



Biotechnology
Innovation Organization

June 4–5, 2023

#BIO2023
#StandUpForScience



<http://bit.ly/BIOBUSMODELTALK2023>

Biotechnology Entrepreneurship Boot Camp

Presented by:

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BIO Recognizes Course Sponsor:

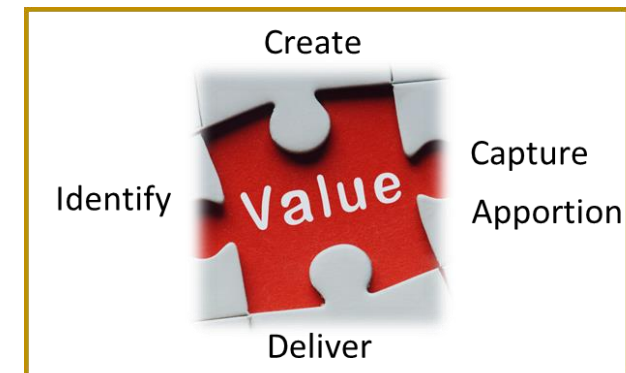


**McDonnell Boehnen
Hulbert & Berghoff LLP**
Intellectual Property Law

What is a Business Model?

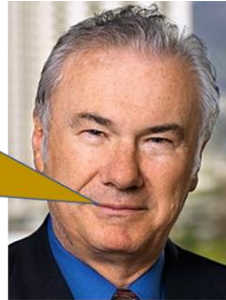


York JEOM 2021



Why Important?

*Every new product development effort
It should be coupled with developing a business model defining its
'go to market' and 'capturing value' strategies.
Clearly, technological innovation by itself does not automatically
guarantee business or economic success far from it.*



David J. Teece, PhD is the Thomas W. Tusher Professor in Global Business at the University of California, Berkeley's Haas School of Business

*Innovation can take on Multiple Forms....
It is not just in Product or Technology, but also
in Process,
and in Business Models*



Greg Fisher, PhD, Professor of Entrepreneurship, Kelley School of Business, Indiana University

*You have to search for fundamental advantage . . . In fact, there are
no fundamental competitive advantages. So, the question for you
then is how to create ongoing advantages in your company.*

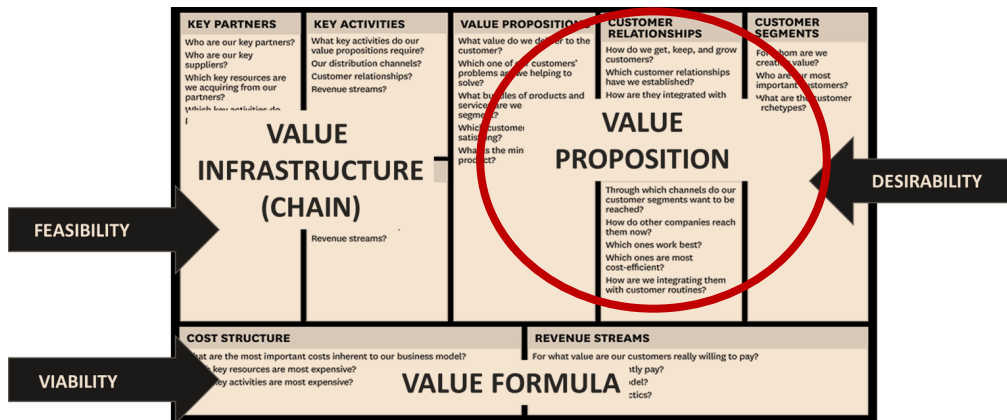


Jensen Huang, Chair & CEO Nvidia



What Piece Is Critical to Starting Business Model Development?

The “Story” Starts Here!





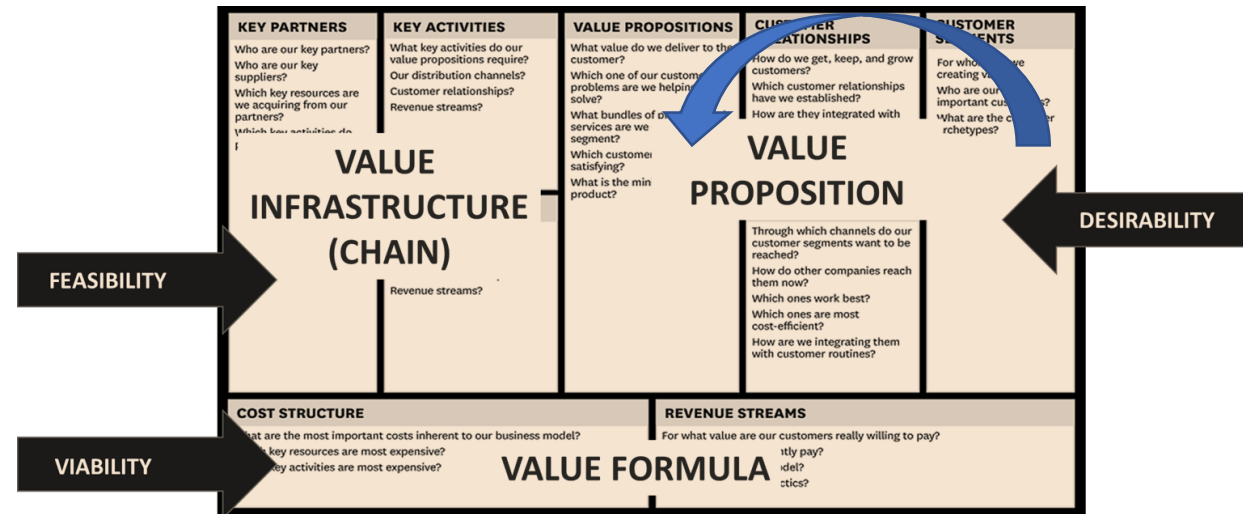
What Is Your Beach Head?

