Entrepreneurship in Supply Chains

SCx Bootcamp

Cambridge, MA 22 August 2017

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Desired outcomes of today:

- (Share a methodology in entrepreneurship § connect to Supply Chain Concepts)
- · Prepare you for Friday

Concepts we will cover today

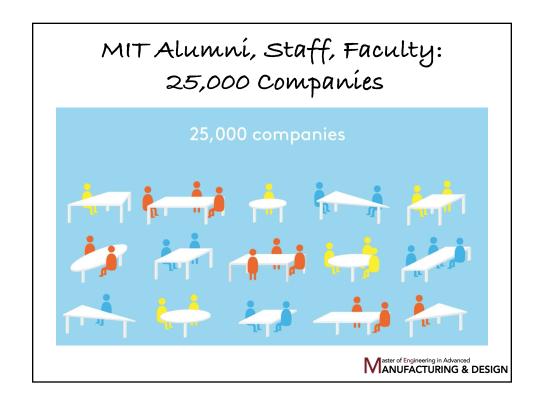
- Total Addressable Market,
- · Quantifying the Value Proposition,
- · Cost of Customer Acquisition,
- · Life Time value of Customer and lastly,
- · Scale-up

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THE BOTTOM LINE:

- · UNDERSTAND YOUR CUSTOMER
 - QUANTIFY THE VALUE PROPOSITION
 - TEST YOUR ASSUMPTIONS, EVERY DAY
 - IF YOU ARE NOT EMBARRASED BY YOUR FIRST PRODUCT PROTOTYPE YOU WAITED TOO LONG

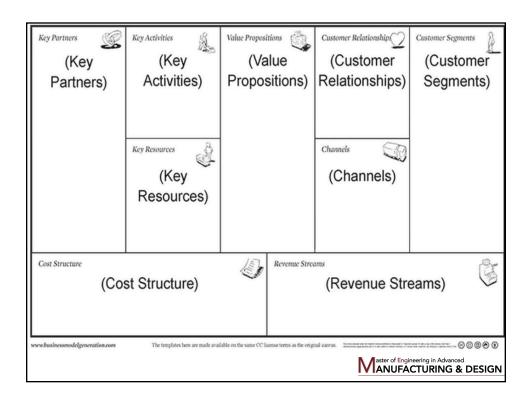


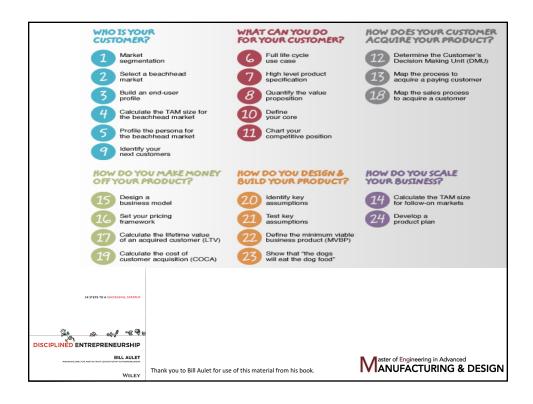


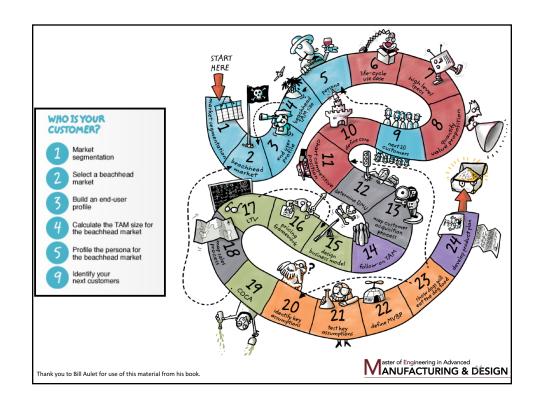
An ideal Manufacturing and Supply Chain:

