prices of Customer's Alternatives

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- It is imperative to understand, from the customer's perspective, the **alternative products available**, and **how much the customer would pay for each**, including the customer's **status quo**.
- Carefully **research what other alternatives** would achieve similar benefits for the customer, what the **prices** of those alternatives are, and **how much better** your solution is.
- Data collection and analysis is very critical in this step.

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Different Prices for Pay Different Customer Types

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- “The bad news is you will sell half as many units as you think you will. But the good news is you will be able to sell to the first group of buyers at twice the price you think you will.” [Mitch Kapor.]
- Different types of customers will pay different amounts, depending on how early or late they are buying relative to other customers.
 - A differentiated pricing strategy and structure for these distinct customer segments will mean substantially higher profits for your business.

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Customer waves

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- **Technological enthusiasts** are the first people to buy a product. They love technology and will buy one of anything. Some are consumers, while others work in university R&D labs, national labs, or companies like General Electric.
 - They will only buy one (hence half the number you expect) but since they want to have it right away, before anyone else, they are willing to pay a much higher price (hence twice the price).
- **Early adopters** are also price-inelastic but are very interested in feeling like they got a special deal and will require lots of attention and extra service; so make sure to build that into your pricing model.
- **The early majority (pragmatists)** is where you will make yourself a great and truly scalable company. That is the price point that most of us think about when we are talking about and planning for a pricing strategy.
- **The late majority (conservatives)** are later in the process and your pricing strategy will be very clear by then; they like well-defined, conservative plans.
- **Laggards/skeptics** come so late in the process that you may have already sold your company at this point.

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Early Testers and “Lighthouse Customers.”

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- **Early testers** will **collaborate with you to improve** your product
- **Lighthouse customers** strongly **influence the purchasing decisions** of others in the industry.
 - These customers may help you create case studies or do on-site seminars where you can promote your product, or otherwise be strong references in the market.
- Allow for **flexibility on pricing** with these two groups of customers. **How?**
 - **Discounting** an up-front charge or through a **free or low-cost trial** period.
- However, **do not give your product away** to them, and **do not discount any ongoing revenue streams**. **Why?**
 - That would signal that your product has a very low value, setting a dangerous precedent.
- Have early customers sign an agreement where their **pricing terms be kept confidential**, and be firm with other, later customers who try to secure the same pricing terms.
 - You do not want your early one-time-only deals to define your general pricing strategy.
- Additionally, if you have the option to discount hardware or software, **prefer to discount the hardware** and **hold the line on software pricing**.
 - Customers can more easily understand hardware value versus software value, and it will be easier to reestablish higher hardware pricing as opposed to reestablishing software pricing.

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Price: Easier to Drop than Raise

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- It is best to **price high and offer discounts** initially, rather than **price too low and find you need to raise** the price later.
- Usually, **first customers have larger budgets than later customers** who are more likely to accept less-than-cutting-edge technology in exchange for a lower price.
- Also, you will find it difficult to convince customers to accept a higher price when they are used to paying a lower price.
- Sometimes, a price increase is necessary as you learn more about the market, but **successful price increases do not happen frequently**.

Case Study: Helios



- Developing an exciting **new thin-film technology that captured solar energy and could release the energy on demand**.
- **Beachhead market:** remotely deicing windows on corporate and government fleets of automobiles.
- Primary alternatives: drivers manually deicing their individual cars, or maintenance employees manually deicing a fleet.
 - Union rules and desires also had to be included. To get to a good educated guess on pricing, the team had to clearly understand its **Quantified Value Proposition**, as well as the rational and emotional qualities of the Decision-Making Unit.
- The team created a first-pass Pricing Framework, and then once they calculated their Lifetime Value of an Acquired Customer and Cost of Customer Acquisition in later steps, they went back and revised their Pricing Framework based on those calculations.
- In the revised pricing framework, they set the price at **\$100 per unit**, which would provide \$100K in the first year of sales (based on the target customer's average vehicle fleet size of 1,000). With average 20 percent fleet turnover, they would net \$20K per year afterward.
- They compared their technology to window tinting, concluding that customers would judge their pricing against what they were used to paying for tinting. The strategy also discussed a discounting strategy for pilot customers to jump-start positive word of mouth.

- Pricing is primarily about determining how much value your customer gets from your product, and capturing a fraction of that value back for your business.
- Costs are irrelevant to determining your pricing structure.
- You will be able to charge a higher price to early customers as opposed to later customers, but be flexible in offering special, one-time-only discounts to select early testers and lighthouse customers, as they will be far more beneficial to your product's success than the average early customer.
- Unlike your business model, pricing will continually change, both as a result of information you gather and as you progress throughout the 24 Steps, as well as in response to market conditions.

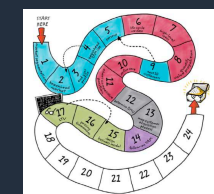


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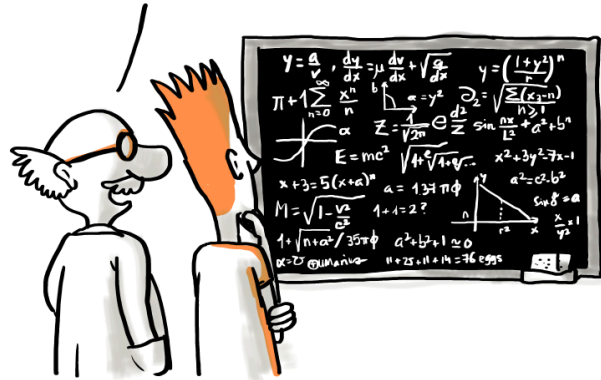
Section 7: Pricing, LTV and COCA

Step 17: Calculate the Lifetime Value (LTV) of an Acquired Customer



Step #17: LTV Calculation

Don't worry,
entrepreneurial math
is much simpler.
If the LTV does not equal
3 times the COCA,
none of this matters!



•What?

- ▶ Add up the revenue that you can expect to receive from an individual customer.
- ▶ Discount the revenue based on how much it will cost you to repay investors over time.
- ▶ Can you acquire customers at a cost that is substantially less than what their value will be to your new venture over the customer's lifetime?

•Why?

- ▶ Determine how profitable your business will be in the beachhead market.
- ▶ The LTV serves as the most fundamental checkpoint both to determine how viable the business is, and to make sure you clearly understand what will drive the sustainability and profitability of the business so that you stay focused going forward.

Case Study: pets.com



- Company founded in August 1998 to sell products over the Internet to consumers for their pets.
- Concept: people spent a lot of money on their pets; the company could capture those sales and become very large and profitable with a new business model that did not involve the costs of maintaining brick-and-mortar retail stores.
- Raised millions of dollars from investors, aggressively advertised website, acquired customers.
- No rigorous analysis of unit economics done:
 - ▶ Because of the low margin on the products they were selling and the very high costs of customer acquisition, the company was losing money with each new customer it captured.
 - ▶ The company was bleeding cash but management said it was simply a matter of volume, that when the customer base was large enough, the company would be cash-flow positive.
 - ▶ This was wishful thinking rather than genuine economic analysis because management had not developed a clear path to increase the LTV, nor had they developed a clear path to significantly reduce the COCA.
 - ▶ So the bleeding of cash just increased as they got more customers.
- Soon the investors realized that the math for Pets.com did not work. In November 2000, the company was shut down and assets were liquidated.
- **\$300 million dollars of investor money had been lost.**

Case study: Groupon



- Groupon is an American worldwide e-commerce marketplace connecting subscribers with local merchants by offering activities, travel, goods and services in 15 countries.
- Business Model:
 - ▶ Originally, Groupon offered a single deal per day. In order to activate the deal, a certain number of people would have to buy in. These daily deals were available for 24 hours, and early offers included two-for-one pizzas and 50% off at local retailers. Once a deal was activated, anyone who purchased it would receive a voucher that could be redeemed later.
 - ▶ This reduced risk for retailers, who can treat the coupons as quantity discounts as well as sales promotion tools.
 - ▶ In the early years before revenue splits began to adjust as necessary, Groupon made money by keeping approximately half the money the customer pays for the coupon. More recently that split could vary depending on many factors.

Case study: Groupon



- The company leveraged word-of-mouth advertising through social media to become a fast-growing company—in terms of revenue.
 - By October 2010, Groupon was available in 150 cities in North America and 100 cities in Europe, Asia and South America, and had 35 million registered users.
 - By the end of March 2015, Groupon served more than 500 cities worldwide, nearly 48.1 million active customers and featured more than 425,000 active deals globally in 48 countries.
- However:
 - Groupon had not established a viable Core, so as competition increased, its LTV would likely go down and its COCA would go up as it fought in a crowded marketplace to find more customers.

Case study: Groupon



LTV Importance

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- It is very important to understand **what drives** the value of LTV:
 - the underlying factors so you can understand your risks
 - how you can increase LTV over time.
- This will also help you when you get real paying customers and you need to analyze what their LTV is and how it is trending.

Key Inputs for LTV calculation

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- **One-time Revenue Stream, If Any.**
 - Typically, if there is an up-front charge for your product, it is a one-time source of revenue.
- **Recurring Revenue Streams, If Any.**
 - Subscription and maintenance fees, as well as repeated purchases of consumables, are all recurring revenues.
- **Additional Revenue Opportunities.**
 - If there are opportunities to “upsell” the customer, where the customer purchases additional products with minimal additional effort from your sales team, include these as revenue streams.
 - Remember to consider the DMU and the sales cycle you calculated earlier. Underestimating either of these could lead you to a distorted view.

Key Inputs for LTV calculation

- **Gross Margin** for Each Of Your Revenue Streams.
 - ▶ This is the **price of your product minus the production cost of making an individual product**. Cost does not include sales and marketing costs or overhead costs like R&D or administrative expenses.
- **Retention Rate**.
 - ▶ For each recurring revenue stream, this is the **percentage of customers who continue to pay the recurring fee for the product**. Usually expressed as a **monthly rate or a yearly rate**. (The opposite is "churn rate," which is the % of customers you lose.)
 - ▶ Assume, for simplicity, that once the customer has stopped paying a recurring fee, the customer will no longer be receptive to up-selling. Do not assume that on a multiyear or multimonth contract customers will make all of their payments. Early termination of a contract by the customer should be incorporated into the retention rate.
- **Life of Product**.
 - ▶ For each one-time revenue stream, this is the **length of time you expect the product to last** before the customer will need to either purchase a replacement or discontinue use of the product.

LTV calculation considerations

- **LTV = Net Present Value of your profits from year 0 through year 5.**
- As a brand-new business, you will **calculate the LTV over a five-year period**.
 - ▶ When projecting more than five years out, the compounded cost of capital for a startup is so high that it negates what value your customer provides you beyond five years.
 - ▶ The customer still has value to you beyond five years, but you also have to factor your cost of capital rate into the calculation.

Key Inputs for LTV calculation

- **Next Product Purchase Rate**.
 - ▶ For each one-time revenue stream, this is the **percentage of customers who will buy a replacement product from you** when the current product has reached the end of its life.
- **Cost of Capital Rate** for your business.
 - ▶ Expressed as a yearly rate, this is **how much it costs you, in debt or equity, to get money from investors for your business**.
 - ▶ For a new entrepreneur who lacks a track record and is just getting started, the appropriate number is most likely **between 35 and 75 percent per year**.
 - ▶ This number is so **high** because an investor gives you money he cannot get back for years at a time (an illiquid investment). The investor is also taking a great risk because you are a brand-new business. These two factors mean that investors will charge you quite a premium for capital.

Net present value

- **Net present value** is the present value of the cash flows at the required rate of return of your project compared to your initial investment.
- By looking at all of the money you expect to make from the investment and translating those **returns into today's dollars**, you can decide whether the project is worthwhile.

$$\text{Net Present Value} = \sum \frac{\text{Year } n \text{ Total Cash Flow}}{(1 + \text{Discount Rate})^n}$$

Where "n" is the year whose cash flow is being discounted.

- The **discount rate** will be company-specific as it's related to how the company gets its funds.
- It's the rate of return that the investors expect or the cost of borrowing money.
- If shareholders expect a 12% return, that is the discount rate the company will use to calculate NPV. If the firm pays 4% interest on its debt, then it may use that figure as the discount rate.

Present Value



- The **present value** is a financial concept that **calculates the value of future cash inflows or outflows in today's dollars**.
- It determines what a future payment or cash flow is worth today, based on the **time value of money**.
- The **time value of money** is the principle that **money today is worth more than the same amount of money in the future**
- **Why?**
- Because money can earn interest or grow in value over time, so:
 - A dollar received today is worth more than a dollar received in the future.

Present Value



- Imagine you're considering an investment that will pay you **\$1,000 one year from now**.
- To decide whether this investment is **worthwhile**, you need to compare this future \$1,000 to what its value would be today, considering you could have invested your money elsewhere.
- This is where the **discount rate** comes into play.
- Let's use a discount rate of **10%**, which
 - reflects the return you'd expect from the best alternative investment with a similar risk profile, or
 - could represent the overall return you require to make any investment worthwhile given the risks involved.
- This rate is crucial because it factors in the **time value of money, inflation, and the opportunity cost of investing in one project over another**.

Present Value



Calculating Present Value:

- The formula to calculate the present value (PV) of a future amount (FV) using a discount rate (r) for one year is:

$$FV = PV(FV) \times (1 + r) \Rightarrow PV(FV) = \frac{FV}{(1 + r)}$$

For n years:

$$FV = PV(FV) \times (1 + r)^n \Rightarrow PV(FV) = \frac{FV}{(1 + r)^n}$$

Present Value



- For example, if you expect to receive \$1000 in one year, and the discount rate is 5%, the present value of the future cash flow would be:
- $PV = \$1000 / (1 + 0.05)^1 = \952.4
- This means that \$952.4 received today is equivalent in value to \$1000 received in one year, assuming a 5% discount rate.
- In general, the present value concept is used to evaluate investment opportunities, financial instruments such as bonds, and other financial decisions that involve future cash flows.

Present Value



- For a startup, the **present value** is a financial concept that **calculates the value of future cash inflows or outflows in today's dollars**. In other words, it determines what a future payment or cash flow is worth today, based on the time value of money.

- The present value formula is:

$$PV = \frac{CF}{(1 + r)^n}$$

- where **PV** is the present value
- **CF** is the future cash flow
- **r** is the discount rate
- **n** is the number of periods until the future cash flow is received.

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Net Present Value



- The net present value (NPV) is a financial metric that calculates the present value of future cash inflows and outflows of an investment, taking into account the time value of money.

- In the case of a startup, the NPV represents the value of the expected future cash flows from the startup discounted to the present day.

- To calculate the NPV of a startup, you would estimate the **expected cash inflows and outflows over a certain period**, usually **several years**.

- You would then **discount each year's cash flows by the appropriate rate**, which takes into account the time value of money and the risk associated with the investment. The discount rate is typically the cost of capital for the startup or the rate of return that investors require.