The “Story” Needs a Focus

Hence, You Need to Ask Which Segment or Application Should be Primary to Explore?



Linkage Between the Customer and Value



The Essential Question

Whose Your Customer(s)?



CUSTOMER SEGMENTS AND ROLES

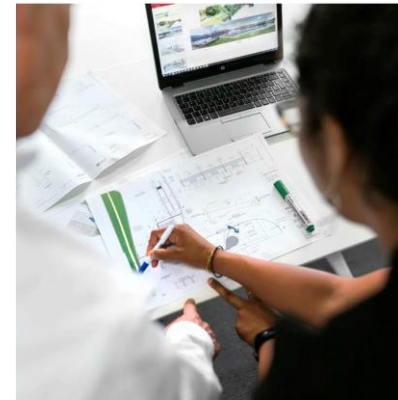
Biopharma and MedTech → B2B

End Users:

People who will put their hands on your technology.



Recommenders:
People whose job is to recommend solution updates or implementations



Decision Makers:

People who are part of the process to purchase and implement your product.

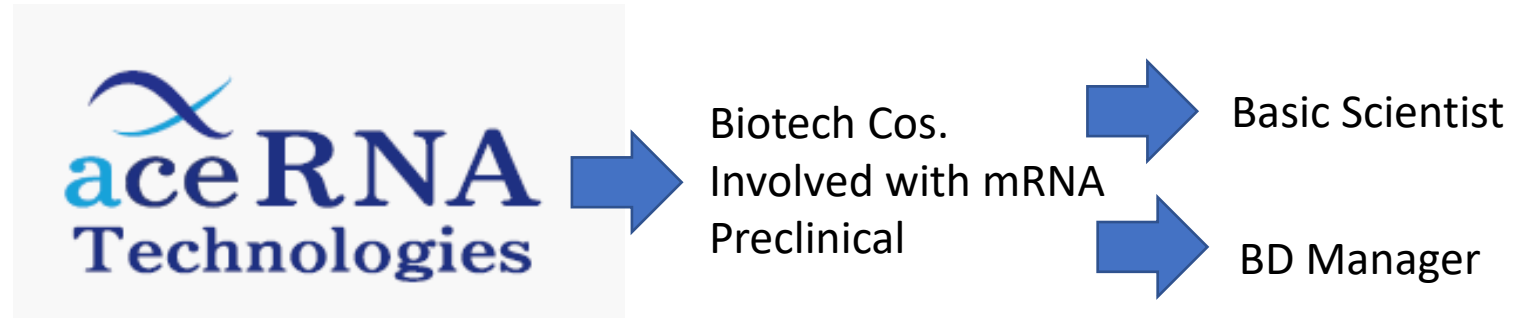


Influencer:
People who influence a solution selection, but do not have direct authority. Beneficiary, Saboteur