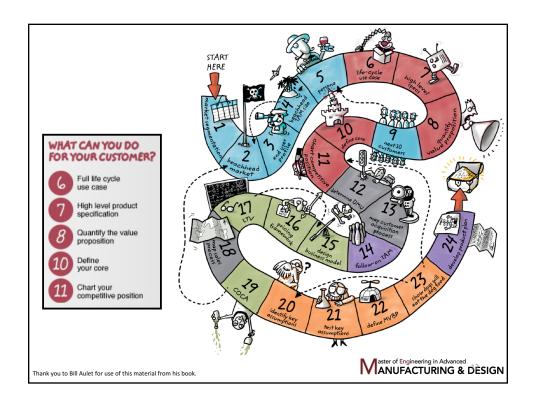


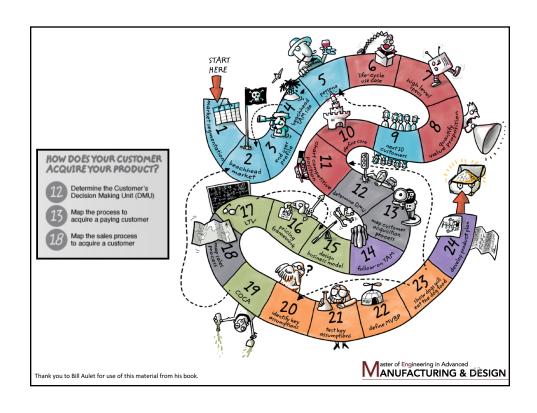
But until then...we need a methodology

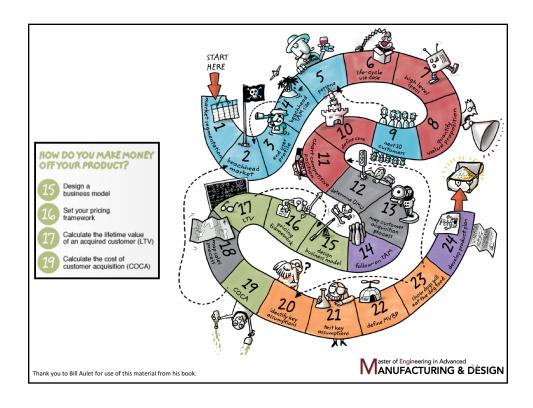


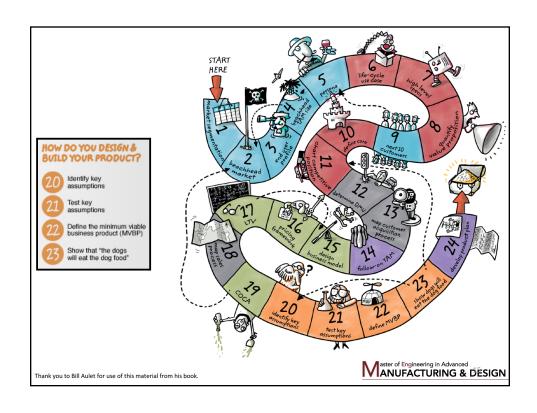


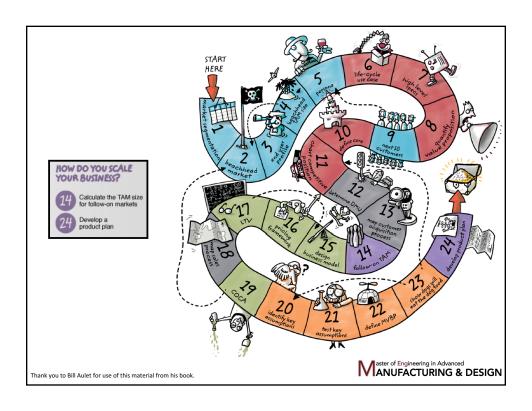


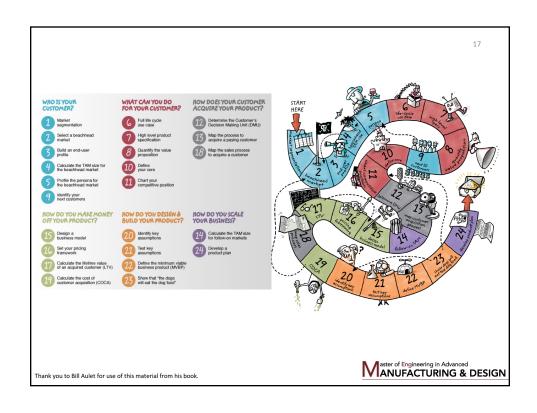










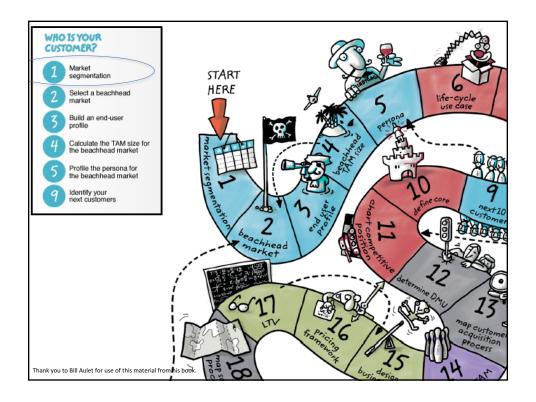




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What is my idea or techno		y idea or technology apply to?
Industry or Similar Category	End Users	What They Would Use It For
		-

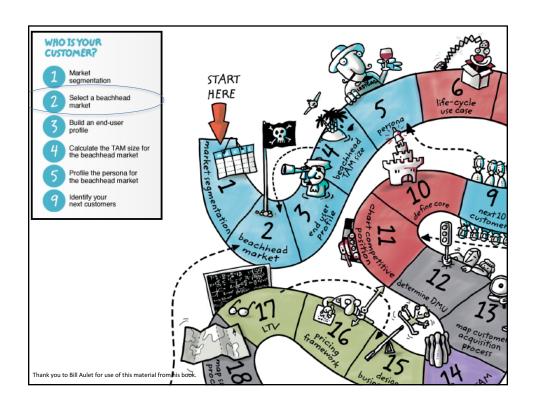


instorming What My Startup Will Do	,	startup do?
What is my idea or techn	ology?	
What industries and end	users could m	y idea or technology apply to?
Industry or Similar Category	End Users	What They Would Use It For



Initial Market Top Target Markets to Consider for My Startup End Target Target Target Can you Is there Can you Consistent Rank user customer customer customer's deliver a entrenched leverage this with values, wellreadily compelling whole competition? segment to passions, funded? accessible to product? reason to enter goals of sales force? buy? others? team? aster of Engineering in Advanced ANUFACTURING & DESIGN Thank you to Bill Aulet for use of this material from his book

Your Addressable Market Top Target Markets to Consider for My Startup End Target Target Target Can you Is there Can you Consistent Rank user customer customer customer's deliver a entrenched leverage this with values, wellreadily compelling whole competition? segment to passions, funded? accessible to reason to product? enter goals of sales force? buy? others? team? Master of Engineering in Advanced ANUFACTURING & DESIGN Thank you to Bill Aulet for use of this material from his book



AGREEMENT ON THE BEACHHEAD MARKET SELECTION

We have systematically analyzed the various potential market segments and arrived at a decision for one beachhead market (not more than one). We each understand that in real life, there is always more than one path to success. The key is to choose one that will work and avoid those that will not work—but choose one and get going on it As such, we each understand that we are not going to be locked into a state of analysis paralysis whereby we are going to try to take out all the risk in this decision because that is not possible. We will also not spend unnecessary time trying to determine which of the successful paths is slightly better than the others because there are so many unknowns.

But what is possible is to focus on one and only one market, and that is what we are going to do.We have deselected all the other market segments and will not be distracted by them. I will personally do this, and I will also hold my teammates accountable and point out when the team starts to get distracted. If a teammate points this out to me, then I will listen carefully and refocus if I am the cause of the distraction.

As such, each of us does by solemnly swear that we will focus on the market segment and pursue it until we fully achieve our objectives (e.g., market leader, cash flow positive in this market segment, etc.) or until it has been further segmented or until we have proven that it is not viable. If we do switch, we will do it as a team and then give the new market our focus, but until such time, we will be completely committed to one and only one market segment, the one noted above.

 Team Member #1:
 Signature
 Name
 Date

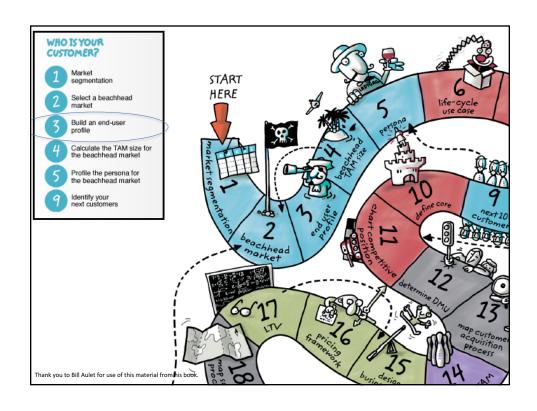
 Team Member #2:
 Signature
 Name
 Date

 Team Member #3:
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 Name
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 Team Member #4:
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 Name
 Date

 Team Member #5:
 Signature
 Name
 Date

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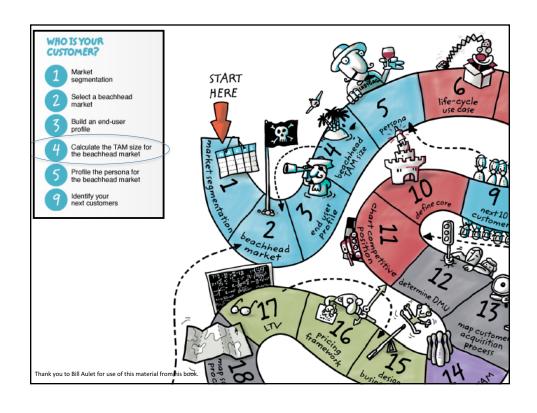