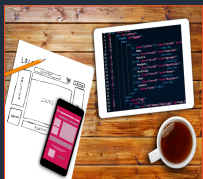
- The formula for calculating the NPV is:

$$NPV = \frac{(Cash\ inflows - Cash\ outflows)}{(1 + Discount\ rate)^t}$$

- where t is the time period, usually measured in years.

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Net Present Value



- If the **NPV of a startup is positive**, it indicates that the expected future cash inflows are greater than the present value of the cash outflows, and **the investment is expected to generate a positive return**.

- If the NPV is **negative**, the investment is expected to generate a **negative return** and may **not be a good investment**.

- It's important to note that calculating the NPV of a startup can be challenging because startups often **have uncertain and volatile cash flows**, making it difficult to estimate future cash flows and the appropriate discount rate.

- Additionally, startups often have **high risk**, which can also **impact the discount rate** used in the calculation.

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LTV calculation considerations

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- For each revenue stream, use the **gross margin** and the **retention rate** to calculate your **profit** for the first year your customer buys the product from you ("Year 0"), as well as the subsequent five years.
- Then, **total the profit across all revenue streams** for each year.
- Calculate the **Present Value at Above Cost of Capital**, which discounts the profit to take into account that your investors will need to recoup with interest their investment in your business.
- The present value for year 0 is equal to that year's profits. To calculate the present value for each year's profits beyond year 0, use the following formula:

$$\text{Present Value} = \text{Profit} \times (1 - \text{Cost of Capital Rate})^t$$

where t = number of years after year 0.

LTV calculation considerations

- For each revenue stream, use the **gross margin** and the **retention rate** to calculate your **profit** for the first year your customer buys the product from you ("Year 0"), as well as the subsequent five years.
- Then, **total the profit across all revenue streams** for each year.
- Calculate the **Present Value at Above Cost of Capital**, which discounts the profit to take into account that your investors will need to recoup with interest their investment in your business.
- The present value for year 0 is equal to that year's profits. To calculate the present value for each year's profits beyond year 0, use the following formula:

$$\text{Present Value}(t) = \text{Profit}(t) \times \text{Net Present Value Factor}(t)$$

$$\text{Present Value}(t) = \text{Profit}(t) / (1 + \text{Cost of Capital Rate})^t$$

where t = number of years after year 0.

LTV calculation considerations

- The LTV only will not tell you how attractive your business is; you also need to calculate the COCA.
- An LTV of \$10,000 per customer is great if your COCA is \$1,000 per customer, but is poor if your COCA is \$50,000 per customer.
 - ▶ Check VC capitalist's David Skok blog www.forentrepreneurs.com for more information.
- For software as a service (SaaS) companies, Skok believes a sound rule of thumb for **the ratio of LTV to COCA should be 3 to 1**:
 - ▶ COCA does not include many other costs in your business such as research and development, finance and administration, and other overhead (not to mention profit). Therefore, there needs to be a significant allowance for these factors.
 - ▶ There is also usually at least some over-optimism built into the LTV and COCA calculations despite your greatest efforts to make it real, so a 3:1 ratio ensures there is plenty of room for error.
 - ▶ A new venture is a highly variable system, so having a high ratio of 3:1 or greater will ensure that you have the ability to manage through the tough times when the unexpected happens (e.g., product delays, competitive reaction, recession).

Example of LTV calculation

Widget



- Calculate the LTV based on a hypothetical company that makes a "widget."
- In the business model, there is a one-time charge for the widget, with an annual recurring charge for maintenance.

Assumptions

Widget



- **One-time revenue:** The widget is priced at \$10,000.
- **Recurring revenue:** Yearly maintenance fee of 15 percent of the widget's price after a six-month warranty period. The fee would therefore be \$750 in year 0 and \$1,500 in subsequent years.
- **Additional revenue opportunities:** None.
- **Gross margin** for each revenue stream:
 - ▶ Widget: 65 %.
 - ▶ Maintenance: 85 %.
- **Retention rate:**
 - ▶ Maintenance: 100 % per year in the first year;
 - ▶ 90 % per year in subsequent years.
- **Life of product:** Five years.
- **Next product purchase rate:** 75 % of those customers who are still paying the maintenance fee at the time of next product purchase.
- **Cost of capital rate:** 50 %.

Key drivers of LTV

Widget



- **Very high cost of capital** that new companies have: limited ability to attract investments gets very expensive.
 - ▶ *Profits tomorrow are much less valuable than today's profits.*
 - ▶ This makes the subscription and consumables business models not as clear a winner as one would think.
- **Gross profit margin** for your various streams of revenue
- **Customer retention rate.** It is typically cheaper to keep an existing customer than to find a new one, making this a big leverage point.

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: Widget						
Price of widget	\$10,000					\$10,000
Next product purchase rate (beyond year 0)						75%

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: Widget						
Price of widget	\$10,000					\$10,000

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: Widget						
Price of widget	\$10,000					\$10,000
Next product purchase rate (beyond year 0)						75%
Gross margin for widget	65%					65%
Profit from widget	\$6,500					\$4,875

This is the price of your product minus the production cost of making an individual product. Cost does not include sales and marketing costs or overhead costs like R&D or administrative expenses.

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: WWidget						
Price of widget	\$10,000					\$10,000
Next product purchase rate (beyond year 0)						75%
Gross margin for widget	65%					65%
Profit from widget	\$6,500					\$4,875
Revenue time series: Maintenance						
Price of yearly maintenance contract	\$750	\$1,500	\$1,500	\$1,500	\$1,500	\$750
Retention rate	100%	90%	90%	90%	90%	<i>n/a (see next product purchase rate)</i>
Cumulative retention rate	100%	90%	81%	72.9%	65.6%	65.6%
Cumulative retention rate = r^t where r = retention rate and t = no. of years after year 0						
Next product purchase rate						75%
Gross margin for maintenance	85%	85%	85%	85%	85%	85%
Profit from maintenance	\$637.50	\$1,147.50	\$1,032.75	\$929.48	\$836.40	\$313.65

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
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Profit from maintenance	\$637.50	\$1,147.50	\$1,032.75	\$929.48	\$836.40	\$313.65
Sum of profits	\$7,137.50	\$1,147.50	\$1,032.75	\$929.48	\$836.40	\$5,188.65

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: WWidget						
Price of widget	\$10,000					\$10,000
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Profit from maintenance	\$637.50	\$1,147.50	\$1,032.75	\$929.48	\$836.40	\$313.65
Sum of profits	\$7,137.50	\$1,147.50	\$1,032.75	\$929.48	\$836.40	\$5,188.65
Cost of capital rate	50%	50%	50%	50%	50%	50%
Net present value factor	100%	50%	25%	12.5%	6.25%	3.125%
Net present value factor = $(1 - r)^t$ where r = cost of capital rate and t = no. of years after year 0						
Present value above cost of capital	\$7,137.50	\$573.75	\$258.19	\$116.19	\$52.28	\$162.15
Net present value of profits (LTV)	\$8,300.06					

Net present value is the present value of the cash flows at the required rate of return of your project compared to your initial investment.

Widget

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue Time Series: WWidget						
Price of widget	\$10,000					\$10,000
Next product purchase rate (beyond year 0)						75%
Gross margin for widget	65%					65%
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Retention rate	100%	90%	90%	90%	90%	<i>n/a (see next product purchase rate)</i>
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Cost of capital rate	50%	50%	50%	50%	50%	50%
Net present value factor	100%	50%	25%	12.5%	6.25%	3.125%
Net present value factor = $(1 - r)^t$ where r = cost of capital rate and t = no. of years after year 0						
Present value above cost of capital	\$7,137.50	\$573.75	\$258.19	\$116.19	\$52.28	\$162.15
Net present value of profits (LTV)	\$8,300.06					



- The biggest factor that entrepreneurs initially overlook in determining the Lifetime Value of their customers, is the **cost of capital**.
 - ▶ If you have access to low-cost capital, it can make a huge difference.
- When entrepreneurs do this calculation, they are usually surprised at **how low the Lifetime Value of a customer** is for their business.
- Besides LTV, you need to know the absolute number of the revenue stream and users in the out years.
- This will be a key determinant in the value of the asset you have created, which will make it much easier for you to get lower-cost money and potentially make you an attractive and valuable acquisition target.
- Operate with real numbers and understand what drives those numbers!

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- **The Business Model Decision**. Your choice can greatly affect your LTV and the amount of revenue you earn.
 - ▶ Recurring revenue models such as subscription models often increase revenue but **require additional capital from investors up front**, and thus have a **very high cost of capital**.
 - ▶ A one-time charge up front can reduce the amount of capital you need to get started, but is **not as lucrative on an ongoing basis**.
- **LTV Is about Profit, not Revenue**. Your gross margin and cost of capital rates are integral to determining an accurate LTV. The most common mistake entrepreneurs make on LTV calculations is they simply tally up the revenue streams; but **it is the profit that matters**.
- **Overhead Costs Aren't Negligible**. To simplify the LTV calculation, **overhead** costs (R&D and administrative expenses) are not included when determining the gross margin of a product; but to account for this, the LTV must be substantially higher than the COCA.
 - ▶ Overhead costs can be spread out over the total units of a product sold; so *as volume sold goes up, the overhead cost per item goes down*.

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Case study: Helios



- They determined the price should be \$100 per unit. This price (the expected net price after discounts) included the window cover and the software to remotely control the deicer on a smartphone for one year.
- Based on their business model, pricing decisions, and research on how much the average customer would buy in a typical transaction, the team determined that the yearly revenue per customer in the first year would be \$100,000.
- The typical customer fleet they targeted had 1,000 vehicles (some had more and some had less, but 1,000 was the average fleet size of their target market) and hence the \$100K net revenue per new customer estimate for the first year.
- In subsequent years, an average of 20 percent of the fleet would be replaced, so the new vehicles would need coating to be applied as well, providing a recurring revenue stream.

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Helios LTV assumptions



- **5% price increase** each year
- **90% customer renewal rate** (an aggressive assumption)
- **97% gross margin** because there will be additional marginal service and maintenance costs for each fleet
- **40% cost of capital**, as the business happens to have access to some lower-costs funds to get started

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Table 17.2 Lifetime Value Calculations for Helios
Numbers may not add up exactly to LTV per Fleet due to rounding.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue per Year (Assumes 5% Yearly Price Increase) =	\$ 100,000	\$18,900	\$17,861	\$16,878	\$15,950	\$15,073
Gross Margin Profits from Revenues =	\$ 97,000	\$18,333	\$17,325	\$16,372	\$15,471	\$14,620
Net Present Value at Above Cost of Capital =	\$ 97,000	\$11,000	\$ 6,237	\$ 3,536	\$ 2,005	\$ 1,137
NPV of Profit Stream or LTV per Fleet =	\$120,915					
Pricing (Unit Price)	\$100	Business Model is a one-time charge with no recurring revenue				
Average Yearly Revenue per Fleet in Yr 1	\$100K					
Gross Margin	97%					
Price Increase per Year	5%					
Life of Product	5 years					
Retention Rate	90%					
Cost of Capital for Company (est.)	40%					

Case Study: Helios Remarks



- Make a big initial sale to a fleet and move on, rather than building a “sticky” product that leveraged happy existing customers to gain additional sales.
- Collect largest payment in the first year ==> weak incentives to continue to work with customers and gain follow-on orders for the 20% annual turnover of vehicles.
- 90% retention rate figure, seems aggressive based on other companies' experiences.
- Surprising that the LTV was not higher; but the choice of the business model and pricing left the company with these economics for LTV.
- To sell a new fleet would take a lot of time, effort, and ultimately cost. The COCA would be in excess of \$30K and probably in excess of \$50K because of the high number of sales calls required.
- After Helios did their LTV calculation, they saw they would need to revisit their business model and pricing to find if there was a better way to monetize, as well as potentially expand their value proposition by adding more functionality and thinking about new ways to leverage the smartphone app that would activate the deicing system on vehicles.

Case study: Pet Rocks



- In 1975, advertising executive Gary Dahl invented the idea of a Pet Rock.
- It was a pet that required no maintenance and no cost after the initial purchase.
- It sold for \$3.95 each.



LTV calculation Pet Rocks



- One-time revenue: The widget is priced at \$3.95.
- Recurring revenue: None.
- Additional revenue opportunities: None.
- Gross margin for one-time revenue (which is the only revenue): 25 percent.
- Retention rate: Doesn't matter because there is no revenue stream and they won't buy more.
- Life of product: Infinite.
- Next product purchase rate: 0% (they would not buy more—the joke doesn't scale).
- Cost of capital rate: 50 percent.
- Gary Dahl got \$1 per rock sold and the company (really just Gary Dahl) made \$1 million.

LTV



Lifetime Value of an Acquired Customer (LTV): the profit that a new customer will provide on average, discounted to reflect the high cost of acquiring capital that a startup faces.

$$\text{LTV} = \sum \text{NPV (Profits for 5 years)}$$

How much a new customer is worth to your venture over the life time with you

Key considerations



- Gross Margins (Pricing & Costs)
- Cost of Capital
- Retention Rate
- Ability to Upsell or Capture Value in other Dimensions
- Note that Profit is what matters and not Revenue
- You will be comparing the LTV to COCA.
- Skok's Law: LTV must be at least 3X COCA
- It is important to be **realistic**, not **optimistic**, when calculating LTV, and to know the **underlying drivers** behind LTV so you can work to increase it.

What LTV Is Not!

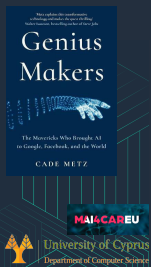


- It just is a Net Present Value of Unit Profit of one more product.
- Note that a customer might acquire multiple products in a typical transaction but more on that later.
- Does not include Marketing and Sales.
- Does not include Research and Development Expenses.
- Does not include Overhead Expenses.
- Just revenue, less direct materials and labor costs converted back into today's \$'s.
- Because we are paying Marketing and Sales costs now to acquire this customer.



- <https://hbr.org/2014/11/a-refresher-on-net-present-value>

Reading Assignment



Read the book "Genius Makers" by Cade Metz.

- ▶ The book discusses among others the establishment and evolution of the OpenAI company.
- Discuss and answer the following questions:
 - ▶ How was the market price of DNNResearch established?
 - ▶ What was the value reflected in that price?
 - ▶ What was the mission and business model of OpenAI and how it evolved until today?

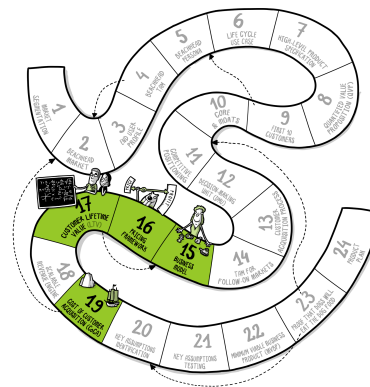
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Lecture 18/4/2024

University of Cyprus
Department of Computer Science

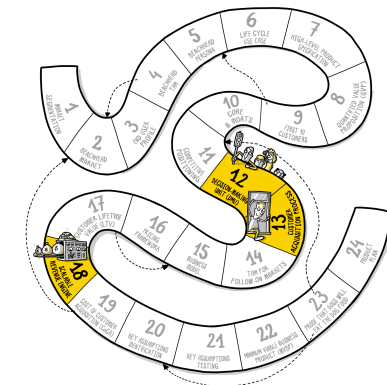
Recap



- 15 Design a business model
- 16 Set your pricing framework
- 17 Calculate the lifetime value of an acquired customer (LTV)
- 19 Calculate the cost of customer acquisition (CAC)

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What's Next?