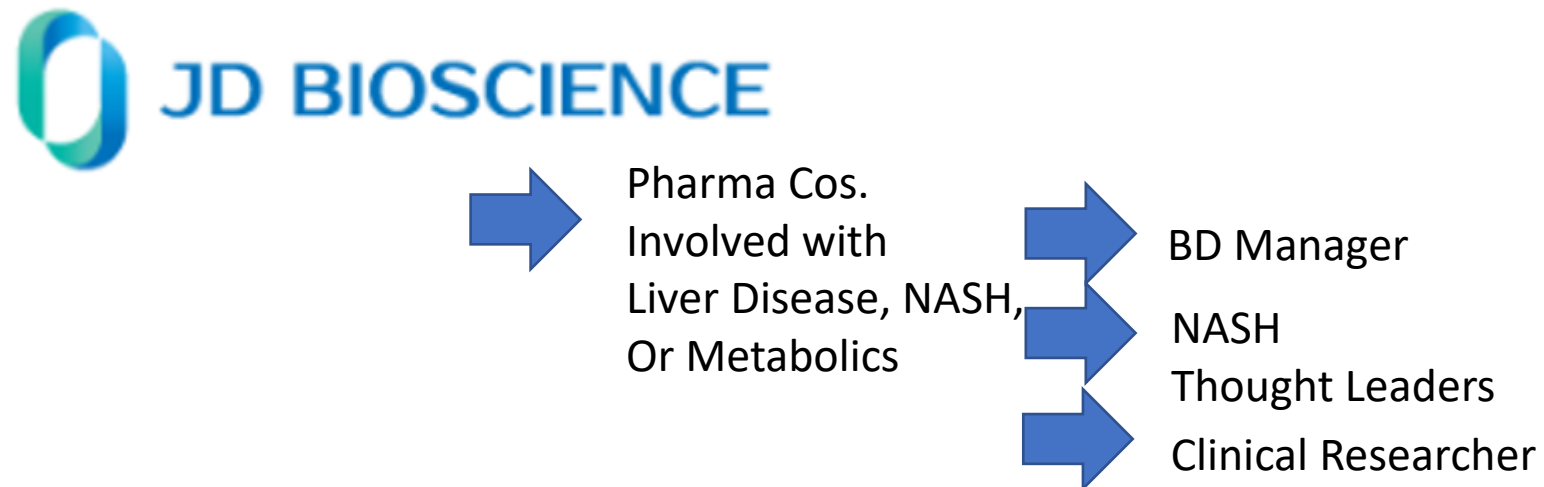


Case Examples

Early-Stage



Mid-Stage



A hand holding a magnifying glass over the word "WHY" in a serif font. The background is a collage of various business and financial terms in a smaller, sans-serif font, including "MARKETING", "FINANCE", "MEETING", "PERFORMANCE", "PROFIT", "TRADING", "SERVICES", "CHANNEL", "SALARIES", "LOANS", "VOICE", "CONTROL", "CENTER", "PACKAGING", "PRESENTATION", "LOGISTIC", "RELATIONS", "MANAGEMENT", "RESEARCH", "CALL CENTER", "MANAGEMENT", "EFFICIENCY", "SOCIAL CONCERN", "DEVELOPMENT", "MARKETING", "PROFIT", "TRADING", "SERVICES", "CHANNEL", "SALARIES", "LOANS", "VOICE", "CONTROL", "CENTER", "PACKAGING", "PRESENTATION", "LOGISTIC", "RELATIONS", "MANAGEMENT", "RESEARCH", "CALL CENTER", "MANAGEMENT", "EFFICIENCY", "SOCIAL CONCERN", "DEVELOPMENT".

WHY

Value Proposition

The Compelling Reason to Buy



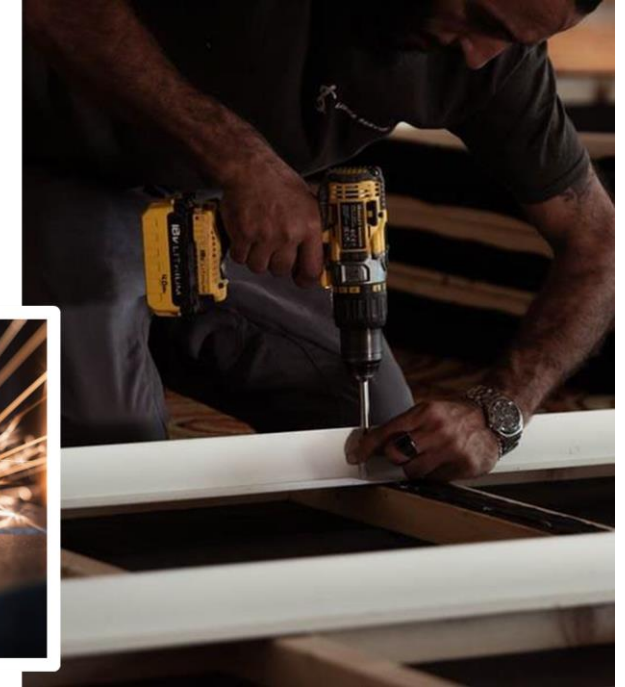
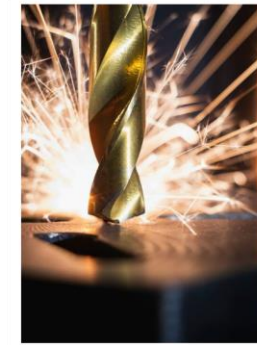
Customers
Hire Your
Product to
do a Job!



Clayton Christensen, DBA
Harvard Business School

People don't want to buy a
quarter-inch drill. They want a
quarter-inch hole

-Theodore Levitt

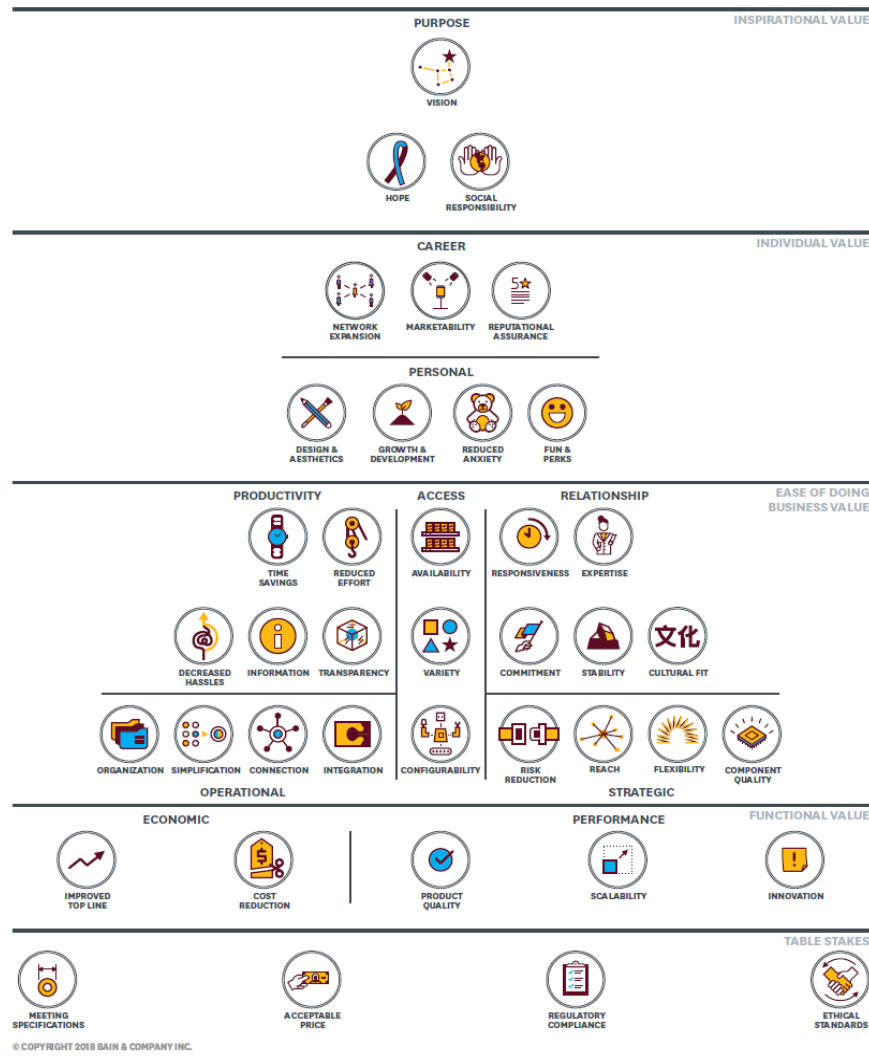


Customers Have a “Job to Do”

Hence, You Need to Ask Customers About Which Jobs Are Most Important and What Competing Jobs Exist?