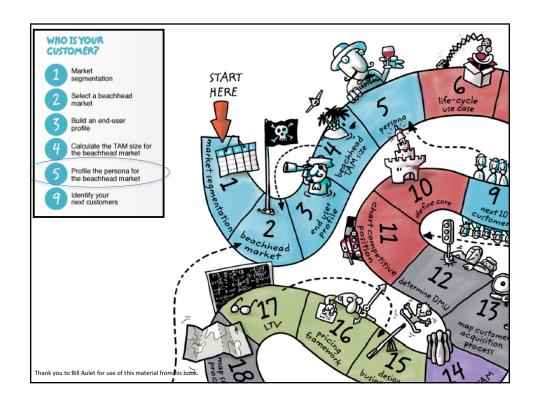
Initial User Profile

GENERAL EXERCISES TO UNDERSTAND CONCEPT

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ENERGIE EXERCISES TO CHOERSTAIN CONCERT	
Pick a successful product that you know well. Who do you think the target end user is for the demographics and psychographics, and be as specific as you can.	hat product? Write down the
Demographics (your guess):	
Psychographics (your guess):	
Now go to the product's website, look up advertisements for the product in the media, and consistent with your profile. Do the end users depicted look like what you expect them to? priorities of your profile?	
Demographics (per website/ads):	
Psychographics (per website/ads):	
$What \ messages, images, proxy \ products, and \ other factors \ give \ you \ hints \ as \ to \ the \ products, and \ other \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ as \ to \ the \ products \ give \ you \ hints \ give \ hint$	t's End User Profile?
Politicians and their teams are extremely aware of "end voter" profiles. Pick two candidate against each other in a current or recent election, and try to define each candidate's "base, is analogous to a Beachhead Market. In doing so, look at the candidates' contrasting messathey reassure and attract these people to the candidate.	" their core group of voters, which
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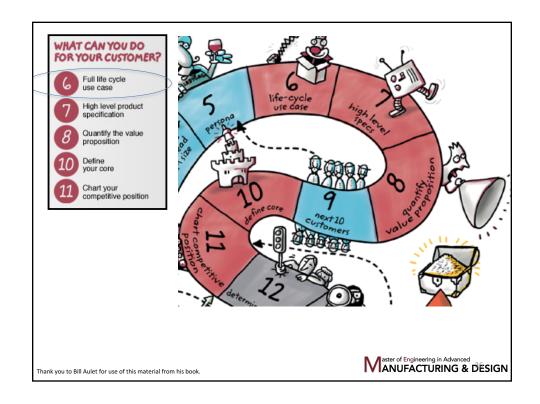


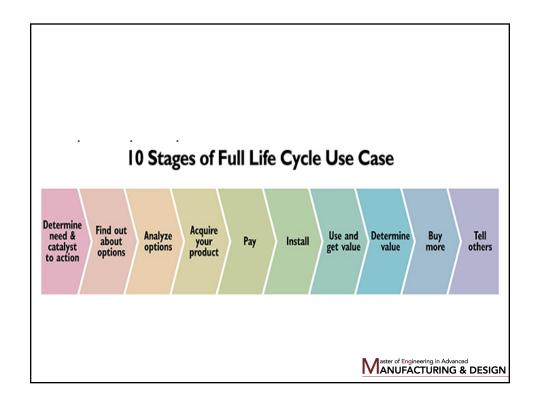
Add a visual image of the Persona here	
Name	
Address	
E-mail and phone	
Title (if appropriate)	
If business-to-business (B2B), where they exist in the overall org chart	
Demographics:	
Gender	
Age	
Income	
Education level	
Education specifics (schools, majors, awards, etc.)	
Employment History (companies, jobs, awards, etc.)	
Marital status	
Kids and other family info	
Ethnicity	
Political affiliations	
Other demographic 1:	
Other demographic 2:	
Other demographic 3:	

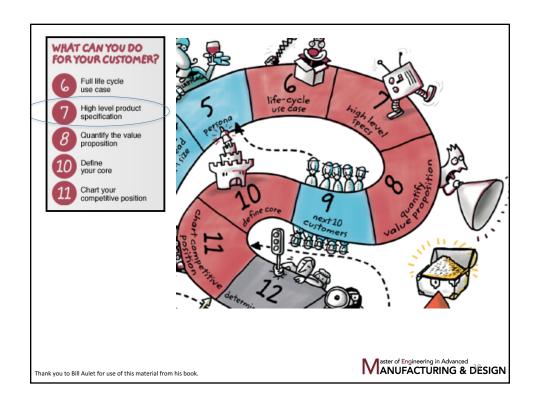
Other demographic 4:	
Psychographics:	
Why do they do this job or live the life they do?	
Hobbies	
Heroes	
Aspirations in life	
Fears in life	
Personality traits	
Interesting habits	
Other psychographic 1:	
Other psychographic 2:	
Other psychographic 3:	
Other psychographic 4:	
Proxy Products (which products have the highest correlation with your Per	rsona)
is there a product or products that the Persona needs to have in order to get benefit from yours?	
Are there products the Persona uses that embody the psychographics and demographics from the end user profile?	
Any other unusual or interesting products of note that the Persona has?	
Watering Holes (real or virtual places where the Persona interacts with otl	ners like him or her):
Favorite sources for news (e.g., which newspapers, TV shows, websites, blogs)	
Places where Persona congregates with other similar people	
Associations Persona belongs to and the importance of each	
Where does the Persona go for expert advice and/or to get questions answered?	
Day in the Life (describe a day in the life of the end user and what is going	on in this person's head):
What are the typical tasks the Persona does each day, with the amount of ime associated with each?	
Which of these typical tasks are habits?	

Psychographics:	
Why do they do this job or live the life they do?	
Hobbies	
Heroes	
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Fears in life	
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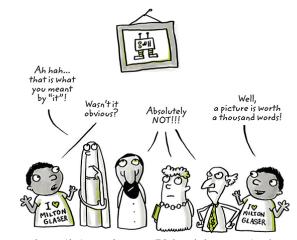
Which require the most effort?	
Which does the Persona enjoy?	
Which does the Persona not enjoy?	
What makes it a good day for the Persona?	
What makes it a bad day?	
Who is the Persona trying to please the most?	
What is the top priority of the person/people the Persona is trying to please?	
Priorities:	
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:
Note: These worksheets are meant to guide you but not constrain you. The important information about your target market, so feel free to customize	
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High Level Product Specification



 $As you \ translate \ your \ idea \ into \ a \ product \ spec, \ you'll \ find \ out \ whether \ your \ team \ is \ on \ the \ same \ page!$

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High Level Product Specification

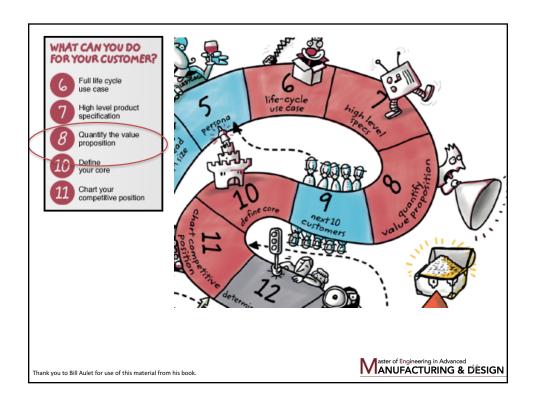
Start by completing the Visual Representation of Product worksheet, keeping in mind the following attributes of an effective High-Level Product Specification:

- Visual: If it is hardware, this is easy and surprisingly clarifying. For software, use a series of simulated screenshots to form a storyboard that shows how someone would use the product.
- 2. Focus on benefits: Focus on the benefits and not the technology or functionality. In particular, focus on the benefits that are related to the Persona's top three priorities, with special focus on the top priority. Benefits are what matter to a savvy customer. Be clear on the value proposition this product has for the end user.
- 3. High level: Don't include too much detail! Just enough to show high-level functionality that will drive the benefits.
- 4. Hits the spot: Make sure the product specification resonates deeply with the Persona and other customers in the target End User Profile group. Conversely, don't be influenced by people outside your Beachhead Market, because they won't help you achieve a dominant market share in your beachhead.
- 5. Flexible: Make sure your product specification builds in the ability to iterate with the Persona about key features, functions, and benefits. Some people make multiple versions and show them side by side to the Persona. Listen to what the Persona says, and always be willing to change what you have done. A wise man once said, "Listening is the willingness to change." Don't ignore your Persona's feedback just because you think the brochure is great.