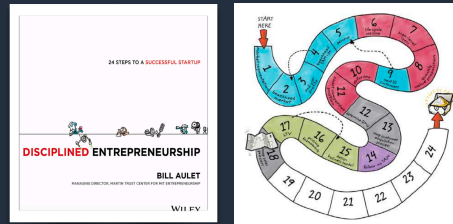
- 12 Determine the customer's decision-making unit
- 13 Map the process to acquire a paying customer
- 18 **Design a scalable revenue engine**

MAI4CAREU University of Cyprus
Department of Computer Science

M. D. Dikaikakos

Section 4: How does your customer acquires your product?

Step 18: Design a Scalable Revenue Engine Map the Sales Process to Acquire a Customer



Summary of last step (#13)



• Determining the **Process to Acquire a Paying Customer** defines:

- ▶ how the DMU decides to buy the product
- ▶ obstacles that may hinder your ability to sell your product:
 - elongated sales cycles
 - unforeseen regulations
 - hidden obstacles.

• Step #18 makes sure you have identified **all the potential pitfalls** in the sales process.

Section 4 Contents

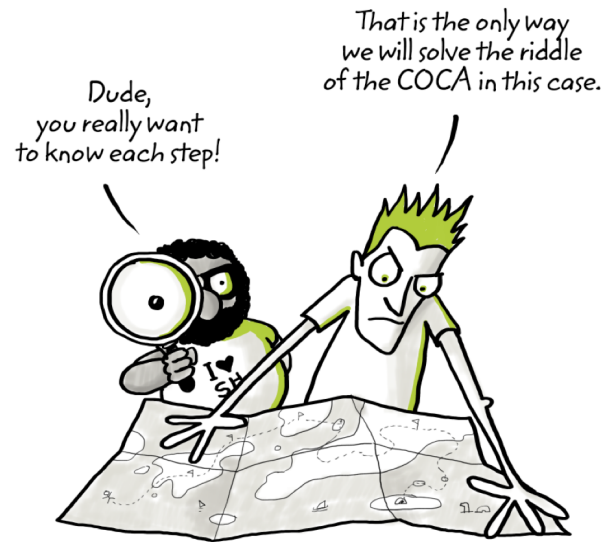


- DH Step 12: Determine the Customer's DMU
- DH Step 13: Map the Process to Acquire a Paying Customer
- **DH Step 18: Design a scalable revenue engine**

Why?

• Sales process:

- Critical input to **Cost of Customer Acquisition (CoCA)** estimation in Step 19.
- Comprises the selection of **sales channels**.
- Allows you to understand the unit economics of your product and then adjust accordingly to increase profitability.
- You can map the sales process if you have an estimate of the **Lifetime Value (LTV)**:
 - This helps indicate which sales methods are **affordable** and **practical** for your startup.



Understanding the details of customer acquisition will make clear to you the drivers of costs so that you will know over time how to make the sales process shorter and more cost-effective.

569 Source: **DISCIPLINED ENTREPRENEURSHIP**

Overlooked factors

- **Cost behind all of the sales and marketing efforts** required to reach your sales prospects. These may include:
 - ▶ The **salaries** of salespeople, **printing** of brochures, creation of **websites**, costs of trade show **exhibits**, **advertising** in industry publications, development of **white papers**, etc.
- **Long sales cycles** that cost a lot of money.
 - ▶ Entrepreneurs tend to remember only the shortest sales cycles.
- **All the customers who did not buy your product**, and the sales and marketing costs associated with reaching those customers.
 - ▶ How many frogs did you kiss before you found your prince (i.e., your first customer)?
- **Corporate shake-ups** that affect the customer's Decision-Making Unit.
 - ▶ New managers bring in new products and people to accomplish their goals.
 - ▶ This can hamper the effectiveness of efforts to sell to the customer.

571 **DISCIPLINED ENTREPRENEURSHIP**

COCA

*How much it will cost to bring a new customer to your product?
How much you will have to spend on your sales process to gain customers?*

- Determining the **Cost of Customer Acquisition (COCA)** is **challenging** and often much more **grossly miscalculated**:
 - ▶ The COCA **concept is relatively simple**.
 - ▶ Entrepreneurs **dramatically underestimate** how much it costs to gain a new customer when they first start.
- Need for:
 - ▶ Rigorous, honest, **fact-based** assessment.
 - ▶ Start by **mapping** out your expected **sales process**.

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What are we doing in this step?

- In this step focus on the sales process:
 - ▶ short-term
 - ▶ medium-term
 - ▶ long-term
- Map out **sales channels**:
 - ▶ **Field sales**
 - ▶ **Inside sales**
 - ▶ **Internet sales**
 - ▶ **Third-party resellers**

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Categories of sales channels

Option	Pros	Cons
<p>1. Field Sales: Direct salespeople who are employees of the company. They call on prospects in person at some point in the process. They provide high-touch connection and line of communication to the potential customer. Also known as “outside sales.”</p>	<ul style="list-style-type: none"> • Excellent for demand generation when creating new markets; may well be the only option for demand generation • High-touch approach creates excellent feedback loop • High-touch approach also generally creates deep customer loyalty 	<ul style="list-style-type: none"> • Very expensive (salary, bonus, expenses) • Requires an LTV of \$30K or likely higher • Hard to scale up as hiring them is hard and expensive and the success rate is unpredictable • Takes a long time to become productive • A challenge to manage

Categories of sales channels

Option	Pros	Cons
<p>2. Inside Sales: Also known as “telesales” in the past, but today no longer just telephone sales reps. They use e-mail and other electronic communication to create and continue a dialogue with the customer, but do not visit the customer in person.</p>	<ul style="list-style-type: none"> • Much cheaper than field sales • Maintain direct connection with prospects, potential customers, and customers • Able to get nuanced feedback from prospects because a human is in the loop • High productivity because of lack of travel • Good systems exist to further increase productivity and track progress of sales funnel and sales reps 	<ul style="list-style-type: none"> • Lower touch, resulting in less customer engagement and less demonstration of the company’s commitment to the customer • Still expensive because the salesperson is interacting one-on-one with customers • Some products just can’t be sold without an in-person demo or meeting with the customer

Categories of sales channels

Option	Pros	Cons
<p>3. Internet Sales: This is a general catch-all category for sales done by computers through automatically generated e-mails, big data analysis, social media, preference engines, etc. The key differentiator is that there is no human in the loop.</p>	<ul style="list-style-type: none"> • Direct interaction with the customer • Ability above all others to systematically capture even more data on the customer and track their progress—as well as spot patterns and make intelligent recommendations • Lowest cost by far • Actually preferred by some prospects 	<ul style="list-style-type: none"> • Low touch • Can’t read some nuances that only humans can • Some prospects do not react well to it • Privacy considerations • Can be hard to build customer loyalty • Risk for high LTV prospects/customers that others who use the higher touch channels above will steal these valuable customers

Categories of sales channels

Option	Pros	Cons
<p>4. Third-Party Resellers: These people sell your product but are not employees of your company. They include Value-Added Resellers (VARs), distributors, stores, catalogues, independent sales agents, etc.</p>	<ul style="list-style-type: none"> • Instant geographic coverage • Easy to manage • Understand cultural context and have preexisting contacts in their databases • Lower cost than field sales • Don’t have to hire, fire, and manage salespeople • Good for quick demand fulfillment • Potential temporary solution • Potential good solution for a mature product 	<ul style="list-style-type: none"> • They own the customer, not you (very bad!) • Unlikely to have direct interaction with prospects, hence miss important learning about customer needs • Poor at demand generation • Expensive compared to inside sales and Internet sales • Most likely low loyalty to you and your product (just another product in their portfolio)



WHICH FACTORS DETERMINE THE SALES CHANNELS USED?

Which channels are affordable?

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Estimated LTV	What you can afford for sales channels in the long term
~\$30	Only Internet sales; no human can be in the loop.



AFFORDABILITY IN THE LONG-RUN

Which channels are affordable?

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Estimated LTV	What you can afford for sales channels in the long term
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~\$300	Predominantly if not all Internet sales, with maybe a very small amount of inside sales for the most important prospects.

Which channels are affordable?

Estimated LTV	What you can afford for sales channels in the long term
-\$30	Only Internet sales; no human can be in the loop.
-\$300	Predominantly if not all Internet sales, with maybe a very small amount of inside sales for the most important prospects.
-\$3,000	Mix of Internet sales and inside sales and maybe some third-party resellers, especially if the product is mature or requires low support.

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-\$30K	Mix of all channels, with heavy reliance on inside sales and judicious use of field sales on big accounts. Third-party resellers can play a role in this scenario for geographic coverage and quick scale-up.

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-\$300K	Likely led by field sales, with support from inside sales and some third-party resellers in selected areas for geographic coverage.

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~\$300K	Likely led by field sales, with support from inside sales and some third-party resellers in selected areas for geographic coverage.
~\$3M	Dominated by field sales, with other channels in a supporting role.
~\$30M	The field sales representatives are the all-powerful dictators; other sales channels don't even look at highly qualified prospects or customers without their approval. Customer intimacy and professionalism is crucial in this scenario.

585 Source: **DISCIPLINED ENTREPRENEURSHIP**

Sales Channels for the Short, Medium, and Long Term

	Short Term—Initial Market Entry	Medium Term—Gaining Market Traction	Long Term—Steady State
How long—when does this time period start and end? (Include units—e.g., months, years.)			
What % of the sales (measured by revenue) for:			
- Field sales	____%	____%	____%
- Inside sales	____%	____%	____%
- Internet sales	____%	____%	____%
- Third-party reseller	____%	____%	____%
Key milestones for this time period, which, when achieved, indicate it is time to move to the next time period:	1. 2. 3.	1. 2. 3.	1. 2. 3.
Key assumptions:	1. 2. 3.	1. 2. 3.	1. 2. 3.
Highest risk factors:	1. 2. 3.	1. 2. 3.	1. 2. 3.
Summary for time period:			

587 Source: **DISCIPLINED ENTREPRENEURSHIP**

Sales process mapping

- Determine **what proportion of sales will come from different channels**, in the short, medium, and long term.
- Use the **Sales Channels worksheets** to define:
 - Periods of time** and **proportions**
 - Sales goals** to achieve during each period
 - Assumptions** and **risks** involved.
- Define what **milestones** you need to reach during each period so that your company is prepared to shift to the sales strategy for the next period.

586 Source: **DISCIPLINED ENTREPRENEURSHIP**

Sales process change over time

- COCA **starts very high** and **decreases over time**.
 - Much **more time** and **investment** required at the founding of a new business than does once a business has matured and begins to scale.
- The sales process is typically broken **into three time periods** for the sake of analysis.
 - Short** term, **medium** term, and **long** term.
 - Use different sales methods or combinations of methods in each period.

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Period 1: Short term

- **Focus:** create demand for your product and fulfill orders for the product.
- Product is still new. Need direct interaction with customers to:
 - explain value proposition and why product is unique
 - rapidly iterate to improve product based on customer feedback,
- This is the **missionary sales stage**: ends when you start to see demand for your product that you did not directly generate.
- Done by direct salespeople ["**business development**" people]:
 - They are very expensive and they take time to get up to speed.
 - Good ones are hard to retain
 - Identifying good vs mediocre sales-people is hard to do.
- **Web-based techniques** (inbound marketing, e-mail, social media marketing, and telemarketing) can help lessen the need for direct salespeople, even at this stage.
 - Some products, particularly web apps, can do well with a **free trial** and **robust documentation** rather than relying heavily on direct salespeople.
 - One of the great benefits of this tool is that you can get extensive analytics on your customer that are not possible through the human channel.

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Source: **DISCIPLINED ENTREPRENEURSHIP**

Period 3: Long term

- **Focus:** fulfill customer orders.
 - Very little demand creation
 - Continue client management where appropriate.
- Internet and telemarketing avenues are commonly employed in a long-term strategy.
- There will have to be adjustments made as competitors come into the market, which will affect your ability to get to this stage and what you do once you get there.

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Source: **DISCIPLINED ENTREPRENEURSHIP**



Short term, medium term, and long term are defined in large part on the progress you make on your product sales.

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Period 2: Medium term

- **Focus:** shifts from demand creation toward **order fulfilment** as word of mouth and distribution channels take on some of the demand creation burden.
- **Client management:** ensuring you retain existing customers and creating additional sales opportunities for them.
- **Distributors** or **value-added resellers (VARs)** are often used, especially to serve more remote markets, or smaller customers with lower LTV.
 - Using distributors or VARs substantially lowers your CoCA but requires you to give up some of your profit margin to the distributor—between **15 and 45%** or higher depending on the industry.
 - The decreased profit margin per unit is presumably offset by the **reduction in CoCA** and the **speed** of entering new markets through already-existing distribution channels.
- **Direct salespeople** (more costly) can focus on larger customer opportunities with a higher LTV.

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Source: **DISCIPLINED ENTREPRENEURSHIP**

Short Term

- Direct Sales (100%) → All end customers w/focus on strategic accounts in target market

This would continue until Word of Mouth becomes significant and product is matured and proven. Then as move from demand creation to demand fulfillment . . .

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Medium Term

- Direct Sales (50%) → Largest customers
- Selected Regional Exclusive VARS (50%) → Medium and small accounts in target market

This would eventually evolve to more of an online commerce as the product becomes the standard and the product line expands and new markets are tested—estimated in year 3

Figure 18.1 Example map of sales process.

Figure 18.1 Example map of sales process.

593 Source: **DISCIPLINED ENTREPRENEURSHIP**

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Medium Term

- Direct Sales (50%) → Largest customers
- Selected Regional Exclusive VARS (50%) → Medium and small accounts in target market

This would eventually evolve to more of an online commerce as the product becomes the standard and the product line expands and new markets are tested—estimated in year 3

Long Term

- Direct Sales (25%) → Top 50 accounts & new market
- Selected Regional Exclusive VARS (40%) → Accounts below Top 50 & non-core markets
- Through Web Site & Direct Telemarketing (35%) → All customers in core market (with commission to VARS & Direct Sales)

Figure 18.1 Example map of sales process.

595 Source: **DISCIPLINED ENTREPRENEURSHIP**

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How to map your sales process?