To
The
Stakeholder



Almquist HBR 2020

To
Higher-order
(e.g., ESG)

To
The
Operation

Trying Value to
Need in B2B



Decision Criteria: What Are they? How Would You Apply? Which Most Compelling?

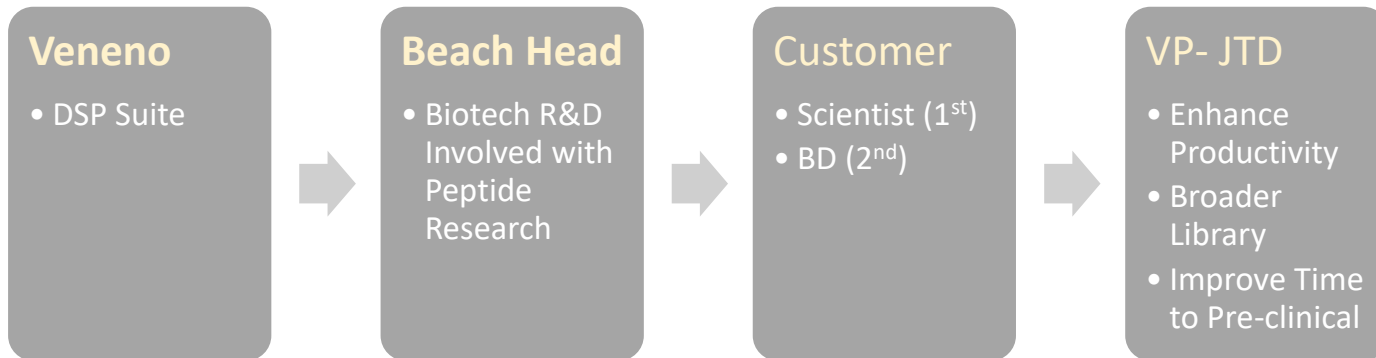


Hence, You Need to Ask Customers About Their Decision Processes and What Criteria Are Most Critical?