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Quantify the Value Proposition Axis to Measure Value Proposition 1. What is the Persona's #1 priority? _____ 2. What units should it be measured in? ____ Persona's General Verbal Description of the "As Is" State and the Opportunities for Improvement ____ Persona's General Verbal Description of the "Possible" State and the Opportunities for Improvement

A quick exercise for quantifying the Value Proposition

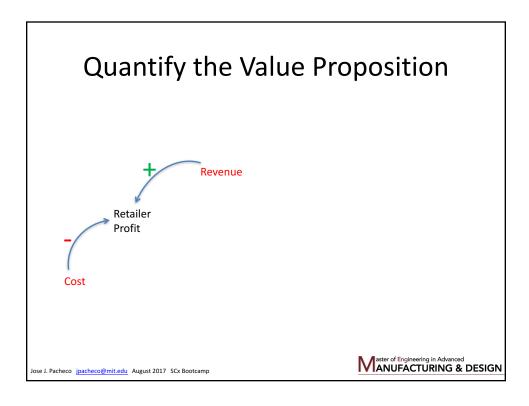
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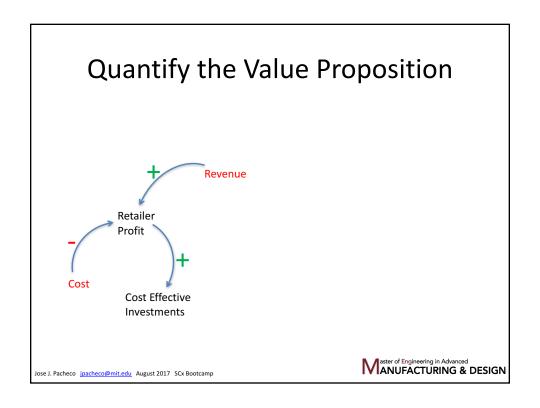


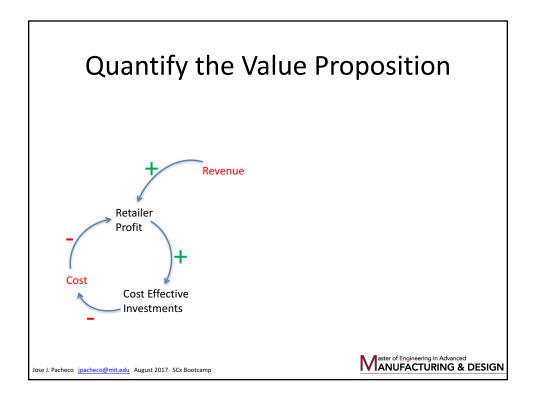
Quantify the Value Proposition

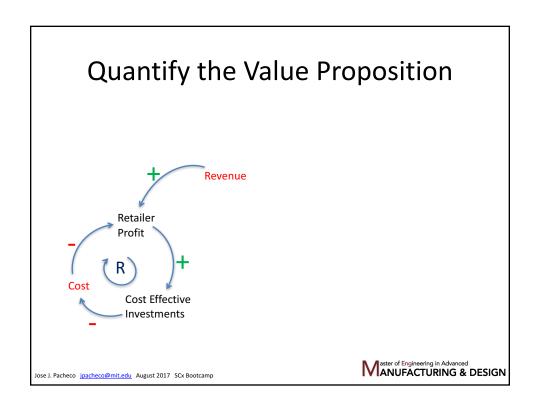


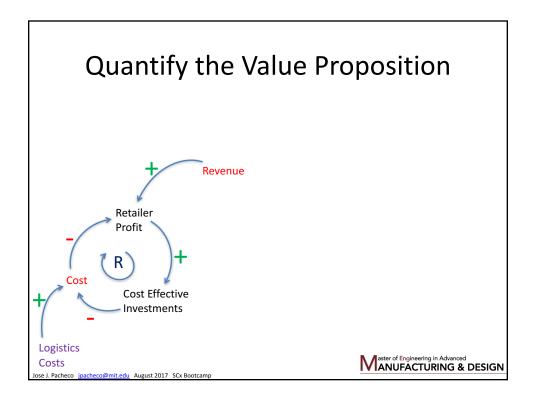
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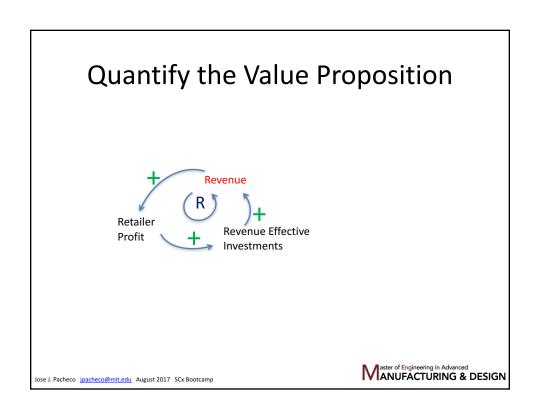