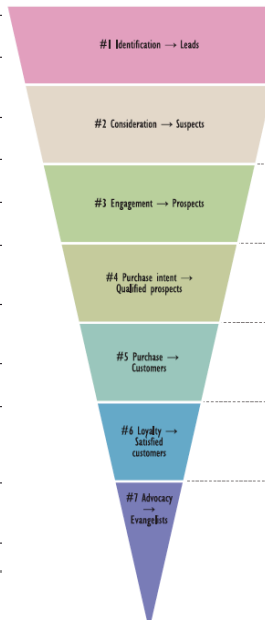
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- To develop your sales strategy, you must understand:
 - which sales channels you will use and
 - how your use of sales channels will change over time.drawing on the work you have already done in the Full Life Cycle Use Case.
- **Key questions** that your sales process should address include:
 - How does your target customer become aware that they have a problem or an opportunity?
 - How will the target customer learn that there is a solution to this problem they have, or learn there is the opportunity they did not previously know about?
 - Once the target customer knows about your business, what is the education process that allows them to make a well-informed analysis about whether to purchase your product?
 - How do you make the sale?
 - How do you collect the money?

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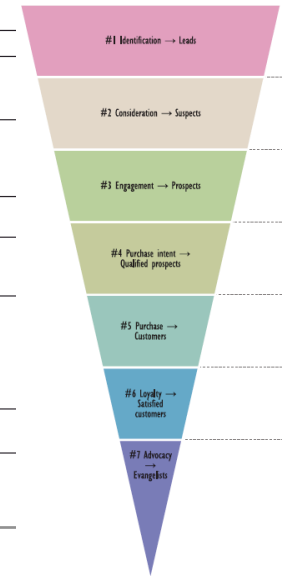
2nd Draft Sales Funnel Inputs

		Short Term	Medium Term	Long Term
#1: Identification (Output: Leads)	How will you generate leads?			
	What are your customer's watering holes?			
	Who from the customer's DMU is involved in this part of the funnel?			
#2: Consideration (Output: Suspects)	How do you start the initial dialogue with your leads?			
	What windows of opportunity or triggers exist?			
	Who from the DMU is involved?			
#3: Engagement (Output: Prospects)	How do you determine whether your value proposition is appealing to the customer?			
	How do you determine whether your pricing is in line with the customer's budget?			
	Who from the DMU is involved?			
#4: Purchase Intent (Output: Qualified Prospects)	How do you qualify that the customer is ready to purchase, and how do you develop a proposal for the purchase?			
	How do you close the sale and handle customer questions/objections?			



597 Source: **DISCIPLINED ENTREPRENEURSHIP**

		Short Term	Medium Term	Long Term
#5: Purchase (Output: Customers)	Who from the DMU is involved?			
	How do you secure full commitment from the customer to purchase your product?			
	How does your customer pay for your product? Who pays?			
	Who from the DMU is involved?			
#6: Loyalty (Output: Satisfied Customers)	How do you ship and install the product?			
	How do you provide support to the customer so they use and get the expected value out of your product?			
	Who from the DMU is involved?			
#7: Advocacy (Output: Evangelists)	How do you encourage the customer to buy more product?			
	How do you encourage the customer to tell others about the product, and how do you measure whether customers are telling others about your product?			
	Who from the DMU is involved?			



598 Source: **DISCIPLINED ENTREPRENEURSHIP**

Techniques and Actions to Maximize Yield Rate at Each Stage

Short Term: Summary of Techniques and Actions to Maximize Yield			
Stage in Funnel (starting at top)	Technique(s)	How to Maximize Conversion	Done by Whom? When?
#1—Identification (leads)			
#2—Consideration (suspects)			
#3—Engagement (prospects)			
#4—Purchase Intent (qualified prospects)			
#5—Purchase (customers)			
#6—Loyalty (satisfied customers)			
#7—Advocacy (evangelists)			

599 Source: **DISCIPLINED ENTREPRENEURSHIP**

Risk Factors

What are your three biggest risk factors in your go-to-market plan? How do you intend to mitigate those risks? What metrics will you use to monitor them and intervene as needed? (Remember, things never go exactly the way you want them to or as you plan them!)

1. Risk factor #1 and mitigation plan:

Metrics to watch:

Potential intervention strategy:

2. Risk factor #2 and mitigation plan:

Metrics to watch:

Potential intervention strategy:

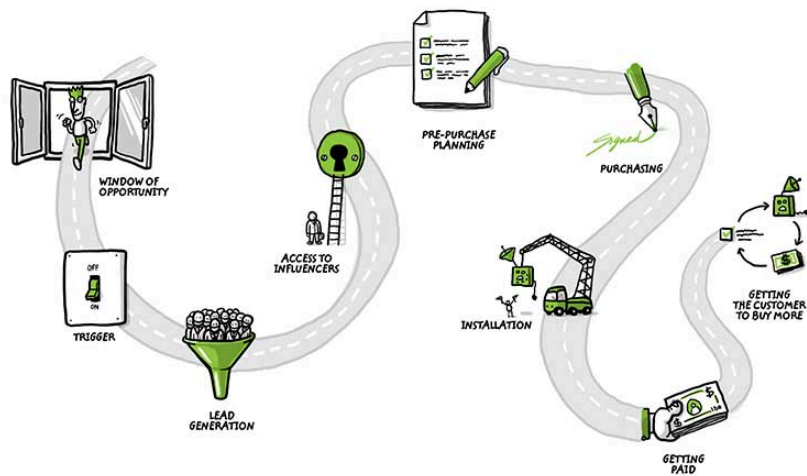
3. Risk factor #3 and mitigation plan:

Metrics to watch:

Potential intervention strategy:

600 Source: **DISCIPLINED ENTREPRENEURSHIP**

THE SALES PROCESS MAP



601 Source: **DISCIPLINED ENTREPRENEURSHIP**

Sales Process examples



- **FarmVille** maker Zynga chose a viral approach to greatly reduce the need for salespeople.
- **Groupon** required heavy direct sales involvement to acquire merchants as customers, resulting in a high and steady COCA that affected the company's profit margin; however, on the other side of its two-sided market, Groupon has had its daily deals spread virally by effectively incentivising consumers to spread word of deals to their friends.
- **LinkedIn** has a more refined model.
 - ▶ They started with highly selective online ads and some direct salespeople (to sell their recruiting package).
 - ▶ Once they got market traction and a reasonable critical mass, they started to rely much more heavily on users recruiting their colleagues to join the site through a well-developed system of easy-to-send invitations, coupled with an effective algorithm suggesting possible new connections.
 - ▶ This system quickly started sending e-mails to people outside the network to join if they were not already in.
 - ▶ Once the company achieved high levels of market penetration, it focused its algorithm on making recommendations of people already on the site, to encourage more connections the user can make, keeping the user coming back and more deeply invested in the site so that switching would be more and more difficult.
- **Facebook** has similarly been able to leverage a network effect to bring in new users at very little cost, then increasingly tie them to their network with a similar algorithm to suggest likely people the user would like to be linked to.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study Lark



- Silent alarm-clock manufacturer Lark Technologies realised in mapping out its sales process that it would need to **educate users** about what a silent alarm clock and sleep-coaching product was all about.
- It would take some hard work to get the market moving.
- CEO Julia Hu developed the following short-term, medium-term, and long-term plans.



Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study Lark Short term



- Engaging in **one-on-one selling** to potential customers, even setting up a table on the MIT campus on Commencement day to explain product and its value.
- CEO also sought and won lots of **public speaking opportunities** to create awareness of her product. This strategy had a **significant cost** associated with it because it pulled her away from the core operations aspects of her business.
- Many of the first units were sold to family and friends who could spread the word about the product.
- CEO also **engaged her Persona's primary influencers**, such as the website Urban Daddy, a daily e-mail newsletter specifically targeted at wealthy young urban professionals.
- The company **created a website where customers could purchase** the product.
- They also experimented with the **search engine optimization (SEO)** to help drive traffic to the site.
- They also started to **experiment with social media** like Twitter, though with marginal results.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case study: Lark Medium term



- The company signed a deal with Apple to distribute its product in the Apple Store without requiring exclusivity.
- The strategy gave the Lark product **instant credibility**, in that it had been approved for sale in the Apple stores by Apple itself, as well as much broader exposure; but the company had to **give up a lot of margin**:
 - ▶ The product sold in the store was the hardware component ==> the store had to carry inventory and LARK's gross margin was significantly affected.
- However, the CEO no longer had to do one-on-one sales, instead focusing on recruiting distributors and improving LARK's website.

Source: **DISCIPLINED ENTREPRENEURSHIP**

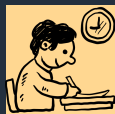
Case study: Lark Long term



- The website is the key place to get info about the product and purchase it.
- The company expects:
 - ▶ 40% of its orders to come through the website (and other direct online channels),
 - ▶ 50% from the retail distribution channel, and
 - ▶ 10% from other channels

Source: **DISCIPLINED ENTREPRENEURSHIP**

Reading Assignments



Study the following articles on sales and branding:

- **Sales Advice for Technical Founders** by Carol Luong, Y Combinator.
 - ▶ <https://blog.ycombinator.com/sales-advice-for-technical-founders/>
- **How to Create a Customer Acquisition Plan for Startups?** by Ryan Gum.
 - ▶ <https://ryangum.com/customer-acquisition-plan/>
- **Customer Acquisition Strategy for Startups: 23 Techniques to Win New Customers.**
 - ▶ <https://www.omnिकick.com/customer-acquisition-strategy/>
- **8 components of branding your startup**, by George Debb, The Next Web.
 - ▶ <https://thenextweb.com/dl/2019/07/13/rip-fernando-corby-corbato-inventor-of-the-password-1926-2019/>
- **Enterprise sales for hackers** by Ryan Junee, Y Combinator
 - ▶ <https://blog.ycombinator.com/enterprise-sales-for-hackers/>

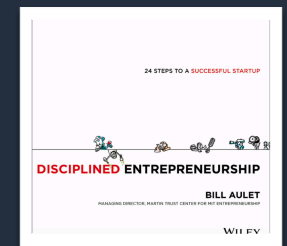
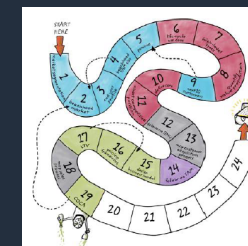
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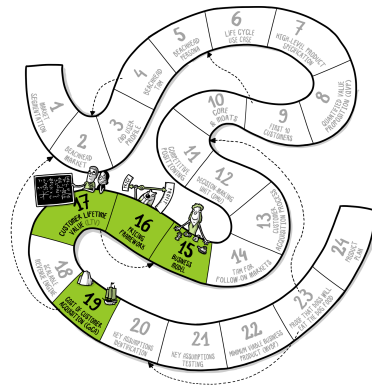
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Section 7: Pricing, LTV and COCA

Step 19: Calculate the Cost of Customer Acquisition (COCA)



Recap



- 15 Design a business model
- 16 Set your pricing framework
- 17 Calculate the lifetime of an acquired customer (LTV)
- 19 **Calculate the cost of customer acquisition (CAC)**

COCA Calculation

• Why?

- ▶ COCA: an **extremely important** metric; can be difficult at first to understand and calculate.
- ▶ Pay **close attention to the details** to calculate it correctly. It requires a significant amount of effort and systematic thought.
- ▶ Typically, in the early stages of the sales process, the **COCA exceeds the Lifetime Value of an Acquired Customer**.
- ▶ In sustainable businesses, the **COCA decreases over time** until it is significantly less than the LTV.
- ▶ One of the **key questions** for your business is **how long it will take for the COCA to drop below the LTV of a customer**, because until you reach that point, **your business is spending more money than it is taking in**.

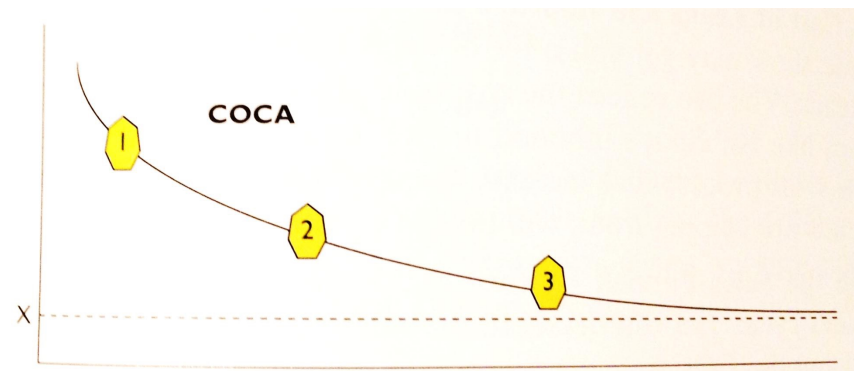


We love the entrepreneurs and their optimism but it almost always blinds them to the real costs of customer acquisition. It is essential that you do realistic calculations and then make appropriate adjustments over time.

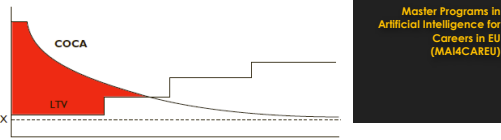
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It Is Very Important to View COCA Over Time

- It will start out very high and then it should go down over time



COCA vs LTV



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In a sustainable business, the cost of customer acquisition (COCA) will **eventually drop below** the lifetime value of an acquired customer (LTV).

During the long-term stage of the sales process **the COCA will level off**, and will continue to require an ongoing investment, but costing less than the LTV of the customer.

The **LTV** will often **increase** over time as well, due to **up-selling** opportunities with existing customers (“negative churn”).

Pricing power will **sometimes increase** as well, if your product becomes a standard with little forceful competition.

*This graphic representation has a particularly aggressive LTV increase, which is usually not the case but it does add some drama to the chart. The red area indicates your **cash burn** before reaching cash-flow positive.*

COCA Calculation

• Example:

- ▶ You are selling a widget with a sales cycle of **half a year**;
- ▶ It takes **one twentieth of your salesperson's work time** to identify, engage, track, support, close, and collect payment for selling to one customer;
- ▶ Salesperson payment: **\$150,000 per year** if they make 100 percent of their quota (often called on-target earnings).
- ▶ Assume the salesperson meets their quota.



COCA Calculation

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• What is it?

- ▶ COCA includes all the **sales and marketing costs involved in acquiring a single average customer in steady state**, even when a potential customer **chooses not to purchase** your product.
- ▶ Your COCA **does not include** any fixed production costs or expenses outside of the sales and marketing department, such as research and development, finance and administration, or overhead.
- ▶ In this step, you will calculate your COCA for **three contiguous time periods**, where the first time period begins with your initial sales costs.
- ▶ You will refine the COCA calculation as you get farther along in the sales process.

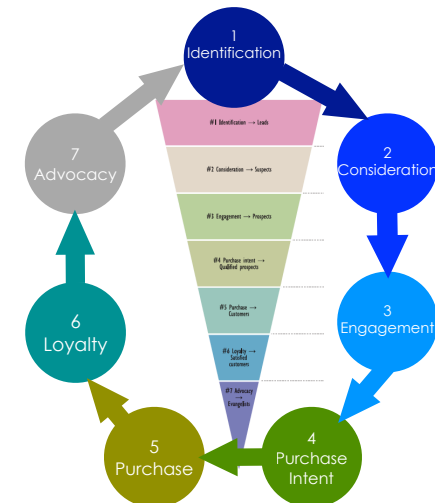
• How?