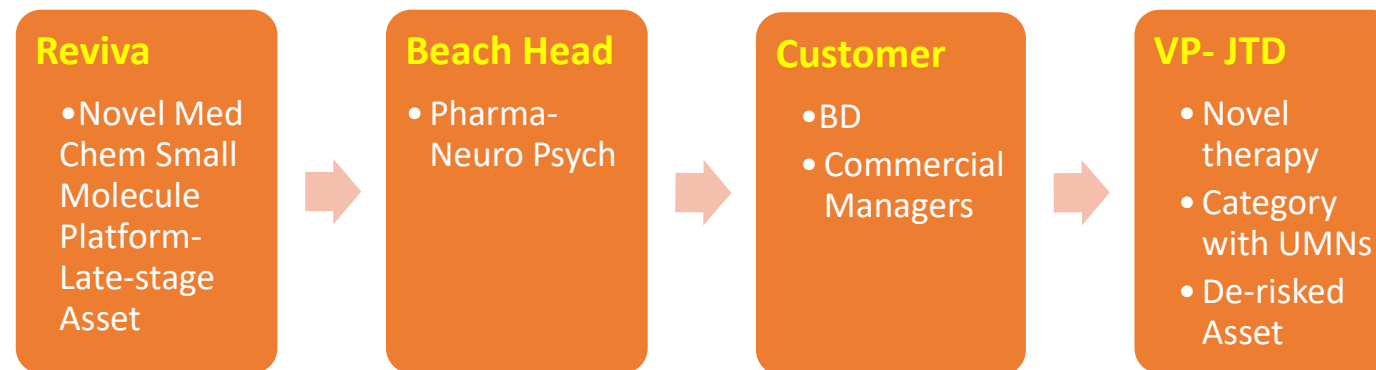


Case Examples

Early-Stage



Later Stage



Value Proposition Statement



For
Whom

- Specific customer segment



Job to
Do

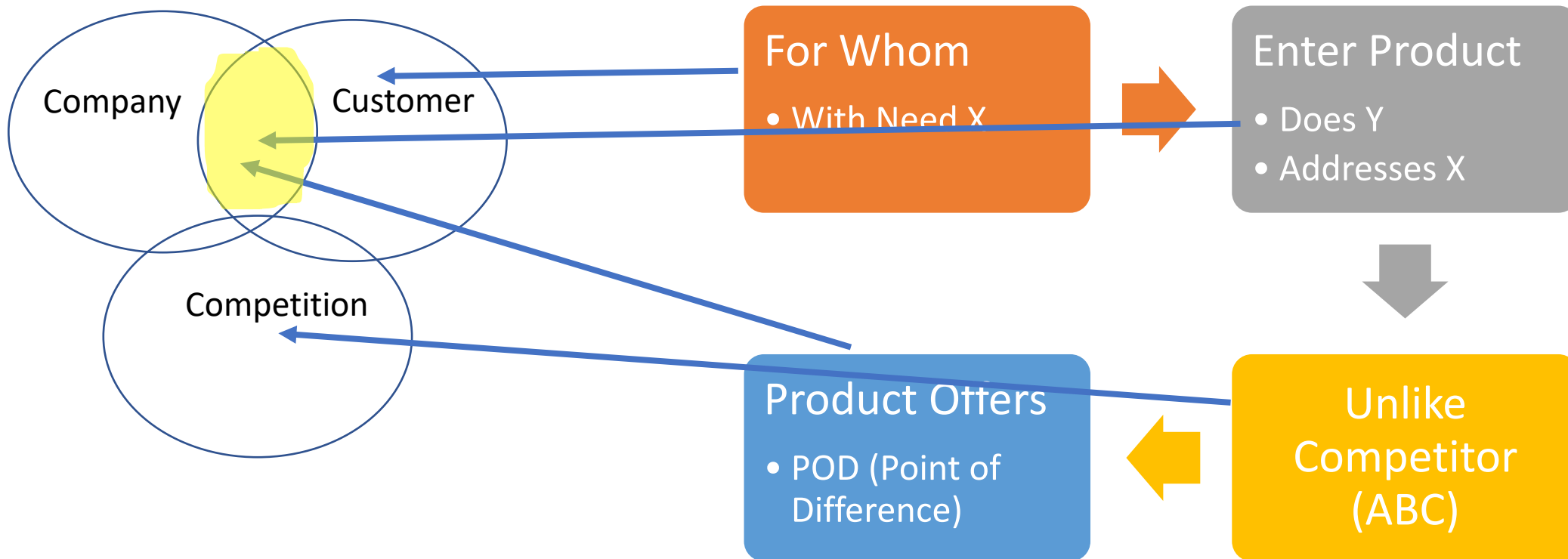
- Pain, Gain, Both
- In Context of Decision Points- Better than



Solution

- In Lay Terms

Which Can Evolve to a Positioning Statement



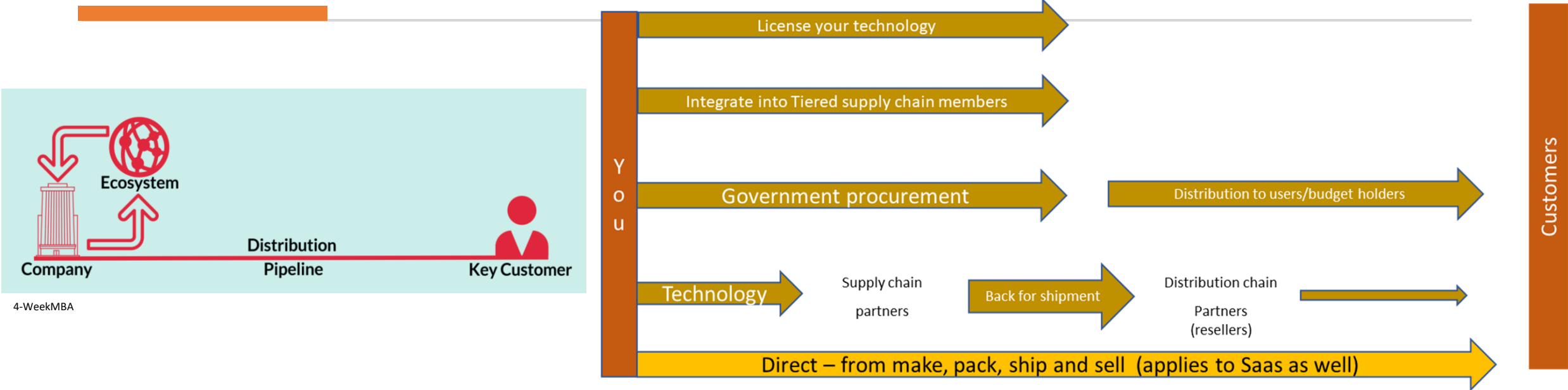
Hence, You Need to Ask Customers About What They Are Doing to Solve Their Problem or in Their Current Process?



How Do You Connect with the Customer?



Distribution Channels



4-WeekMBA

S Vyakarnam, PhD 2021

Where Do You Routinely Go To For New Technologies or Assets?

Direct?	Through Intermediaries (Which)?
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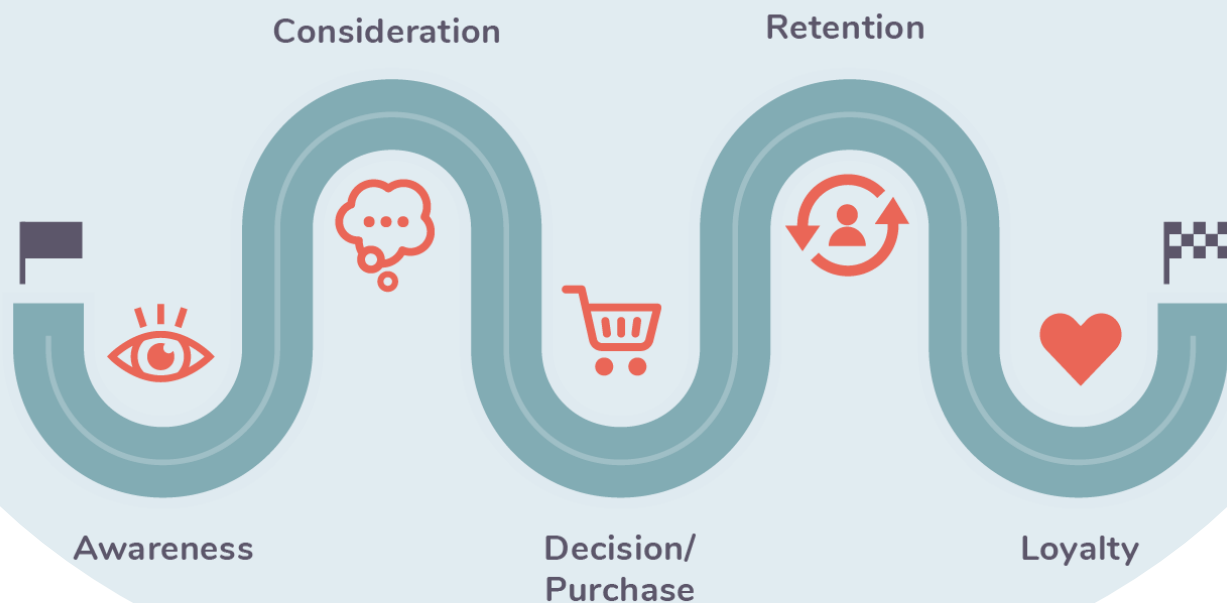
Example Intermediaries



