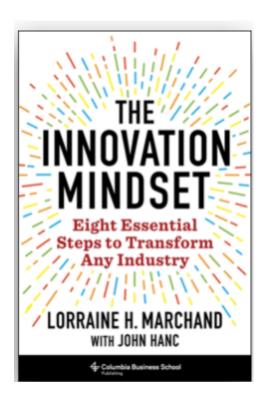# Instructor's Guide

Lecture Approach

Suggestions and notes for educators interested in teaching *The Innovation Mindset: Eight Essential Steps for Transforming any Industry*

Prepared by Lorraine H Marchand

Lecture Approach

Lecture 1: **Law 1- A Successful Innovation Must Solve a Customer's Problem**

Lecture 2: **Law 2- One Great Innovation Starts with At Least Three Good Ideas. Here's How to Find Them**

Lecture 3: **Law 3- We're Rooting for Your MVP! Designing a Minimal Viable Product (MVP)**

Lecture 4: **Law 4- Testing your idea with 100 Customers**

Lecture 5: **Law 5- Be Willing to Pivot at Any Point in the Process**

Lecture 6: **Law 6- Developing Your Business Model and Plan**

Lecture 7: **Law 7- How Serial Entrepreneurs Increase Their Odds of Success**

Lecture 8: **Law 8- Coaxing Capital, there is No Innovation Without Communication**

Lecture 9: **Execution and Exit, managing your Innovation and Moving On**

Lecture 10: **Diversity, Inclusion and Equity (DEI) and Innovation**

Note: A **sample syllabus, worksheets and slides are posted on the password protected section of the author's website. Please email for the password : lorraine@lorrainemarchand.com**

Overview

Explanation of different course elements

Summary

Provides a synopsis of main topic of lectures, each of which will focus on one of the principles (or "Laws") of the innovation process

Segment Overview

Frames the conversation and offers introductory comments before setting up broader discussion around case studies

Recommended Discussion Questions

Sets up 2-3 discussion topics/case studies/exercises to explore with class. I have indicated relevant cases.

In Class Activity

Assuming class is being used to guide students through development of a commercial plan for a novel technology/idea, then the in-class activity helps the instructor guide students through the application of the laws to their project. See optional experiential approach below.

Deliverable

Assuming class is being used to guide students, through development of a commercial plan for their new idea, the deliverable aligns with the in-class activity and the stage of the commercialization planning process for that week. The students will be delivering a component of the final business plan or pitch deck. See optional experiential approach below.

Further Reading

Offers additional reading recommendations

Group Office Hours (optional)

If the instructor decides to apply the methodologies and tools in this book to guide student teams in the process of developing a commercially viable product or services, weekly office hours can be used so teams can share their work and receive instructor feedback. They will turn in their deliverable for the week and prepare for the next step in the innovation process. In addition to

Office Hours or another alternative is to intersperse class time (through additional lectures or during case study time to discuss team progress.)

(Optional Experiential Approach to Course) Note to Instructors:

Innovation is the act of creating something new and taking it to market (or implementing change in an existing workplace). It can't be taught through readings and lectures; it must be experienced, like a hands-on approach to training in sports. This book, while replete with innovator profiles and case studies—including my own, those of innovators I've coached and innovative luminaries I admire—is designed to mirror that experience; with a step-by-step approach to problem solving, developing ideas, incorporating customer feedback, and once ready----taking a solution to market. I recommend that while readings, lectures, and case studies provide the framework for the course, the creative process of innovating is best learned when students choose a solution as a project and apply the laws systematically to developing a new technology for commercialization. In the first three classes students can use the book to guide them through choosing a problem and creating a solution that they can use as their real live case study through the course.

I've produced video interviews on most of the Innovators in Focus profiled in each chapter. You'll find links in the corresponding chapter. In the Appendix is a sample syllabus for using this book as a guide for an experiential course in developing and commercializing a new technology.

Lecture 1. Law 1- A Successful Innovation Must Solve a Problem

(Refer to Introduction and Chapter One of the book)

Summary

The Introduction and Chapter 1 introduce the Laws in the book and how to apply them throughout the innovation process. In Chapter 1 we examine how to identify a problem worth solving, one a customer is willing to pay for.

Segment Overview

I would open the class with a story I use in the book. The context was a workshop on innovation I was leading for executives at a large corporation. They were an incurious bunch at the start (hopefully their attitude won't mirror our students'!). But I managed to capture their attention and interest through a personal story. Described in detail in the book, I will offer for this instructor guide, a brief synopsis. At the age of 13 with my father's encouragement and guidance, I developed and sold a product (*The Sugar Cube*) to the Hot Shoppes restaurant in Wheaton, Maryland.

When I first told this story—using it, as I also would with a group of students, to engage the audience of executives and provide a smooth transition into our principles of innovation—the group came out of its torpor and became more animated and involved with the session.

Through this example—which I believe audiences like because it's in some sense a story about a father and daughter--they learn that an Innovation Mindset emanates from a problem-solving culture coupled with personal curiosity, passion and natural talents.

Recommended Discussion Questions

- What are the types of innovation? (Note to instructor: disruption, breakthrough and incremental.) Give examples of each--refer to those highlighted in the book or come up with your own.

- Discuss how each innovation had an impact but how some took a circuitous path from inception, (Note to instructor: e.g. because the post-it note wasn't designed to solve a particular problem, despite the fact that it was a creative innovation it took a number of years to land on a useful application.)

- What do you think are the most successful types of innovation and why?

- What steps are involved in the problem-solving approach? (Note to instructor: the process includes observation, evidence gathering and witnessing the problem in its natural habitat, topics covered in Chapter 1 of the book.).