- ▶ Identify **what factors influence your COCA**
- ▶ **Assign realistic values** to the various factors, and
- ▶ **Determine actions** to ensure your **COCA decreases** over time.

Sales Cycle Review



- The process that companies undergo when selling a product to a customer.
- All activities associated with closing sale.



- Many companies have different steps and activities in their sales cycle, depending on how they define it.



HOW MUCH DOES IT COST TO PAY ONE SALESPERSON TO ACQUIRE ONE CUSTOMER?

COCA Calculation



• Example:

- ▶ Selling a widget with a **sales cycle of half a year**, and it takes **one twentieth of our salesperson's work time** to identify, engage, track, support, close, and collect payment for selling to one customer.
- ▶ Salesperson payment: **\$150,000 per year** if they make **100%** of their quota (often called on-target earnings).
- ▶ Assume the salesperson devotes **1/20** of their time to closing one sale.
- ▶ Assume the salesperson meets their quota.

• How much does it cost to pay one salesperson to acquire one customer?

\$3,750.

• Is this the COCA?

How NOT to calculate COCA?

- The calculation above **does not take into consideration all the other costs** associated with closing this deal.
 - ▶ The salesperson's **benefits** package (health care, vacation time, 401(k), etc.) typically costs you the equivalent of **25 to 30 percent of their salary**.
 - ▶ There are costs for **travel** and **entertainment**, **demo** units, tech **support**, mobile **phone** bills, **trade show** expenses, **marketing** campaigns to generate leads, **Internet data** charges, etc.
- We could do a **bottom-up analysis**, painstakingly scrutinizing the receipts and invoices and assigning expenses to each customer.
- We also have to take into account the **other expenses** associated with having a salesperson: the office furniture, computer, Internet and phone charges, the cost to rent or purchase the building the salesperson works from, and more.
- Let's say that all these costs, added up and divided by the number of new customers equals another **\$2,500 per customer**.
- So is our COCA actually **\$3,750 + \$2,500 = \$6,250?**

•NO!

How NOT to calculate COCA?

- If the salesperson closes 100% of the sales they work on, and need 1/20 of their time to close one sale with a 6-month sales cycle, this totals **20 sales per six month sales cycle**.
 - ▶ This assumption is extremely unlikely because **no salesperson closes every deal**.
 - ▶ If a salesperson is closing **even 50%** of the customers he engages, the person is probably getting paid much more than \$150,000 per year and therefore would not be working at your company.
- Even assuming a salesperson closes **25% of sales**, which is **very aggressive**, meaning the salesperson is actually selling **5 units during each sales cycle, rather than 20**.
 - ▶ So for every 1/4 of a salesperson's time spent on a customer who makes a purchase, another 3/4 of the salesperson's time is spent with potential customers **who do not buy**.
 - ▶ These costs have to be **factored into the COCA** as well.
- A bottom-up analysis that factors in all these other expenses tends to get messy very quickly and can create a false sense of accuracy.
 - ▶ This method does not work.

How NOT to calculate COCA?

- A completely accurate estimate of COCA: **hard to project.**
- But, for sure, estimating a COCA of \$6,250 would be dramatically understated, and merely the tip of the iceberg of the COCA cost.
- Realistically, the COCA in this example is probably closer to **10–20 times that number.**



Top-down calculation of COCA

- Tabulate your **aggregate sales and marketing expenses over a period of time**; then **divide** that by the **total number of new customers you acquire** within that time period.
- When aggregating, include costs for all the key items in sales and marketing plan:
 - ▶ sales reps,
 - ▶ auto, travel and entertainment, phone, Internet,
 - ▶ demo units, technical sales support, website development,
 - ▶ consultants,
 - ▶ trade shows, real estate, administrative support, computers, and so on.
 - ▶ Also calculate the **cost in time that the executives on the team spend on sales** as these are very real and expensive costs.
- This calculation requires that you **understand your sales process well**. Do not worry if your calculation is not exactly right; but be sure to:
 - ▶ enlist an experienced person to help develop budget projections, and
 - ▶ understand how **adjusting costs affects profitability**.

Time periods in COCA estimation

- **COCA** varies over time:
 - ▶ sales process changes
 - ▶ organization learns
 - ▶ strong positive word of mouth developed within target customer group.
- COCA should be calculated over time: **COCA(t)**
- **Three time periods** recommended to show how the COCA is trending.
 - ▶ Appropriate time periods depend on: life cycle of your product /amount of time it takes customers to realize your value proposition.
- A typical way to define first three time periods for a COCA calculation is:
 - ▶ first year of sales,
 - ▶ second and third year or sales,
 - ▶ fourth and fifth year of sales.
- Depending on your new venture, these time periods could be different.

IS THE COCA CALCULATION A ONE-TIME EXERCISE?



COCA calculation

- Dividing the cost of your sales and marketing expenses by the defined time period will yield the **Total Marketing and Sales Expenses over Time** or **TMSE(t)** where **t** is the **first, second, or third** time period.
- If a sizeable portion of your TMSE(t) is the **cost of retention of existing customers**, rather than acquiring new customers, **subtract this from the TMSE(t)**.
- Refer to cost of retention as **Install Base Support Expense over Time** or **IBSE(t)**.
- Determine number of new customers during that time period, referred to as **New Customers over Time** or **NC(t)**.
- Given these definitions the COCA for any given period is:

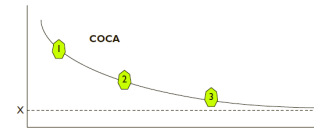
$$\text{COCA}(t) = (\text{TMSE}(t) - \text{IBSE}(t)) / \text{NC}(t)$$

COCA calculation

- Once you have numbers for each of your first three time periods, plot them on a graph where the **x-axis is time** and the **y-axis is COCA** for that period. You can also draw a best-fit curve.

$$\text{Cost of Customer Acquisition} = \frac{\text{Total Marketing and Sales Expenses}(t) - \text{Install Base Support Expense}(t)}{\text{Number of New Customers}(t)}$$

- The horizontal line at X represents the COCA's steady state, once sales volume ramps up and the product, company, and market mature, typically achieved during the longer-term stage of your sales process.



How to reduce COCA?

- Use **Direct Sales Judiciously**: **Very Expensive** although **Very Powerful**:
 - Hiring a team to do direct sales may be necessary to start, but it is **very expensive**.
 - **Alternative**: consider investing in **technological enablers**
 - Telemarketing, effective web presence, engaging through social media to decrease costs as much as possible.
- **Automate** as Much as Possible:
 - Try to **automate the customer acquisition** process **even if it requires significant investments**.
 - Promote product through sites where there are big networks and opportunities to make your message go **viral**, from **Facebook's** and **LinkedIn's** network effects to **Amazon.com's preference** engine.
 - Automate your marketing by creating **incentive schemes** for your users similar to the ones made famous by Avon, or the one Groupon used to reach a multibillion-dollar valuation.

HOW TO REDUCE YOUR COCA?



How to reduce COCA?

• Improve **Conversion Rates** in Sales:

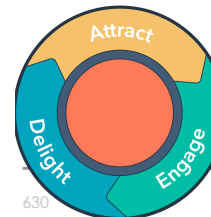
- ▶ **There is a huge cost associated with chasing deals that you don't close.** Getting higher conversion rates on leads opens up the funnel so more deals get through, increasing your revenue and decreasing your COCA.

• **Decrease Cost** and **Improve Quality of Leads**:

- ▶ Getting a bunch of business cards at a trade show may get you a lot of leads (less cost per lead), but they are probably poor-quality leads.
- ▶ You can reduce the cost of leads without sacrificing the quality of the lead with techniques like **HubSpot's inbound marketing strategy**.
- ▶ Incorporating tools and techniques into your sales process that increase the quality of your leads, and paying attention to where your leads are coming from, will improve your conversion rate.

Inbound Marketing

- A business methodology that attracts customers by creating valuable content and experiences tailored to them.
- **Outbound marketing** interrupts your audience with content they don't want
- **Inbound marketing** forms connections they're looking for and solves problems they already have.



How to reduce COCA?

• Improve **speed** through the Sales Funnel:

- ▶ By focusing on the speed at which prospects are moving through the sales cycle, you can **decrease the sales cycle**, which will have a **dramatic positive effect** on COCA reduction.

• **Choose Business Model** with COCA in mind: BM **can dramatically affect your COCA**.

- ▶ Example: IntraLinks, the company providing a secure online space for investment bankers and lawyers to share documents with their clients.
 - When business model was based on usage, it was hard to sell to customers because they could not easily plan how much they would spend on the product.
 - When switched to a "cell phone" type of model, where customers paid a fixed amount each month for an agreed-upon type of service, with the flexibility to buy additional service on a usage basis, it became much easier to sell the product to customers, and the sales cycle length decreased dramatically.

How to reduce COCA?

• **Word of Mouth**: The **biggest driver of reducing COCA** is **positive word of mouth** about a company and its product:

- ▶ decreases dramatically the sales cycle,
- ▶ decreases the customer's desire to push you for discounts
- ▶ brings in well-qualified customers who already are good fits for the product,
- ▶ Helps salespeople be much more productive in dealing with them.
- ▶ WoM can be measured with the **Net Promoter Score index and system**: track this and report it in operations, executive, and even board meetings.

• **Stay Focused on the Target Market**:

- ▶ Not getting distracted by customers outside BH market, will help improve word of mouth and also make your sales reps much more productive.
- ▶ Your sale reps will become experts in their industry and the sales cycle length will decrease.

Net Promoter Score



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- **Net Promoter** or **Net Promoter Score (NPS)** is a management tool that can be used to gauge the loyalty of a firm's customer relationships.
- Calculated based on responses to a single question: **How likely is it that you would recommend our company/product/service to a friend or colleague?** The scoring for this answer is most often based on a 0 to 10 scale.
 - ▶ **Promoters:** those who respond with a score of **9 to 10** considered likely to exhibit value-creating behaviors, such as buying more, remaining customers for longer, and making more positive referrals to other potential customers.
 - ▶ **Detractors:** those who respond with a score of **0 to 6**; they are believed to be less likely to exhibit the value-creating behaviors.
 - ▶ **Passives:** those who respond with **7 and 8**.

$$\text{Net Promoter Score} = \% \text{ of Promoters} - \% \text{ of Detractors.}$$

- For purposes of calculating a Net Promoter Score, Passives count toward the total number of respondents, thus decreasing the percentage of detractors and promoters and pushing the net score toward 0



Associated Gas Energy COCA estimation



- The target customer was a very conservative buyer who had to be sold to with old-fashioned direct sales methods. The new venture would require a lot of missionary work to get off the ground.
- It was believed that the sales cycle for this expensive product (**\$300K for the initial installation plus annual maintenance fees**) would be about one year even though it had a compelling value proposition.
- The company needed to hire:
 - ▶ an **experienced salesperson** as well as a **tech sales support person** who had credibility and understood the sales dynamics;
 - ▶ a **consultant** the first year to help them break through the initial customer inertia to be the first to have this system (remember, this is a conservative market!) and to get all the regulatory issues taken care of that come along with energy and environmental projects like this.
- They anticipated a ramp-up time for the sales rep to become effective in selling the product, and so in the first year they were **realistically projecting one system would be sold**.
- The first sale would be the hardest; after that one, they would not need the consultant again.
- After they had gone up the learning curve, the new venture's team would have the capability to do the selling themselves. In addition, with a successful installation as a reference, the sales cycle could be dramatically reduced.
- In year two, they would be able to hire a second salesperson as well as a tech support person to increase their sales.

Case study: Associated Gas Energy



- Oil drilling typically produces "associated gas" as well, and dealing with its disposal is costly and problematic for the environment.
- Often, no infrastructure exists at the drilling site to transport the gas to where it could be sold. Associated Gas Energy was a new venture plan developed by MIT students to enable oil producers to transform this operating cost into profit.
- Using GTL (Gas To Liquids) technology, associated gas is converted into crude oil at a cost to the customer of \$70/ barrel.
 - ▶ The customer can sell this oil at market prices. If market prices are around \$100/barrel, the customer gains \$30/barrel.
 - ▶ Reinjection cost savings yields approximately \$10/barrel extra for the customer.
- This was a very clever idea with seemingly compelling financials.

Table 19.1 Associated Gas Energy COCA Calculation (a direct sales example)

Items from Marketing & Sales Budget	Year		
	1	2	3
Number of Salespeople = Number of Tech Support People	1	2	3
Sales Salary (\$175K/year fully burdened)	\$ 175,000	\$ 350,000	\$ 525,000
Tech Support Salary (\$125K/year fully burdened)	\$ 125,000	\$ 250,000	\$ 375,000
Travel	\$ 24,000	\$ 40,000	\$ 52,500
Entertainment	\$ 15,000	\$ 24,000	\$ 30,000
Events	\$ 30,000	\$ 35,000	\$ 40,000
Website Cost	\$ 10,000	\$ 10,000	\$ 10,000
Consultant	\$ 15,000	\$ —	\$ —
Total	\$ 394,000	\$ 709,000	\$ 1,032,500
Number of Customers	1	3	7
COCA for Year	\$ 394,000	\$ 236,333	\$ 147,500



- Direct Sales vs. Telesales
- High Touch vs. Automated
- Conversion Rate
- Cost of Leads
- Quality of Leads
- WOM
- Moving them Down through the Sales Funnel
- Design of Your Business Model
- Focus => Decrease Sales Cycle



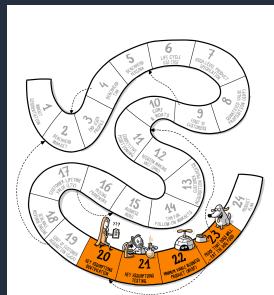
- Underestimates headcount required to sell and market
- Overestimates sales productivity
- Does not consider her/his own cost in the calculation
- Underestimates cost of personnel (fully burdened)

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Module 4: Disciplined Entrepreneurship

Section 7: How do you Design and Build your Product?



Section 8 Contents

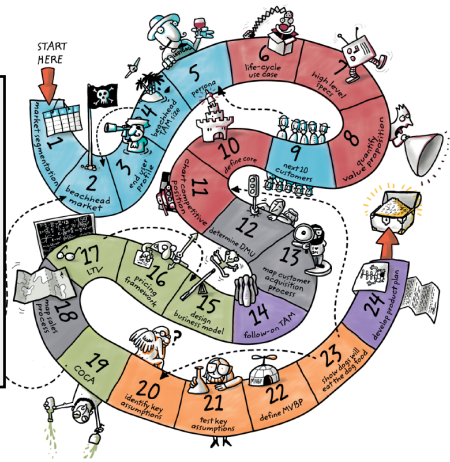


- DH Canvas
- DH Step 20: Key Assumptions
- Lean Startup Basics
- DH Step 21: Test Key Assumptions
- DH Step 22: Define the MVBP
- DH Step 23: "The Dogs will Eat the Dog Food"

Recap

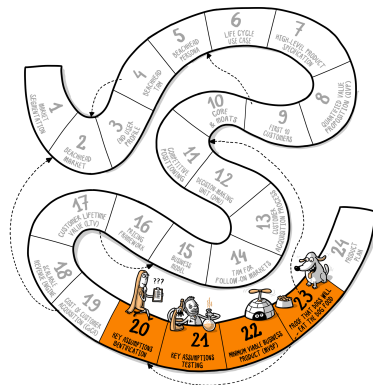


- HOW DO YOU MAKE MONEY OFF YOUR PRODUCT?**
- 15 Design a business model
 - 16 Set your pricing framework
 - 17 Calculate the lifetime value of an acquired customer (LTV)
 - 19 Calculate the cost of customer acquisition (COCA)



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What's next?