Hence, You Need to Ask Customers Where Are They Going to Seek Out Solutions, Services, or Assets?



Customer Journey Mapping



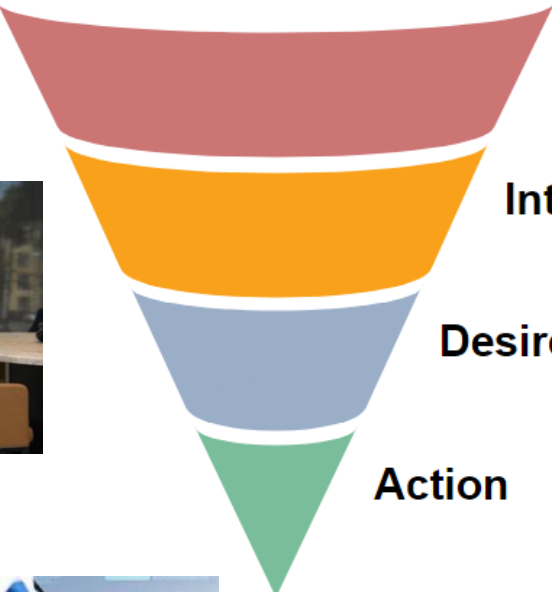
How Do
Your
Customers
Find Their
Solutions?



Multiple Tactical Activities Can Build Customer Relationships and Enhance the “Marketization” of Your Science



Veneno Technologies, a Novel DRP Drug Discovery Company, has entered into a joint research agreement with Astellas Pharma Inc.

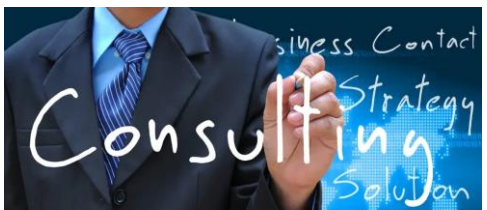
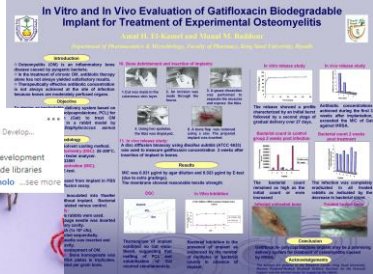
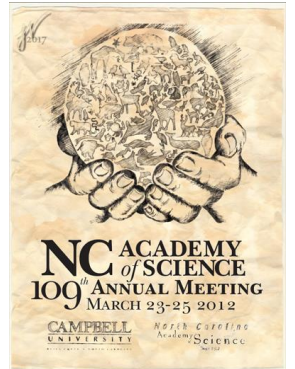


Awareness

Interest

Desire

Action

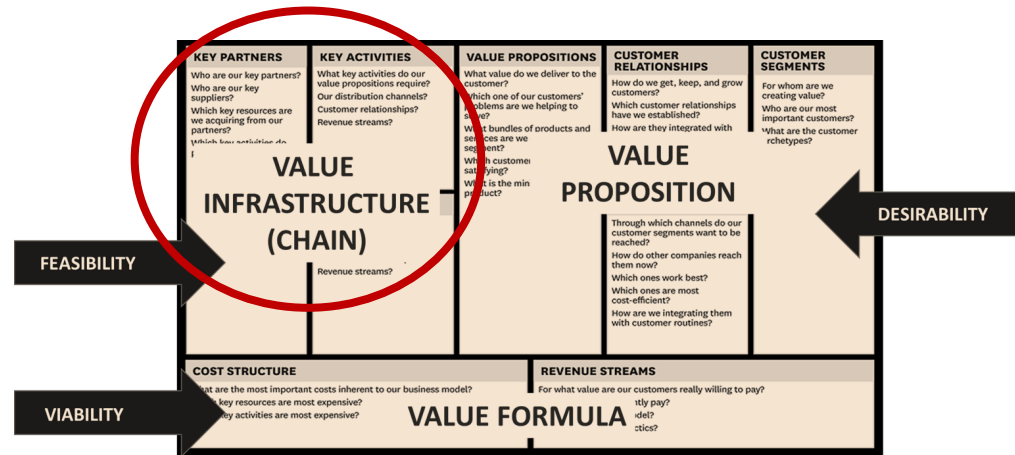


Hence, You Need to Ask Customers How Do They Find Their Solutions and What Avenues Do They Seek in Gathering Info to Guide Them?



How Do You Create and Deliver Value in a Smart and Efficient Manner?

The “Story” Transitions to You and Your Team



Key Resources

- People
- Intellectual Property
- Physical
- Capital



Hence, You Need to Ask Which Are Most Important and Should Be Part the Venture and Others Outsourced?



Most important actions a firm must take

To Create desirability

- Required for approval
- Value Driving
- Pre vs. In Market

Need to be measured to be managed
(Drucker)

KEY ACTIVITIES:

Hence, You Need to Ask Which Are Most Critical to the Venture's Most Current Milestones and Which to Have "In House" vs. Outsource?