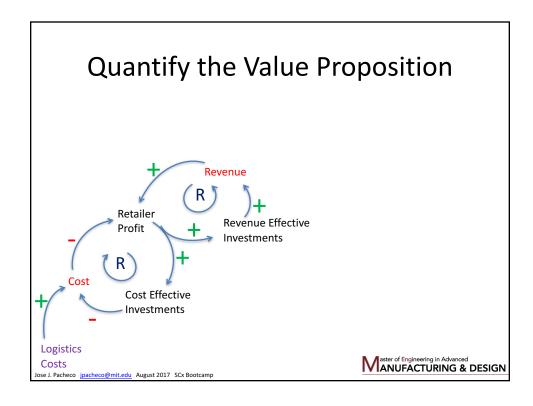


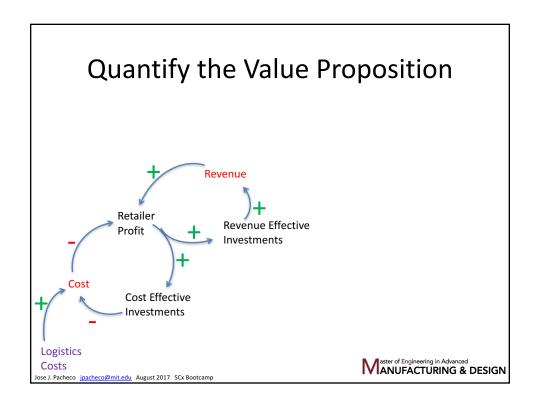


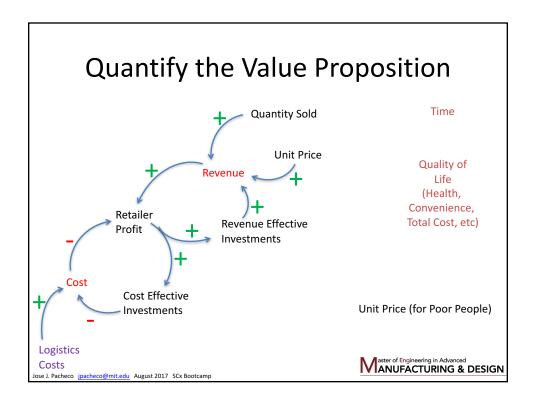


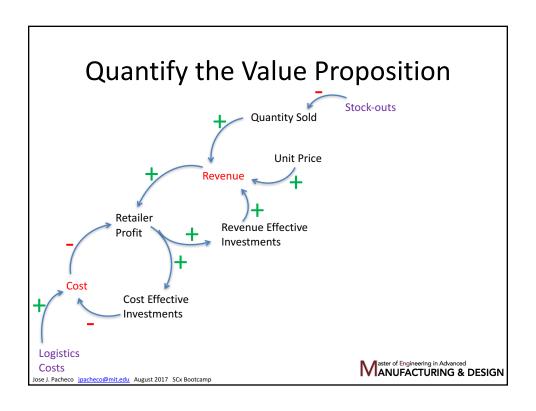


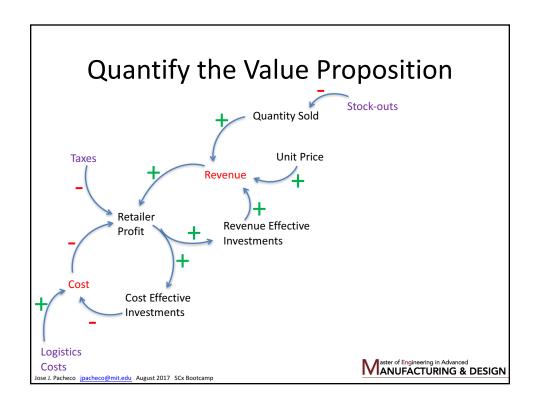


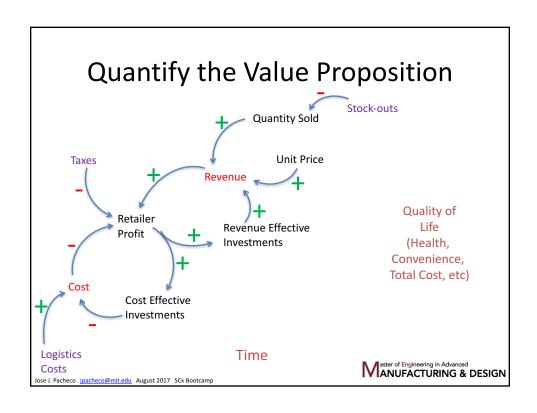


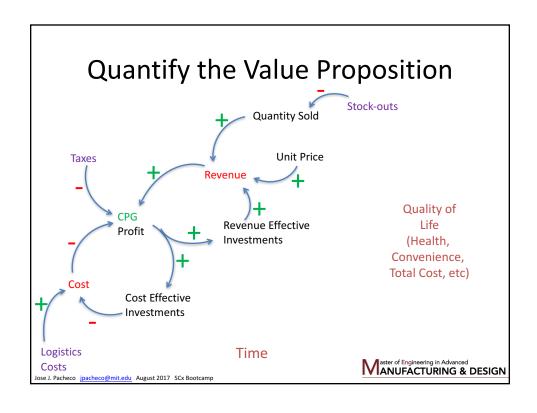


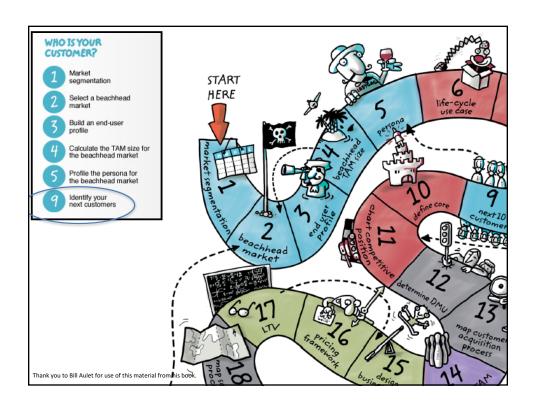












Next 10 Clients

Summary of Next 10 Customers

General Info				Fit				Engagement				
#	Customer Name	Relevant Info	Title	E- mail/ Phone		Psycho- graphic			Overall	Contacted	Level of Interest— Letter of Intent?	Source
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

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Next 10 Clients

Step	Hypotheses you tested through talking with the Next 10 Customers (you can test more or fewer hypotheses for each category than what are listed here)	What conclusions did you reach about the hypothesis? (Validated/Invalidated/Still Unclear – Needs More Work)	What is your next action related to this hypothesis?
2 – Beachhead Market	1. 2.		
3 – End	1.		
User Profile	2.		
4 – Beachhead TAM	1. 2.		
5 – Persona	1. 2.		
6 – Full Life Cycle Use Case	1. 2. 3.		
7 – High- Level Product Spec	1. 2.		
8 – Value Prop	1. 2.		
Other Key Assumptions	1. 2. 3.		

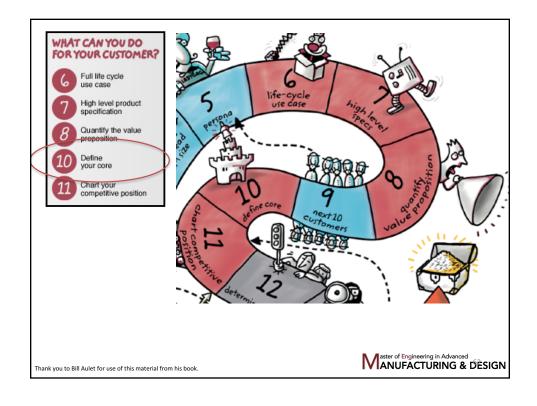
Define tu esencia - Ejercicio

Exercise for Step 10: Identify the Core for Each Company

	Company	Value Proposition	Core
1	Walmart	Low cost	
2	Honda	Reliable power products	
3	eBay	Best marketplace to buy and sell	
4	Gillette	Availability with sufficient quality	
5	Oracle	Safe choice	
6	Zappos	Customer service	
7	Apple	Instant productivity	
8	Your Personal Example:		