- 20 Identify key assumption
- 21 Test key assumption
- 22 Define the minimum viable business product
- 23 Show that "the dogs will eat the dog food"

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What did you achieve?



- You have **spoken** to customers, you have **observed** them at work, you have **queried** them on each step along the way by talking to them and seeing if they find your plan consistent with their **needs**.
- You have an understanding of:
 - ▶ who the **customer** is
 - ▶ what **value** you bring to them
 - ▶ how they will **acquire** your product
 - ▶ how much it **costs** to acquire a customer, and
 - ▶ how much **profit** the customer will bring to you.

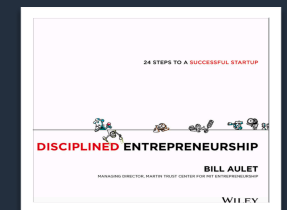
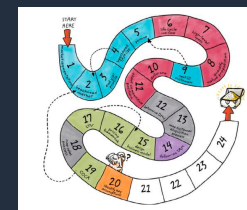
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Module 4: Disciplined Entrepreneurship

Step 20: Identify Key Assumptions

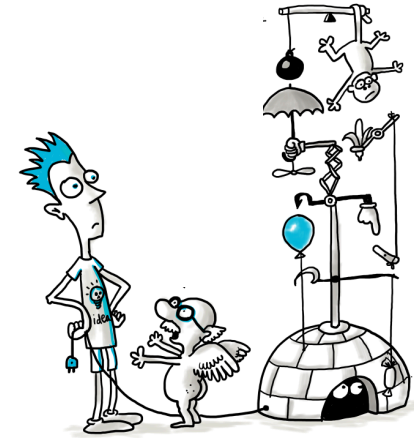


Section 8 Contents



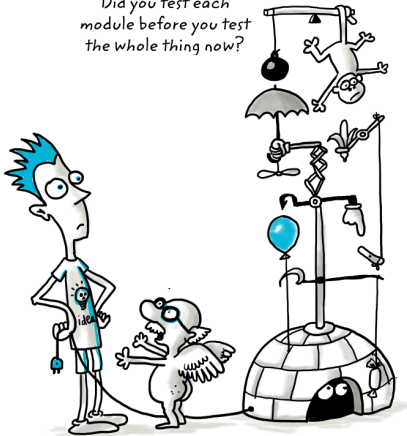
- DE Canvas
- **DE Step 20: Key Assumptions**
- Lean Startup Basics
- DE Step 21: Test Key Assumptions
- DE Step 22: Define the MVBP
- DE Step 23: "The Dogs will Eat the Dog Food"

I can't wait to see
how this works!



I can't wait to see
how this works!

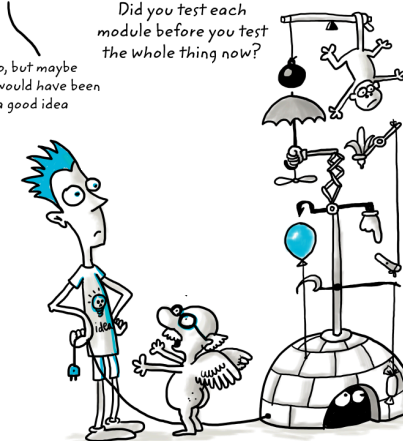
Did you test each
module before you test
the whole thing now?



I can't wait to see
how this works!

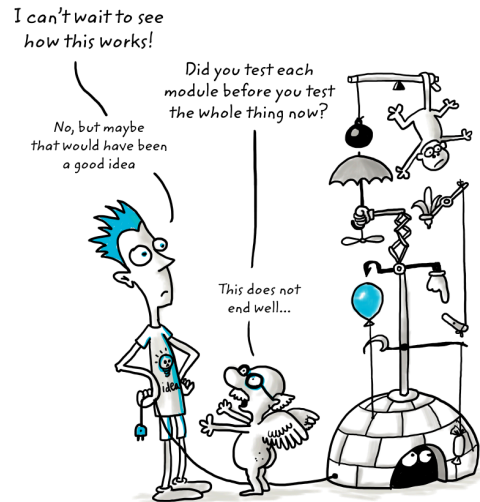
No, but maybe
that would have been
a good idea

Did you test each
module before you test
the whole thing now?



Step #20: Goals

- Determine which assumptions about your business have not been thoroughly tested.
- Rank your **top 5 to 10 assumptions** in order of importance.
- Test these assumptions in practice.



649 Source: **DISCIPLINED ENTREPRENEURSHIP**

Why?

- Yours is a new business with a product that has not previously existed.
- You are making certain **assumptions** based on logic and research, but but **are they valid?**
- You have to **identify** and rigorously **test** your key **assumptions**.

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How?

- Step back and think about your big assumptions
 - ▶ And test whether they are consistent with **how the world works**,
 - ▶ **not how YOU think** or **your customer says** the world works.
- Identifying and breaking down your key assumptions is not difficult,
 - ▶ but entrepreneurs tend to skip over this step,
 - ▶ trusting intuition or research to
 - ▶ substitute for actual testing of business and customer behavior assumptions.

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WHAT MAKES A GOOD ASSUMPTION?

What Makes a Good Assumption?



- **Specific** – define your terms
- **Important** – It really matters!
- **Unitary** – Only one variable in the equation
- **Measurable** – It is quantifiable in an agreeable upon metric.
- **Testable** – We can run an experiment on it.
- **Small But Big** – Small changes that make big difference.

Examples of key assumptions

- List of areas where you made logical assumptions from PMR....specific, narrow so it can be tested, for example
 - ▶ Your value proposition
 - ▶ Features
 - ▶ Time to market
 - ▶ Channel
 - ▶ Cost
- Are you solving the right problem, is this the right customer, will your customer buy it?



HOW TO IDENTIFY KEY ASSUMPTIONS?

How to identify key assumptions?

- Have you correctly identified your Persona's **priorities**?
- Will your customer find the **value proposition attractive** when they make a purchase?
- Will the customer make the **time and effort to integrate** your product into their workflow?
- Are your **cost** targets **accurate**?
 - If product is hardware, review the bill of material and carefully analyze the cost of the most important items in the bill of material.
 - If it is software, list key development challenges, assumptions, and cost items.
- Out of the customers you have already identified, are any of them **"lighthouse"**?
- Are any **"linchpin"** customers, where if they don't buy, others will not?
- Are there other linchpin customers who you have not yet identified?
- Are the lighthouse and linchpin customers interested in purchasing your product?

REVIEW EACH STEP OF THE FRAMEWORK

MAKE A LIST OF THE AREAS IN WHICH YOU HAVE MADE LOGICAL CONCLUSIONS

BASED ON YOUR PRIMARY MARKET RESEARCH



Identifying key assumptions approach

- Go through the full canvas for your company now and discuss how you rate yourself on each box and each line item
 - Give a Green dot to areas of strength
 - Give a Yellow dot to areas that are not strong but you don't see as good enough to not be life threatening
 - Give a Red dot to the areas that you see as weaknesses and could be fatal
- Why do you give these ratings? What assumptions are fundamental?
 - The quality of this dialogue is critical
- Looking at the big picture now, which are the most important assumptions? (i.e., the **highest exposure** and **upside**)
- Make those assumptions very clear so you can test them

<p>Raison d'Être ①</p> <p><i>Why are you in business?</i></p> <p>Mission:</p> <p>Passions:</p> <p>Values:</p> <p>Initial Assets:</p> <p>Initial Idea:</p>	<p>Competitive Advantage ④</p> <p><i>Why you?</i></p> <p>Moats:</p> <p>Core:</p> <p>Competitive Positioning:</p>	<p>Customer Acquisition ⑤</p> <p><i>How does your customer acquire your product?</i></p> <p>DMU:</p> <p>Process to Acquire Customer:</p> <p>Windows of Opportunity:</p> <p>Possible Triggers:</p>	<p>Overall Economics ⑧</p> <p><i>Does your product make money at a company level?</i></p> <p>Est. R&D Exp.:</p> <p>Est. G&A Exp.:</p> <p>LTV/COCA Ratio High Enough:</p>	<p>Design & Build ⑨</p> <p><i>How do you produce the product?</i></p> <p>ID Key Assumptions:</p> <p>Test Key Assumptions:</p> <p>MVP:</p> <p>Tracking Metrics:</p>
<p>Initial Market ②</p> <p><i>Who is your customer?</i></p> <p>Beachhead:</p> <p>End User Profile:</p> <p>TAM:</p> <p>Persona:</p> <p>1st 10 Customers:</p>	<p>Value Creation ③</p> <p><i>What can you do for your customer?</i></p> <p>Use Case:</p> <p>Prod Description:</p> <p>Problem Being Solved:</p> <p>Quant. Value Prop.:</p>	<p>Product Unit Economics ⑥</p> <p><i>Can you make money at the product level?</i></p> <p>Biz Model:</p> <p>Est. Pricing:</p> <p>Short Term - LTV:</p> <p>Short Term - COCA:</p> <p>Medium Term - LTV:</p> <p>Medium Term - COCA:</p> <p>Long Term - LTV:</p> <p>Long Term - COCA:</p>	<p>Sales ⑦</p> <p><i>How do you sell your product?</i></p> <p>Preferred Sales Channel:</p> <p>Sales Funnel:</p> <p>Short Term Mix:</p> <p>Medium Term Mix:</p> <p>Long Term Mix:</p>	<p>Scaling ⑩</p> <p><i>How do you scale your business?</i></p> <p>Prod. Plan for Beachhead:</p> <p>Next Market:</p> <p>Prod. Plan beyond Beachhead:</p> <p>Follow-on TAM:</p>

Validating key assumptions

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- List of areas where you made logical assumptions from PMR
- Narrow down the list so it can be tested, for example:
 - ▶ Your value proposition
 - ▶ Features
 - ▶ Time to market
 - ▶ Channel
 - ▶ Cost
- Ask:
 - ▶ Are you solving the right problem?
 - ▶ Is this the right customer?
 - ▶ Will your customer buy it?

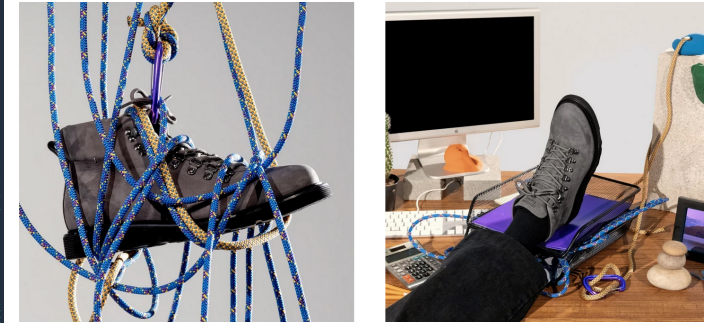
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Season Three Case study



- Season Three is a contemporary apparel brand influenced by art culture and an outdoors ethos. Our purpose is to make iconic products that are built to last.
- Our 1st product is the most comfortable boot you'll ever wear. Ansel is a genderless, all-weather hiking boot designed to be worn across cities, mountains, and museums.



Source: **DISCIPLINED ENTREPRENEURSHIP**

Season Three's Key Assumptions



Season Three is a contemporary apparel brand influenced by art culture and an outdoors ethos. Our purpose is to make iconic products that are built to last.

Our 1st product is the most comfortable boot you'll ever wear. Ansel is a **genderless**, all-weather hiking boot designed to be worn across cities, mountains, and museums.

- “We can sell a genderless boot using the same foot shape.”
- “Our boot, made with one foot shape, will be comfortable for both women and men.”
- “The percentage of men vs women who have negative feedback on boot fit after wearing our boot for 5 mins will be equal (plus or minus) 10%”

Source: **DISCIPLINED ENTREPRENEURSHIP**

Example Genesis DNA



- Assumption: Turnaround time was more important than cost, and to test that assumption kept the interview questions as open-ended as possible so there was no guiding them toward an answer the team wanted to hear.
- Experiment: Letter of Intent
 - ▶ “LOIs have been incredibly helpful for us so far. There are a number of other DNA synthesis companies out there and when asked by investors how we can be sure that the customers are unhappy with the status quo - showing them the 9 LOIs (from some major companies) always does the trick. It's very concrete and is preferred over surveys.”
 - ▶ Learned pain points that really resonated with customers in later interviews, which helped us get more LOIs when they felt we were really on their side.
- Lesson: Answer you get (in this case value proposition but could be many other steps like DMU), not really tested until you push to get the LOI. That will clarify things. Words are cheap; cash is not.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Case Study: Sasa



- A for-profit social venture empowering women in Africa by allowing them to sell their art worldwide using mobile phones.
- As the team looked to launch and grow their business in a capital-constrained situation, they were very careful to identify their assumptions and test them so as not to waste any precious money or time.

Producers Assumptions

1. Craftswomen (i.e., Producers) want to be economically empowered.
2. Craftswomen will adopt the Sasa platform into their market practices.
3. The vendors will earn a sustainable income.
4. Vendors will trust the Sasa technology and services.
5. Existing infrastructures will be consistent and expand with demand.
6. Vendors will earn more using Sasa than by selling in the open-air markets.
7. A vendor can afford to buy a simple feature phone, which is camera-enabled.
8. A vendor is familiar with using SMS.
9. A vendor is able to leverage their knowledge of SMS to quickly adopt the use of MMS.

sasa Customer—Assumptions about the producers

Case Study



- Note that some of the assumptions for the consumer side are not specific enough and will need to be decoupled into multiple assumptions.

Web Consumer Assumptions

1. Consumers not only value, but prefer handmade goods.
2. Consumers want to know who made their products and how.
3. International consumers will trust the Sasa technology and services.
4. International consumers will be compelled to buy products on the Sasa platform.
5. Sasa customers will return to Sasa to buy more products.
6. International consumers will happily wait for up to three weeks to receive products from Africa.
7. Sasa can profit greatly just from selling jewelry to start.
8. The necessary infrastructure and policy will be consistent and expand with demand.

sasa Customer—Assumptions about the web consumer

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Identifying Key Assumptions

Lean Startup Basics

Section 8 Contents



- DH Canvas
- DH Step 20: Key Assumptions
- **Lean Startup Basics**
- DH Step 21: Test Key Assumptions
- DH Step 22: Define the MVBP
- DH Step 23: “The Dogs will Eat the Dog Food”



WHAT IS A STARTUP?



A STARTUP IS A HUMAN INSTITUTION DESIGNED TO CREATE A NEW PRODUCT OR SERVICE UNDER CONDITIONS OF EXTREME UNCERTAINTY.