Marketing
/
Sales

Distribution

Manufacturing

Engineering

R&D

Accounting
/
Finance

Legal

Regulatory



NETWORK of individuals, firms, and suppliers

Provide capabilities, products, and/or services

That the firm cannot or prefers not to develop itself.

To optimize resource and activity allocation:

- 1) Economy of scale and cost reduction
- 2) Reduce risk in uncertain markets
- 3) Acquire specific resources or activities

DEVELOPMENT

Can you build the *full solution* (product/IP)

Or do you need others?



CHANNEL

Provide critical access to your end customers

Sales | Distribution | Support



SUPPLIERS

Are they critical?

Or easily swapped out for others?



RESOURCE

Bring resources that are critical for you to access

that you do not need to own



KEY PARTNERS:
THESE ARE PARTS
YOU SHOULD RENT

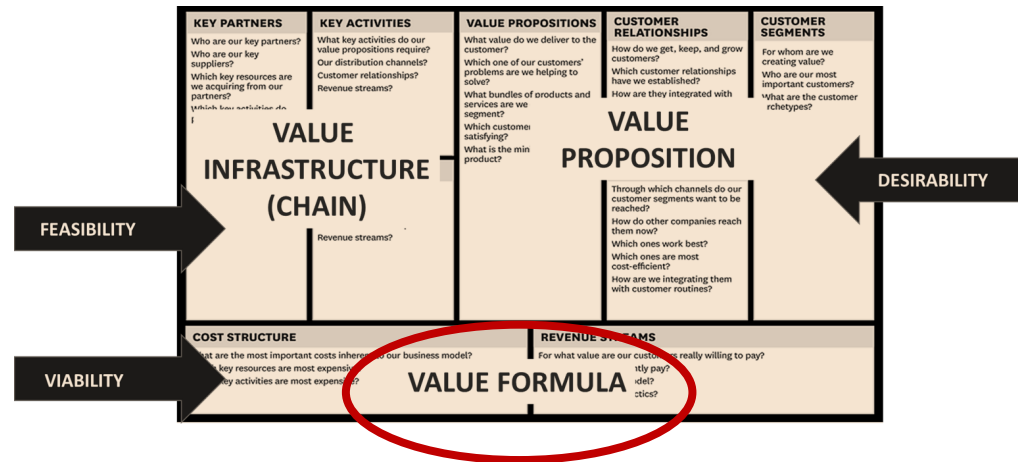


Case Example



How Do We Account for Value Captured vs. Created?

The "Story" Ends Here!



REVENUE MODELS: Typical....

Ways to Monetize



1
upfront payment
as many orders as you need!

Licenses



Timing
A firm's flexibility to change a project's starting date

Fundamental
The capital project itself might be an option for the firm - e.g. an oil firm may not start pumping until oil prices reach a certain level

Flexibility
The ability of a firm to change operations, not just project size or reject it. If demand exceeds production, it might be able to raise prices

Real Options

Sizing
Grow or shrink a project's size, or abandon it. A firm may want the ability to expand a project if demand for a product grows.



Case Examples of “Inside-Out Patterns” (Open-Innovation) Monetizing Internal Assets



GlaxoSmithKline

IP via licenses.

The value prop is IP for underserved diseases.

Customers are outside researchers and companies.



APIs via direct sales, contracted services, and licenses. The value prop offers new APIs at low cost for companies to develop.



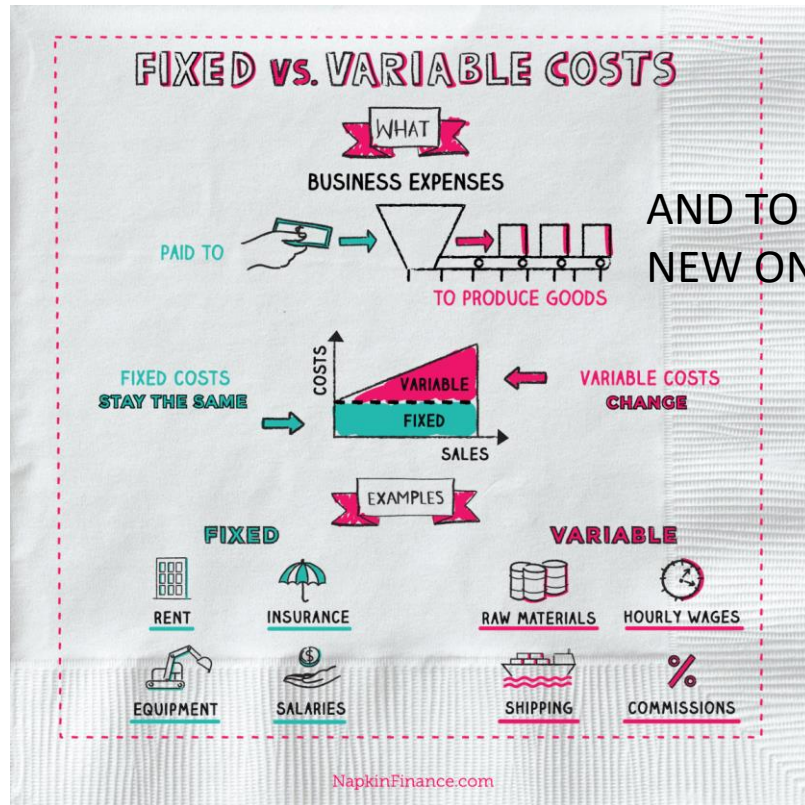
Internal assets via direct sales or licenses.

The value prop is new diagnostics and components that fit within other companies' PoC product value chains.