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Define your core

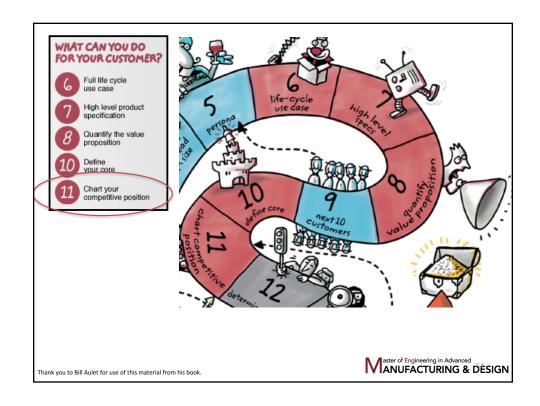
Exercise for Step 10: Identify the Core for Each Company

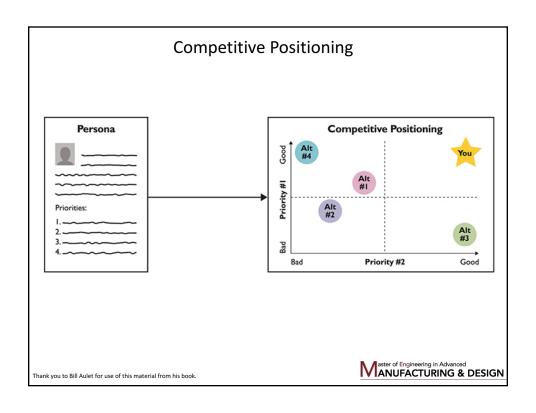
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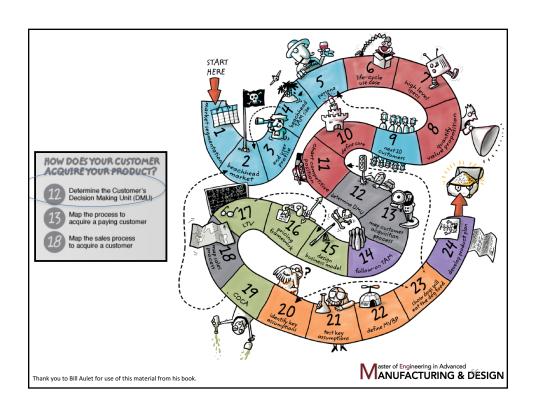
- 1. Walmart: Vendor management and logistics; worldwide sourcing and a strong purchasing organization that extracts the lowest possible prices from vendors. All of this is supported by a culture celebrating ruthless minimization of expenses.
- 2. Honda: Motor technology and manufacturing.
- 3. eBay: Network effects.
- 4. Gillette: Domination of distribution channels.
- Oracle: Sales organization—existing long-term relationships, well-defined and refined sales processes, IT systems, training, compensation systems, culture.
- Zappos: Complete top-down commitment to customer service excellence above all else, embedded into HR, operational processes, systems, measurements, culture, etc.
- Apple: Tightly integrated products based on industrial design, hardware development, software development, and manufacturing, creating a frictionless user interface

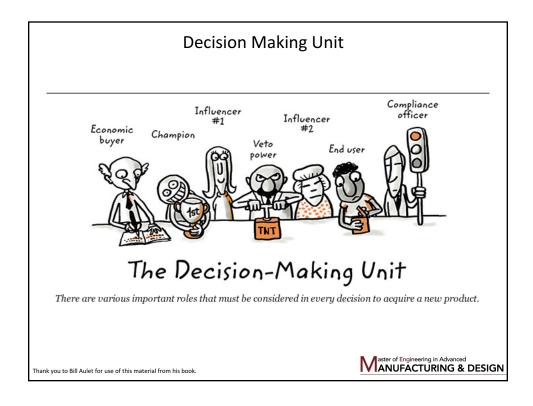
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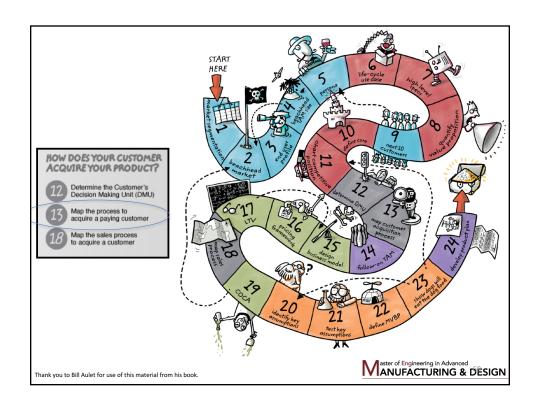


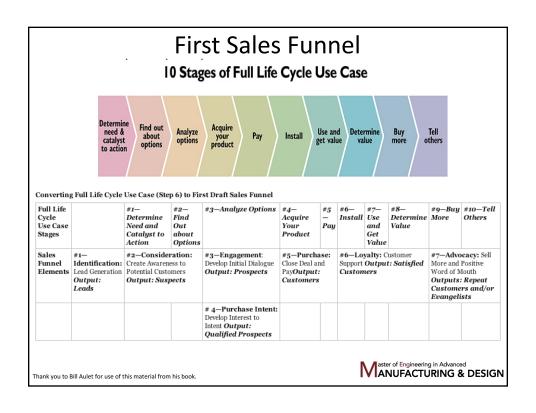


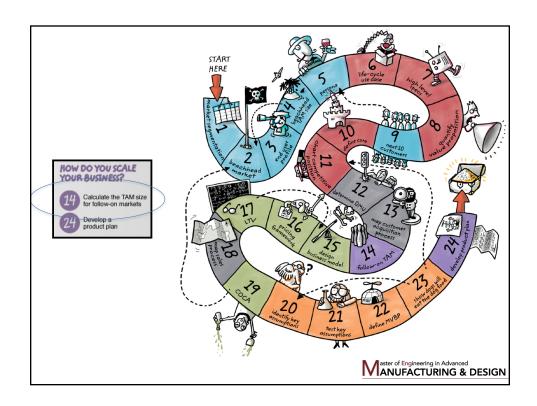


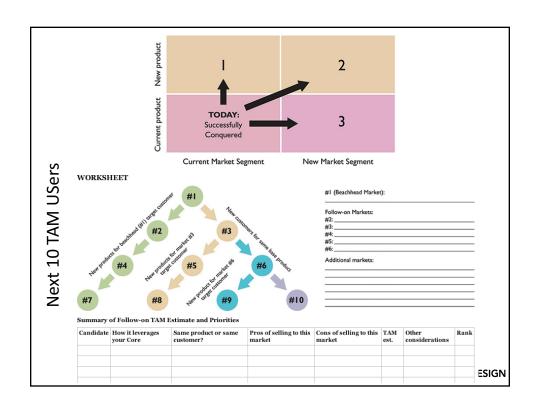


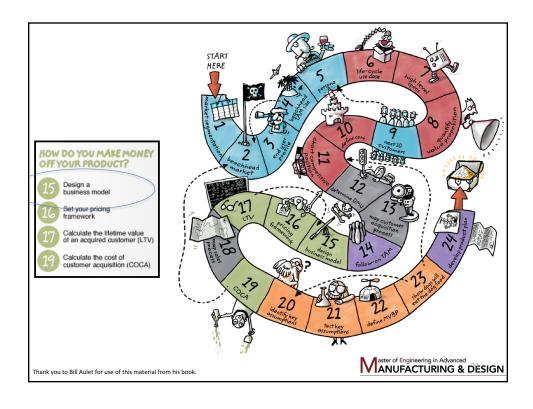
Determine DMU Economic Buyer Persona Champion Persona End User Persona (Step 5) Name Title Psychographic Summary Proxy Products Watering Holes Day in the Life Priorities (Top 4 in Order) Key Selling Points to this Person Primary Influencers Secondary Influencers Primary Influencers Secondary Influencers People Organizations Info Sources How would you qualitatively summarize the DMU in three sentences or less? aster of Engineering in Advanced ANUFACTURING & DESIGN Thank you to Bill Aulet for use of this material from his book.