Lean Startup Basics



- Startups have a destination in mind (*vision*): to create a thriving and world-changing business.
- To achieve that vision, startups employ a *strategy*, which includes:
 - a business model
 - a product road map
 - a point of view about partners and competitors
 - ideas about who the customer will be.
- The *product* is the end result of this strategy.

Lean Startup Basics

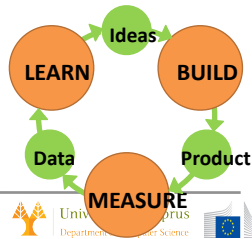


- **Products** change constantly through a process of *optimization* (tuning the engine).
- Less frequently, the strategy may have to change (*pivot*).
- **Learning** is the *essential unit of progress* for startups.
 - You can *eliminate* any effort that is not absolutely necessary for learning what customers want.
 - *Validated learning* - learning that is demonstrated by positive improvements in the startup's core metrics.
- A startup's *efforts* are *experiments* that test its strategy to see which parts are brilliant and which are garbage.
- The *products* a startup builds are *experiments*.

BML and MVP



- The **Build-Measure-Learn** feedback loop is at the core of the Lean Startup model.
- The **Minimum Viable Product (MVP)** is that version of the product that enables a full turn of the Build-Measure-Learn loop with a minimum amount of effort and the least amount of development time.



24S vs Lean Methodology

- There is similarity between the concept of a “**minimum viable product**” or **MVP** and DE24’s **Minimum Viable Business Product**.
- In DE24 a “product” should always be complete enough that **a customer can gain value from it**.
- The **MVP framework**, by comparison, includes in its definition of “products” **actions that merely test** individual assumptions about the new venture idea.
- The process of establishing an **MVBP** provides a “**systems test**” of **whether your customer will pay money** for what you are offering, not just a channel through which to test an assumption.

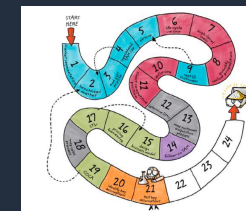
Much as you do not have a meaningful business until you have a paying customer, your business does not have a product until someone purchases it, gets value from it, and can provide meaningful feedback to you about it.



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Section 8: How do you Design and Build your Product?

Step 21: Test Key Assumptions



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Step #21: Goals



- Unpack your assumptions and break them down into a prioritized list.
- Take your **list of key assumptions** and **design empirical tests** to validate or refute them.
- **Perform the empirical tests** to decrease the risk of your startup.
- **Gather empirical data** to either support or disprove assumptions.

While trying to find
that entrepreneurship gene
was a waste of time,
this seems very doable
and productive
my dear friends...



Now that we have identified those key assumptions, let's use a scientific approach to test them individually before just smashing them all together and seeing if they work.

Testing Key Assumptions

- **Testing not hard, if** you have **identified** the key **assumptions**.
- Try to **design experiments** to test these assumptions in the **cheapest, quickest, and easiest** ways possible:
 - Apply logical thinking to design simple & effective tests.
 - Not necessary to build physical goods or write code.

Testing Assumptions (e.g.)

- To test **cost targets**, send **informal request for quotation (RFQ) or spec** to vendors to see if your cost projections are accurate at the volume you need.
- To test **interest of lighthouse & linchpin customers**, see if they do any of the following:
 - ▶ **Prepay** for your solution (best)
 - ▶ Put down a **deposit** (good)
 - ▶ Provide a **letter of intent** (okay)
 - ▶ Agree to a **pilot** (acceptable)
 - ▶ Express a **strong interest** in purchasing if certain conditions are met (not too reassuring but may be acceptable)
- If you are meeting customers in person, bring along an experienced outsider to help you determine whether the customer **is really excited about your product and will buy it**, or is **just being polite or collecting information**.
- To test **whether certain customers are lighthouse or linchpin** customers, repeat the above process but with other customers; see if they will attribute any of their purchasing decisions to certain other customers, and look for patterns.

Test Key Overall Assumptions				
#	Empirical Test (in order from most important to least important, based on the risk levels of the related assumption(s))	Related Assumption(s)	Resources Required for Test	What Outcome(s) Would Validate Your Assumption(s)?
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Identify Key Overall Assumptions				
#	Assumption (in prioritized order)	Related Step(s) from the 24 Steps	Risk Level	Potential Impact if Assumption is Wrong
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Results from Testing Key Assumptions			
#	What did you learn from the test?	Did the test validate your assumption? (Yes, No, or Not Knowable At This Point)	What will you do as a result of this test? (e.g. revisions to work done in previous steps, additional testing of assumptions, etc.)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Examples of testable assumptions



- Assumption: **“Neohippies” Aged 25–35 Use Their Smartphones to Help Them Shop in the Grocery Store**
- This team wanted to offer a smartphone-based personal shopping assistant to young people who shop at health food stores like Whole Foods Market.
 - The students on the team used their smartphones when they shopped, so they assumed that others did so as well. This was a key assumption that needed to be tested.
- To test the assumption, the team went to a Whole Foods and observed shoppers who fit the description of their demographic. **Virtually none of the shoppers used a smartphone while in the store.**
- The team was incredulous, but confirmed the result at a different Whole Foods location.
- The team interviewed shoppers and found that while many of them owned iPhones, they were not interested in using them while shopping because they already had a way of shopping that worked well for them and did not want to change.
- As a result, the team changed its focus completely and worked on a different mobile app for a different target customer.

Source: **DISCIPLINED ENTREPRENEURSHIP**

Examples of testable assumptions



- **Conducting Opinion Polls Is Much Better on Facebook Than with Traditional Telephone-Based Methods**
- One student, a political science major, was concerned about political opinion polls and the possibility that the accuracy of polls would be affected by the growing number of people who were canceling landlines in favor of cell phones.
 - American laws prohibit contacting cell phone users with autodialing machines, so pollsters who want to call cell phones have to individually dial each number, making it much more expensive to contact cell phone users versus landline users.
 - Polls risked being skewed because certain demographics were more likely to be cell phone-only users than others.
- The student assumed that since Facebook allows you to target ads at certain demographics and access the demographic data for clicked ads, he could **use Facebook ads to quickly and cheaply conduct polls that are more accurate and less labor-intensive than telephone-based polls.**

Source: **DISCIPLINED ENTREPRENEURSHIP**

Examples of testable assumptions



- The student was able to test his hypothesis overnight with **less than \$100 in Facebook ads.**
- His initial experiment compared his ad click-through rates against the 2012 New Hampshire presidential primary and the aggregate of the professional polls done of the primary.
- His click-through rates did not accurately predict the outcome of the primary, so he hypothesized that if he changed the design of the ads, he would achieve more accurate results.
- Less than a week later, with another **\$50 in ads**, he tried a different format for the headlines of the ads.
- This second attempt was compared to a different state's presidential primary, and **achieved results similar to the professional polls that cost \$100,000 and several days to produce.**
- Interestingly, while validating his hypothesis, he found an even more interesting use for his idea—pollsters were interested in using Facebook's demographic targeting of ads to organize hypertargeted focus groups, a market opportunity with much broader application than simply predicting the results of an election.

Source: **DISCIPLINED ENTREPRENEURSHIP**

- Determine Best Experiment Methodology
- Always trying to do Smallest Effective Experiment Possible
- Options:
 - More refined PMR
 - LOIs, Paid Beta, Prepays (Test their wallet)
 - Validate Costs
 - Validate Value Prop with Pilot/Concierge Service
 - Benchmarks
 - A/B Testing
- Creative methods as suggested in literature



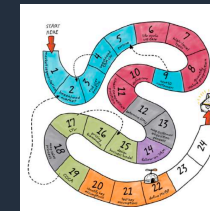
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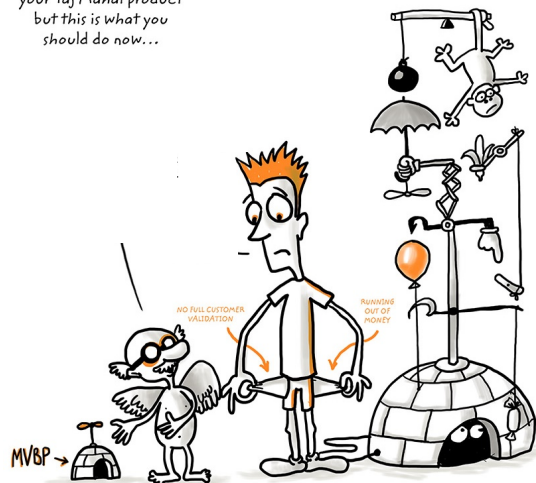
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Section 8: How do you Design and Build your Product?

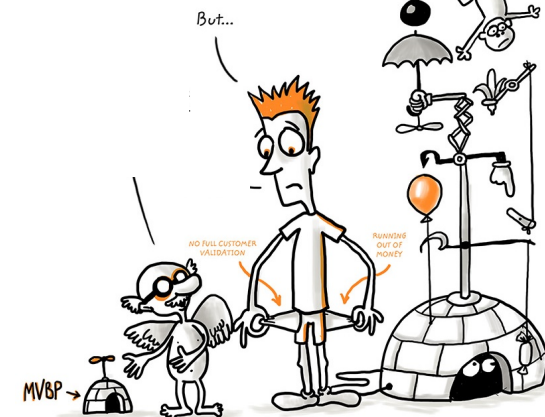
Step 22: Define the Minimum Viable Business Product (MVBP)

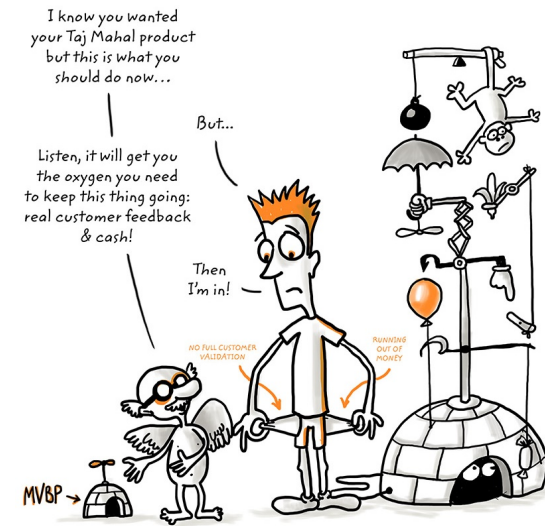
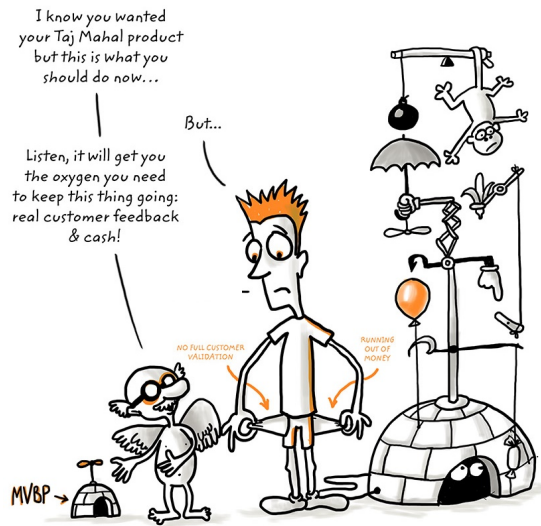


I know you wanted your Taj Mahal product but this is what you should do now...



I know you wanted your Taj Mahal product but this is what you should do now...





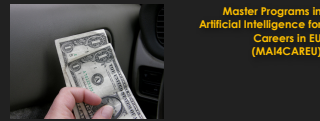
Now you are feeling good about our product but you must show restraint;

You will now cross the Rubicon and **launch a minimally viable product** that a customer will pay for, but keep the functionality as simple as possible so you can **minimize risks** and also continue to test the assumptions in a scientific manner.

Step #22: Goals

- In this step and the next, you will develop and test the **Minimum Viable Business Product (MVB^P)**.
- The MVB^P combines the most important key individual assumptions into one integrated product that can be sold.
- The MVB^P sets you up to test the most important assumption that integrates the rest: **that customers will pay for your product**.
- The product you will build in this step will meet the three conditions of an MVB^P.

3 Key Conditions




Master Programs in
Artificial Intelligence for
Careers in EU
(MAIACAREU)

- With the **least amount of investment**, achieve the following three conditions:
- **Value**: Customer gets **value** from your product (i.e., validate Step #8, QVP)
- **Pays**: Economic Buyer **pays** something for the product (i.e., validate some level of WTP)
- **Feedback**: Start meaningful **feedback** loop with end user

697 M. D. Dikaiakos

MVBP requirements

Master Programs in
Artificial Intelligence for
Careers in EU
(MAIACAREU)

- MVBP should **balance simplicity** with **sufficiency**.
- 
- Odds of success are higher if you:
 - ▶ **limit the number of variables** in initial product
 - ▶ getting something that works into the customer's hands **quickly**
 - ▶ even if it **does not have all the functionality** you would like to include.

698 M. D. Dikaiakos

MVBP: How?

Master Programs in
Artificial Intelligence for
Careers in EU
(MAIACAREU)

- Make a list of all of your key assumptions.
- Narrow your assumptions to the most important.
- Put it/them into a product the customer can use.
- See if they will buy it.

699 M. D. Dikaiakos

“Concierge” MVBP

Master Programs in
Artificial Intelligence for
Careers in EU
(MAIACAREU)

- It doesn't really have to work.
 - ▶ **Simulate the result** like if the product did work.
 - ▶ See if your assumptions are proven true.
- **Not sustainable** but **helps you test** and better **allocate** resources.

700 M. D. Dikaiakos

Concierge MVBP example



Automatic couponing program.

- Let's say you want a software program that will automatically send a user coupons based on the food they buy each week and **help them decide which grocery store they will shop at to save more money.**
- Instead of building software, first you would allow a user to tell you what they buy each week, maybe through an email or face to face, and then take the coupons and best grocery store to them each week.
- Soon, you'll find out if/when the user doesn't go to the grocery store, if savings really affects which grocery store they choose, and if they care about certain brands, and if so, in which food categories.
- You would learn a lot more by using this **concierge mvp** technique than by taking **the enormous effort of building the web application.** This will allow you to decide which ideas work from your initial hypothesis, and which ideas need to be scrapped.

Concept of "Saleable Concierge MVBP"



- The product works just enough to solve a real problem, but is not polished ...
- ...so you "ship an engineer" with it
- This method allows you to enter the market much sooner than otherwise to test your assumptions and gain valuable field insights
- You will save money and win in the end

- Define your MVBP very carefully before building it
- Test the "B" in the MVBP as early as you can
 - ▶ If you can: sell it outright
 - ▶ If you can't: presell, do paid beta – involve \$
- Building the MVBP
 - ▶ Know what you don't know
 - ▶ Get help if necessary



Case Study: Home Team Therapy



- **Problem:** improve physical therapy delivered during recovery.
- **Idea:** Use Microsoft Kinect to monitor patients and provide them with real-time automated feedback when they do their therapy exercises at home.
 - ▶ Doctors could also see the home sessions and provide feedback of their own.