COST Structure...

Ties Back to Key Resources and Activities



THESE ACCOUNT FOR COSTS FOR

KEY RESOURCES

KEY ACTIVITIES

KEY PARTNERS



Don't Forget Cash Flow and Cash Burn

Statement of Cash Flows

Your Company Inc.
For the Year Ended December 31, 2009

Cash flows from operating activities		
Cash received from customers	\$570,000	
Cash paid for merchandise	(319,000)	
Cash paid for wages and other operating expenses	(218,000)	
Cash paid for interest	(8,000)	
Cash paid for taxes	(5,000)	
Other		
Net cash provided (used) by operating activities		\$20,000
Cash flows from investing activities		
Cash received from sale of capital assets (plant and equipment, etc.)	\$12,000	
Cash received from disposition of business segments		
Cash received from collection of notes receivable	(10,000)	
Cash paid for purchase of capital assets		
Cash paid to acquire businesses		
Other		
Net cash provided (used) by investing activities		\$2,000
Cash flows from financing activities		
Cash received from issuing stock	\$15,000	
Cash received from long-term borrowings		
Cash paid to repurchase stock		
Cash paid to retire long-term debt	(18,000)	
Cash paid for dividends	(14,000)	
Other		
Net cash provided (used) in financing activities		(\$17,000)
Increase (decrease) in cash during the period		\$5,000
Cash balance at the beginning of the period		12,000
Cash balance at the end of the period		\$17,000

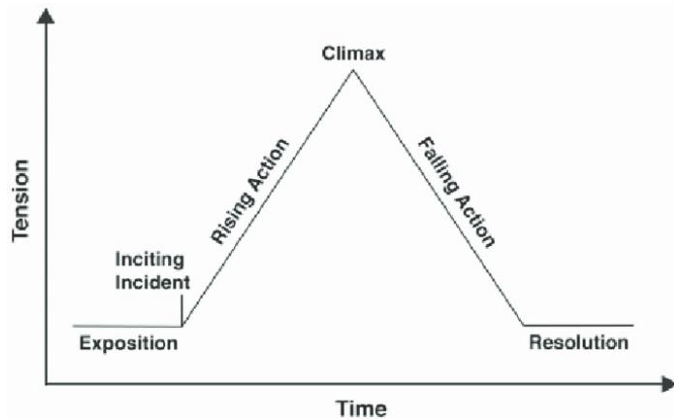
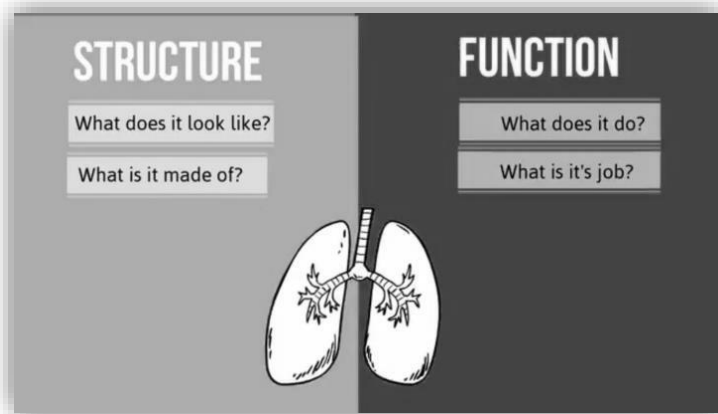
Cash Burn Sheet Example

Category	Quarter				Annual period
	1	2	3	4	
Units Sold	10000	15000	20000	35000	80000
Average selling Price	35	35	35	35	35
Revenues Before Discount	\$350,000.00	\$525,000.00	\$700,000.00	\$1,225,000.00	\$2,800,000.00
Channel Discount (40%)	\$(140,000.00)	\$(210,000.00)	\$(280,000.00)	\$(490,000.00)	\$(1,120,000.00)
Other Channel Costs (12%)	\$(42,000.00)	\$(63,000.00)	\$(84,000.00)	\$(147,000.00)	\$(336,000.00)
Net selling Discount	\$(182,000.00)	\$(273,000.00)	\$(364,000.00)	\$(637,000.00)	\$(1,456,000.00)
Cost of Goods Sold (15%)	\$(52,500.00)	\$(78,750.00)	\$(105,000.00)	\$(183,750.00)	\$(420,000.00)
Gross Income	\$115,500.00	\$173,250.00	\$231,000.00	\$404,250.00	\$924,000.00
Sales and Marketing Costs	\$(100,000.00)	\$(125,000.00)	\$(125,000.00)	\$(150,000.00)	\$(500,000.00)
General Administration/ Operational costs	\$(100,000.00)	\$(150,000.00)	\$(160,000.00)	\$(175,000.00)	\$(585,000.00)
EBITA* (Cash Flow)	\$(84,500.00)	\$(101,750.00)	\$(54,000.00)	\$79,250.00	\$(161,000.00)
Monthly CASH Burn	\$(28,166.67)	\$(33,916.67)	\$(18,000.00)	\$26,416.67	\$(13,416.67)
Cash in Bank at End of Period	\$250,000.00	\$148,250.00	\$94,250.00	\$173,500.00	\$173,500.00
Months of Cash Remaining Based on Quarterly Burn (or Last Negative Quarter)	8.88	4.37	5.24	-.**	-

* EBITA: Earnings before interest, taxes, and amortization.
 **While Quarterly Cash Burn/Flow was positive, it is prudent to consider cash flow (burn rate) associated from the previous quarter in mind.

York ABAM 2018





In THE END the BMC OFFERS an Adaptable Structure For a Firm to Function

But Also, an Excellent Construct to Shape and Tell Your “Story”