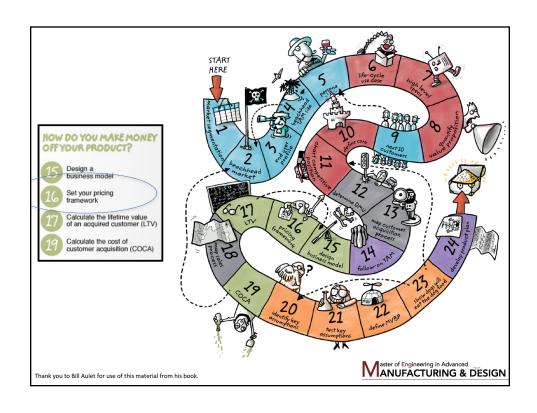


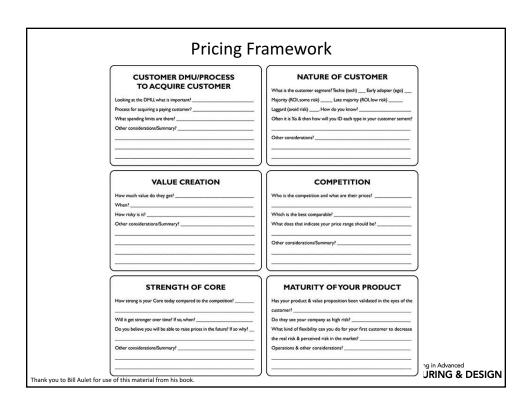
Business Model

Here are some of the most common business models that companies have used:

- One-time charge plus (potentially) ongoing maintenance agreement: Most common.
- Subscription or leasing model: Now very popular, especially in the software area with software as a service (SaaS). There are numerous variants of this
 model.
- Consumables: The classic razor/razor blade model, where the initial product purchase is inexpensive (the razor), but the consumables needed to continue using the initial product (disposable razor blades) have a high profit margin. Very popular in the medical area.
- Advertising: Selling access to your user.
- Transaction fee: Earning a commission from a party for a purchase or action the user makes with respect to that party.
- Reselling data: Others will pay for access to information about your customers, either as a one-time download or being able to access a database on a
 recurring basis.
- Usage-based: Customer only pays when they use the product/service, but the more they use, the more they pay.
- Cell-phone plan: A base plan allows for a predictable monthly (or other time period) cost, and then additional ability to use the product is available at higher marginal rates.
- Microtransactions: Hybrid variant of per usage and one-time charge models, where users provide their credit card and then make a number of very small (often \$1 or less) transactions, particularly for digital goods, that add up over time.
- Upsell high-margin products: A hybrid variant of consumables and one-time charge where the initial sale is for low profit or even a loss, but money is made when the customer buys optional high-margin add-on products.
- Cost plus: Customer pays what it costs to make the product plus some percentage of markup. Very common and not a good idea in the long term. Might
 make sense at the beginning but suggests that your product is a commodity, which creates a difficult environment in which to gain long-term attractive
 competitive advantage from. You want a business model focused on value to the customer, not cost of making the product, otherwise your business and your
 customer will focus on the wrong priorities.
- Hourly rates: A consultant or service provider model not based on costs but based on human utilization (variant of usage model). Unattractive because it rewards activity and not results.
- Penalty fees: An extreme variant of the cell phone plan where there is a small fee for the base service but there are substantial charges if you go over a set condition (e.g., credit card interest rates, late fees at video stores, parking meters).
- Franchise: You create a template for a business that others pay you for the right to implement and use your brand; you also make money by selling
 certified supplies and other products/services to the franchisees.
- Shared savings: Customer pays only after getting benefit from the product, and pays some fraction of the benefit they receive. Conceptually a good model
 to align customer and vendor interests, but challenging to implement, especially over the long term.

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Pricing Framework

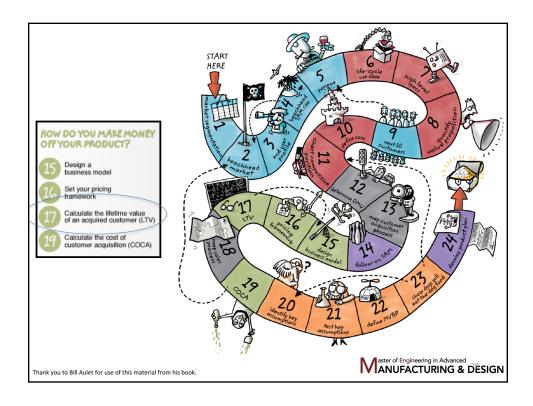
- a. What unit of product are you using for pricing (carried forward from Step 15, Design a Business Model)?
- b. Based on your analysis, what is the price range that is most appropriate and why?
- c. In the first year, what do you believe your initial listed price will be, and what will be the effective price to the market and why? (The effective price is the actual price your customer pays after discounts.)
- d. Sanity Check: What is your expected estimated marginal cost (cost to produce a unit of product, excluding one-time setup costs)? Does your price per unit significantly exceed your estimated marginal cost in the long term?

. Test to Validate

- a. In setting your pricing framework, what hypotheses are you assuming to be true?
- b. What experiments will you run to test your hypotheses?
- c. What information will show that your hypotheses are valid or invalid?
- d. How long will you give the experiments to run?

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Lifetime Value

WORKSHEET

Inputs to the Worksheet

One-Time Charge(s)

What will your one-time charges be for each customer (e.g., initial purchase price of product)? $___$

What is your estimated profit margin on your one-time charges?

(One-Time Charge - Marginal Production Cost)/One-Time Charge = ProfitMargin

For example, if your one-time charge is \$100 and the cost to make that one unit of product is \$20, your profit margin is (100-20)/100 = 80%). (General estimate is fine; don't add more precision than is appropriate at this point—it can be misleading.)

What is the life of the product before a customer has to repurchase the product? $___$

What percentage of customers will repurchase?

What will your recurring revenue streams be? _____

What is your profit margin on your recurring revenue streams?

What is your retention rate for your recurring revenue streams?

After first year: _____

After second year: _____

After third year: _____

After fourth year: __

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Lifetime Value

After fifth year: _____

What other revenue sources will you have? What will your profit margin be, and is there a yearly retention rate applicable to them?