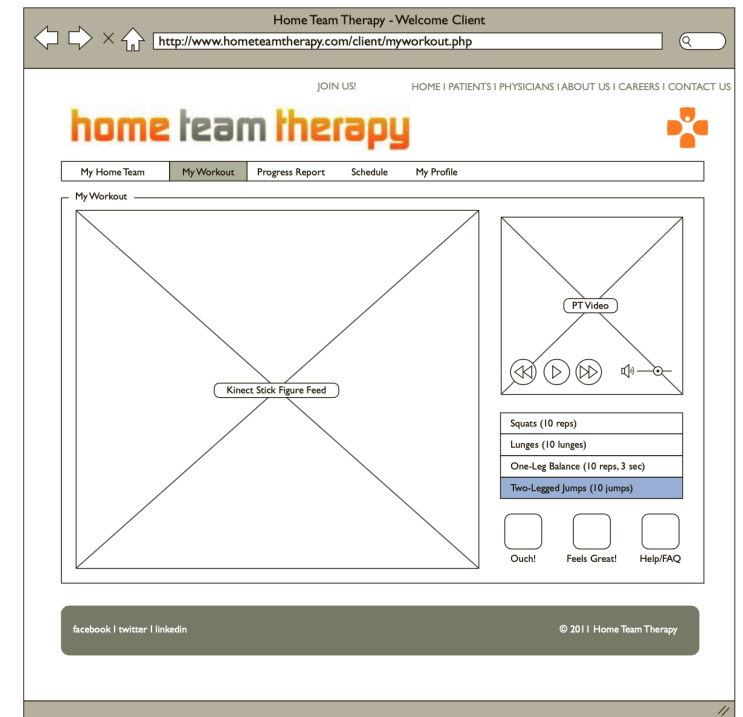
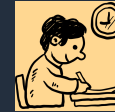
Case Study: Home Team Therapy



- Implementing the whole idea was complicated, in part because of lack of resources.
- **Minimum Viable Business Product definition** based on whether doctors and patients would use and pay for his MVBP online system that assists them in physical therapy.
- Initially, Kinect was supposed to be part of the product, as a real attention-grabber.

M. D. Dikaikakos

Case Study: Home Team Therapy



Home Team Therapy MVBP



- After asking serious questions about what was **required to minimally launch to test core assumptions** and **get into a feedback cycle** with customer, the MVBP was simplified.
- Elements of the old design that **included the Kinect** system are **gone**.
 - ▶ However, they could just use an online video for physical therapy and a very simple connection to the physical therapist in the MVBP.
 - ▶ This **eliminated the technological risk** and many other **risks** such as **how the patient would get the hardware**, whether it would be **compatible with a computer** the patient already had, whether the **user would be comfortable** using the Kinect, and many other questions.

M. D. Dikaikakos

Home Team Therapy MVBP



M. D. Dikaikakos

Testing Assumptions



- Determining the Minimum Viable Business Product tested the most important assumptions possible to get the iterative learning feedback loop started:
 1. Can we get patients to sign up?
 2. Will they use the system?
 3. Can we get doctors to sign up?
 4. Can we get paid for this in general?
 5. We've done customer research, but how can we determine if these are the features that customers really want?
 6. Are these the features that customers will pay for?
 7. Are these the features that customers will always want, or does it appear that their preferences will change over time?

Case Study: StyleUp



- **Problem:** gap between traditional fashion advice channels and what actually helped a woman decide what to wear or to buy.
- **Idea:** send women fashion advice that was tailored to each person's taste and to the local weather that day.
- **Assumption:** women would love a dose of fashion inspiration when they need it most—when they are getting dressed—and that a condensed, personalized dose would be more effective than a cumbersome 600-page fashion magazine.

StyleUp Testing Assumption



- Send individual daily e-mails to a handful of female friends with an outfit each woman could re-create, as well as the weather forecast for that day.



Lessons learnt



- Women loved this idea.
- Initial group soon grew to almost 40 people.
 - ▶ Many of these were Kendall's friends, and she could talk to them about what they liked and what she could improve.
 - ▶ Kendall also looped in women she did not know, and these women consistently opened the e-mails. This hinted the idea could scale.
- Key products insights:
 - ▶ Some women preferred the inspiration the night before and others wanted to receive the e-mails first thing in the morning.
 - ▶ Women wanted to shop these looks, if they did not own similar items already.



StyleUp Next step



- Teamed with an engineer to built a system for Kendall to:
 - ▶ [categorize images](#) and
 - ▶ [deliver](#) them to [many women](#) at a time vs. one-to-one
 - ▶ incorporated many of the early findings like [customized time delivery](#) and [click-to-purchase links](#).
- In this business idea:
 - ▶ the [primary customer](#) was the woman who received the free daily e-mail;
 - ▶ the [secondary customer](#) would be a company related to fashion, such as a retailer, who would want access to the primary customer so they could convince the primary customer to buy their products.

StyleUp MVBP



- A backend system that could categorize images based on weather and style.
- An easy delivery mechanism to dispense these images every day.
- A database of beautiful images the targeted customer (busy, professional women) would be inspired to see, which included a source link (for copyright issues).
- Analytics to measure how deeply women were engaging with and sharing the service.

StyleUp MVBP Conclusions



- Without investing much money or going too far down a single path, Kendall and Ryan's goal was to show that women would like the value proposition enough to sign up, open the e-mails and tell their friends.
- They were very confident they could add more features later; but they wanted to [get more guidance](#) after these original foundational features were implemented and used to know which ones to add and in what priority. They wanted to [start the feedback loop with their target customers](#) as soon as possible.
- This MVBP also set them up well to [test whether the secondary customer got value](#) from the product and was willing to pay for access to the primary customer, since the MVBP has links that allow women to click to websites on which clothing items are sold.

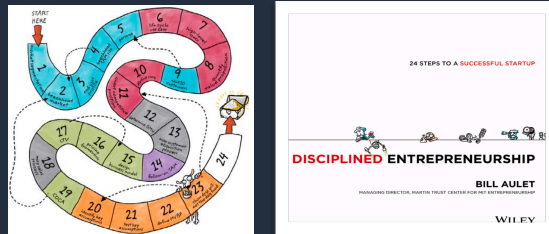
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Section 8: How do you Design and Build your Product?

Step 23: Show That “The Dogs Will Eat the Dog Food”



He came up with a breakthrough formula that was better for everyone and cost one-tenth the price of the cheapest dog food on the market.

Dogs would sleep better at night, have a better demeanour, shed less hair, have whiter teeth, be friendlier to strangers, obey their owners more, and so on.

They had tested in the lab from a chemical standpoint and were told that it would even taste better. Everything made logical sense. It was a business opportunity that was almost too good to be true.

“Once upon a time in a land called Ivory Tower, not so far away from here, there was a chemist who wanted to make better dog food.

He studied to see what kind of food would improve the health, happiness, and financial and spiritual well-being of the dog.”

He sprang into action, raising a large sum of money and spending \$3 million to build a plant to produce the dog food.

He signed up distributors and kicked off a huge marketing campaign. To quote Jackie Gleason from The Honeymooners, “This thing is going to the moon, Alice!”

The product shipped.



Owners put the food in front of their dogs.



DALL-E

And **the dogs refused to eat the dog food**
The **company crashed**

But they have to eat it.
This doesn't make sense.
All my logical data and research
shows that it is good for them ...
plus they told me
they would eat it.



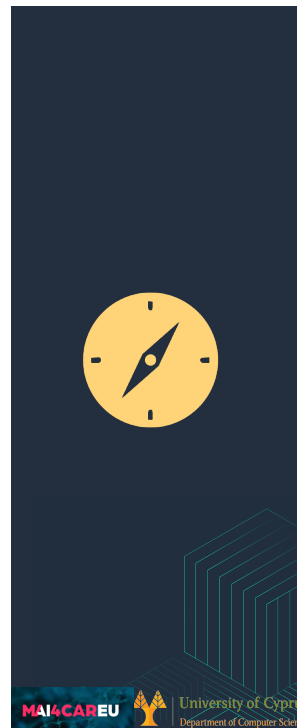
But they have to eat it.
This doesn't make sense.
All my logical data and research
shows that it is good for them ...
plus they told me
they would eat it.

Shoulda checked
before you built
that big plant and
spent all that money!



Now that we have launched
our product, show **measurable
proof** that the customers are
adopting the product;

no rose-colored glasses—data
is required.



Step #23: Goals

- **Demonstrate quantitatively** that customers will pay for your Minimum Viable Business Product (MVBP).
- Develop **metrics** that indicate the **level of word of mouth** your MVBP is creating among customers:
 - ▶ Initial interest – click through rates, Conversion rates, Purchase and pay, Maintenance contract, Retention rates, Customer advocacy, COCA and LTV, Gross Margin

Step #23: Why?

- Based on every detail you've uncovered about your product and your customer, **it might make sense that your product would be viable.**
- **But** ultimately a person is going to have to accept your new innovative product and **humans are not always rational.**

Step #23: Why?

- So after you have made your logical plans with individual experiments along the way, and **before you invest large amounts of time and money**, make sure:
 - ▶ the **dogs** will **eat** the **dog food**!
 - ▶ the **dog's owners** (or friends) will **pay** for the dog food too.



Step #23: What?

- See if the target customer will **buy** and **accept** the product.
- Learn a tremendous amount from the real data on the MVBP: **customer preferences.**
- Start to measure how much customers will **advocate** to others in the TAM about the benefits of your product.
 - ▶ What is the magnitude of the positive word of mouth your product is generating? (**virality coefficient**).

Case Study: StyleUp



- Once MVBP was released, the company measured **engagement** and **adoption** of their target customers.
- Target metrics to value the progress and validate a business opportunity, seeing if women would respond to the service and encourage their friends to sign up:
 - ▶ **Consistent engagement**: includes both whether women **opened the e-mails** and whether **women clicked through to webpages** where they could **purchase** the merchandise they saw in the e-mails, which was a potential way to monetise the product.
 - ▶ **Growth**: are women telling their friends to sign up for StyleUp; easy to track this quantitatively via referral link.

StyleUp observations

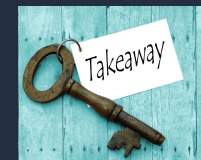


- Despite not spending money on marketing in the first few months, word spread to 1,500 people based on pure word-of-mouth traction and minimal press coverage.
- Even when they reached nearly 8,000 members, StyleUp had committed minimal capital and time to marketing and yet continued to see **20 percent month-over-month growth**.
- Of course additional customer satisfaction metrics, like **Net Promoter Score®**, would be a valuable additional piece of data to gauge the long-term viability.

More metrics



- Second dimension to be explored is to prove that the **dogs would pay for the dog food**.
“Can StyleUp can get paid for this customer engagement?”
Can StyleUp monetize the situation it has created?”
- Three important metrics to measure:
 - ▶ **click-through rates** on the e-mails that were opened,
 - ▶ the amount of **money in sales that affiliates realized** from the click-throughs, and
 - ▶ the **payments made to StyleUp** for these sales.



- Take your Minimum Viable Business Product to the customers to see if they will actually use and pay for the product.
- Collect data to see if they are really using it and how engaged they are as users.
- Determine if they, or someone associated with them, will pay for it and also if they are advocating for your product with word of mouth.
- After you collect data over time, analyze it and especially look for trends and understand underlying drivers.
- Make sure you are intellectually honest and rely on real-world data and not abstract logic.

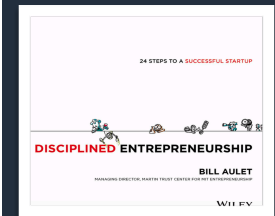
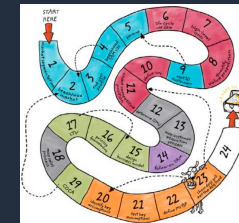
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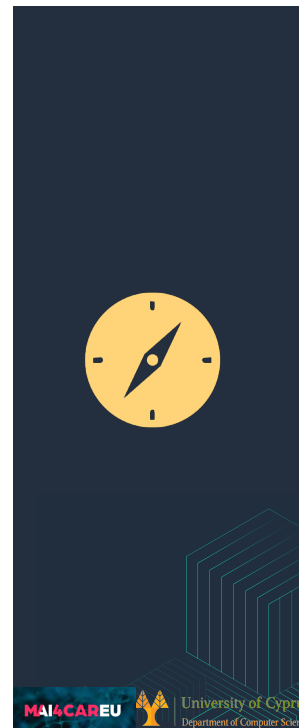
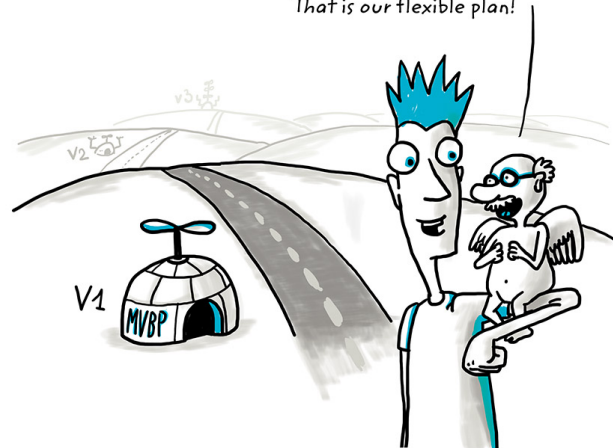
- DH Step 14: Calculate the Total Addressable Market Size for Follow-on Markets
- **DH Step 24: Develop a Product Plan**

Section 4: Design and Build Product

Step 24: Develop a Product Plan



Let's get started with the MVBP
but let's also have a plan here.
Things will change but we are playing chess
and not checkers in that we need
to think a few moves ahead.
That is our flexible plan!



It is time to revisit your Follow-on Market TAM and develop a product plan so that your product is not just an island that leads nowhere.

Step #24: Goals

- Go beyond the Minimum Viable Business Product (MVBP) to determine which features you will **build out for the beachhead market**.
- Determine which **adjacent markets you will sell to** after dominating the beachhead market, and how your product will have to **change** for each new market.

Step #24: Develop a Product Plan

What?

- Develop a longer term plan to add functionality so you can address additional markets.

Why?

- It is important to think ahead & have a plan so people are ready to keep moving forward after the MVBP.

Step #24: Product Plan

- Develop a longer term **Product Plan** to evolve your product/service and markets over time so that the MVP is the first step on a plan for much broader success.
- This plan is subject to change as new information comes in so don't sweat the details too much or spend too much time on it but do have at least a general vision of how you will make this a great company.

A Business is More than 24 Steps

The 24 Steps gives you a framework to get a rock-solid product-market fit at initial launch. But as your business grows out beyond its MVBP, you will also need to learn about the following, which we unfortunately do not have space in this book to cover:

- ▶ **Culture**
- ▶ **Team & HR Processes**
- ▶ **Development**
- ▶ **Sales Execution**
- ▶ **Customer Service**
- ▶ **Financials & Financing**
- ▶ **Leadership & Scaling the Business**
- ▶ **Governance**
- ▶ **Intangibles**