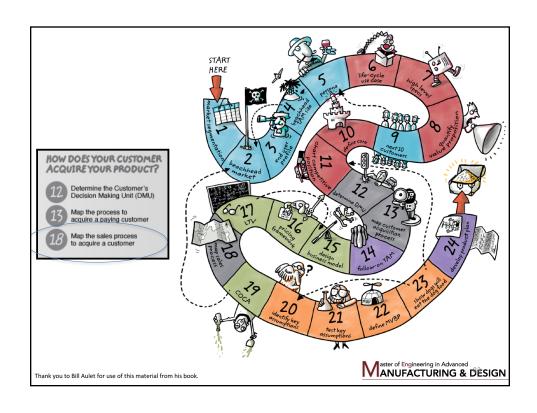
What will your cost of capital be, and why? (If you don't know, assume 50 percent. If you do know, explain below why you think your cost of capital will be different.)

Calculations to Estimate the LTV

	Input	t = 0 (Today)	(1	t = 2 (2 years)	(3	t = 4 (4 years)	t = 5 (5 years)
	A. One-time revenue amount						
	B. One-time revenue profit margin (%)						
	C. One-time revenue profit (row A * B)						
	D. Recurring revenue amount						
	E. Recurring revenue profit						
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Lifetim	ne \	/a	lu	e			
margin (%)							
F. Recurring revenue profit (row D * E)							
G. Other revenue amount							
H. Other revenue profit margin (%)							
I. Other revenue profit (row G * H)							
J. Sum of profit for time period							
K. Default cost of capital factor: Discount factor to NPV (@50%/year and assuming units of time = years) ²	1.0	.67	.44	.30	.20	.13	
L. NPV of each item (row J * K)							
M. Sum of all NPVs (sum of all cells in row L)							
Interpretation o 1. What would you do you feel comfe	round you	ır LTV	estim	ation to	o? Wha	t range	
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Lifetime Value	
Where do you feel the biggest unknowns are in your LTV estimation calculation?	
3. Does the number seem reasonable?	
4. What are the key drivers of the LTV if you want to increase it?	
5. Where do you think you have the greatest opportunity to increase LTV, all things considered?	
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Acquiring Customer

Option Pros Cons Excellent for 1. Field Sales: · Very expensive (salary, bonus, Direct demand salespeople who generation when expenses) are employees creating new · Requires an LTV of of the company. markets; may well \$30K or likely higher They call on be the only option · Hard to scale up as prospects in for demand hiring them is hard person at some generation and expensive and point in the • High-touch the success rate is process. They approach creates unpredictable provide highexcellent touch · Takes a long time to feedback loop connection and become productive High-touch line of • A challenge to approach also communication manage generally creates to the potential deep customer customer. Also loyalty known as Master of Engineering in Advanced ANUFACTURING & DESIGN Thank you to Bill Aulet for use of this material from his book.

Acquiring Customer

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.

- 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

- · 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-onone with customers
- Some products just can't be sold without an in-person demo or meeting with the customer

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Acquiring Customer

3. Internet Sales: This is a general catchall category for sales done by computers through automatically generated emails, big data analysis, social media, preference engines, etc. The key differentiator is that there is no human in the loop.

- Direct interaction | Low touch 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

- · 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

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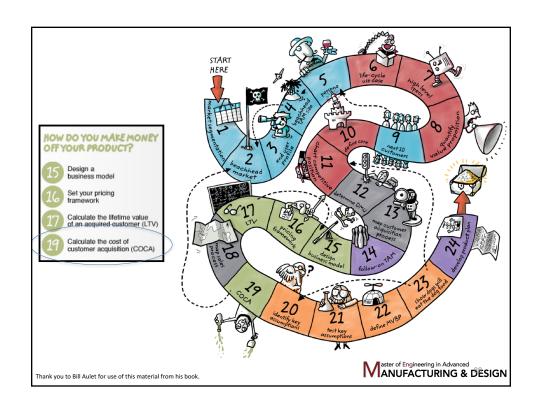
Acquiring Customer

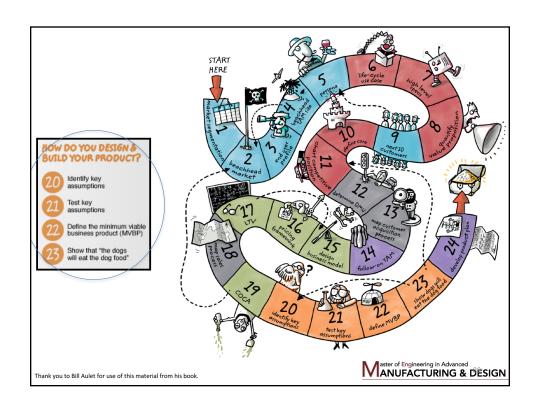
4. Third-Party Resellers:
These people sell your
product but are not
employees of your company.
They include Value-Added
Resellers (VARs),
distributors, stores,
catalogues, independent
sales agents, etc.

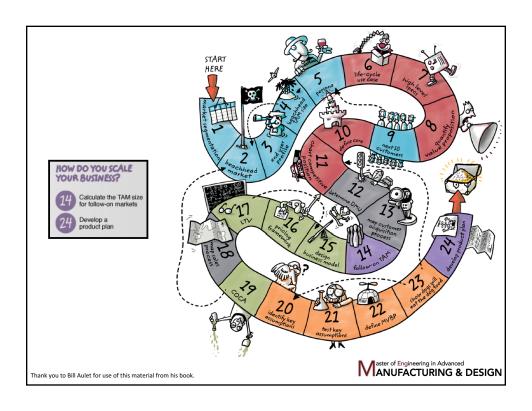
- Instant geographic coverage
- Easy to manage
- Understand cultural context and have preexisting contacts in their databases
- Lower cost than field sales
- Don't have to hire, fire, and manage salespeople
- Good for quick demand fulfillment
- Potential temporary solution
- Potential good solution for a mature product

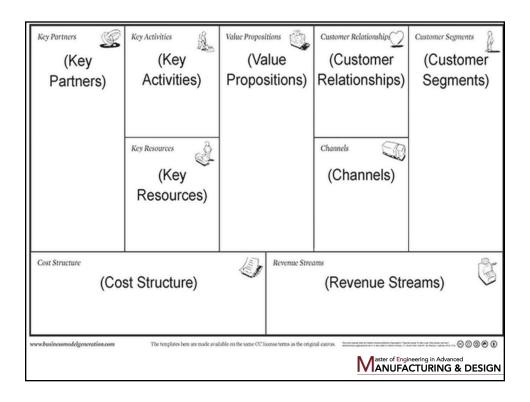
- They own the customer, not you (very bad!)
- Unlikely to have direct interaction with prospects, hence miss important learning about customer needs
- Poor at demand generation
- Expensive compared to inside sales and Internet sales
- Most likely low loyalty to you and your product (just another product in their portfolio)

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Presentation on Friday

- The Problem / The Opportunity
- 2. The solution
- 3. The Quantifiable Value Proposition
- 4. Total Addressable Market, (Fírst market)
- 5. Life Time value of Customer
- 6. Competitive Advantage
- 7. Business Model
- 8. Mílestones
- 9. Fírst test example implementation
- 10. Team relevant skills
- Add:
- Cost of Customer Acquisition,
- · Scale-up
- · Customer tests
- Fínancíal plan