- What role does the innovator play in the process? (Note to instructor: For innovation to occur, the innovator must put herself into the problem itself, observing, studying, recording, interviewing.)

- What are some examples of problems you think are worth solving- either problems you've observed or read about?

- Read the profile on Phil McKinney, former CTO of Hewlett-Packard: what are critical questions innovators must ask: (Note to instructor: see questions below)

  - Who is affected by the problem and what are the roles of key stakeholders?

  - Do any of our stakeholders have more invested in the problem than others?

  - What work does the customer do and how do they do it?

  - What is the customer dissatisfied with?

- Innovation also requires personal passion and curiosity. Play the Spencer Rascoff interview with CBS NY Alumni event (see appendix)

  - What are the personal traits of good innovators? (Note to Instructors: Spencer Rascoff, the co-founder and former CEO of Zillow and Hotwire said, shared in an interview on investing that I conducted for the Columbia Business School New York Alumni Association, "I always ask the innovator, 'what would you do if you couldn't work on this.' The answer I'm looking for is, 'I have to work on this problem—it's my passion in life.'")

In Class Activity

Have students form teams around a problem they want to solve and present a short write up to the instructor on the significance of the problem and their hypothesis on why a customer would pay to solve it. Also explain their rationale for how this problem will fit within the framework and timeframe of the course.

Deliverable

Analysis of a Problem to be solved (2 pages or two slides) define and describe a problem the team thinks is worth solving. Why is it a problem? What's the impact on the customer? Who is the customer? Why would a customer be willing to pay to have this problem solved? See problem identification worksheet in Appendix.

Further Reading

Thomas Wedell-Wedellsborg, "Are You Solving the Right Problems?" Harvard Business Review, January-February 2017.

Bill Gates, "Exemplars: We're Finally Learning Why Countries Excel at Saving Lives," GateNotes, September, 1, 2020, https://www.gatesnotes.com/Health/Exemplars-in-Global-Health.

Drake Baer, "Elon Musk Uses This Ancient Critical-Thinking Strategy to Outsmart Everybody Else," Insider, January 5, 2015, https://www.businessinsider.com/elon-musk-first-principles-2015-1.

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Lecture 2: Law 2-One Great Innovation Starts With At Least Three Good Ideas. Here's How to Find Them.

Summary

While Thomas Edison and his Menlo Park team may not have used this word, they would have been familiar with the process of "brainstorming" — generating ideas or possible solutions with few if any constraints. This chapter explores best practices for productive brainstorming that helps advance development of viable solutions to the problem. We want to produce a list of ideas from which we can generate at least three viable solutions to eventually test with customers.

Segment Overview

Discuss brainstorming with the class including the types outlined in the book. The example I use in the opening of the chapter is particularly apropos—the "storytelling methodology to capture customer experience." The example is explained in detail in the book but I will provide a brief description here. I was conducting a product development brainstorming workshop for a medical device manufacturing company trying to design products that would address the needs of people with diabetes. There was only one problem—they lacked an understanding of the patients and their needs! The brainstorming session was painstaking until I livened things up by introducing a real customer—diabetes educator nurse, who shared her experiences working with patients and their families, especially children. Her stories resonated with the engineers and product developers in the room and they came up with a number of new solutions that were novel and viable. Not only did they please their boss that day but they took a couple of their solutions to

market, making a difference in patients 'lives and creating profitable revenue for the company at the same time.

Recommended Discussion Questions

Emphasize how the free exchange of ideas is fundamental to developing three possible innovative solutions to the problem you've identified, as outlined in the opening case.

- What are the rules for brainstorming?

- What is the best way to generate ideas and select the best solution(s) for MVP and prototype?

In Class Activity

- Choose one of brainstorming methodologies and test it with the class. I recommend storytelling.

  - Can someone describe or explain the storytelling methodology of brainstorming—use the example in the book or one from your own experience. Even better—ask a student(s) to offer a relevant problem as a test case. If no examples are offered, use a simple one, like a customer who's frustrated with a long line at the Rita's Ice stand, a mom who needs to administer medicine to a child who resists, or another example. Ask for a volunteer to choose a brainstorming methodology and lead the brainstorm and assign roles. One student leads the brainstorm, another monitors the process and one other scribes on the whiteboard. Then let the fun and the free flow of ideas begin.

  - How do we ensure the brainstorm yields helpful results and outcomes that can apply to the problem being solved?

- ☐ Have the students tie the results of the brainstorm to the next critical step after brainstorming—defining a clear problem statement and three possible solutions.

- ▪ Remember, you need to explore multiple solutions before you narrow it down to three, and then one.

- ▪ Have the class vote on the best solutions (isolate the top 3 and compare and contrast pros and cons).

- ▪ Make sure you analyze what happened during the brainstorm itself—were all voices heard, were all ideas encouraged without judgment?

- ▪ Video interview Aris Persidis: https://www.youtube.com/watch?v=OmQdt0w-BBo

- ▪ Video interview Aris Persidis 2: https://www.youtube.com/watch?v=hRy_DzZDjaU&t=17s

Deliverable

Student teams present three solutions to the problem they've chosen to solve with justification for the pros and cons of each and an explanation of the top idea they want to test during the rest of the course. They should review which brainstorming methodologies they used and describe what they learned during the process.

Further Reading

Grant, Adam, Think Again: The Power of Knowing What You Don't Know, Viking Press, 2021.

HBR's 10 Must Reads on Design Thinking, Harvard Business Review, 2020.

McKinsey Quarterly, Bias Busters: A better way to brainstorm, January 27, 2022

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Lecture 3: Law 3- We're Rooting for Your MVP! Designing a Minimal Viable Product

Summary

Innovators are dreamers, but they're also realists.   Testing an early draft of your idea with real customers is a great way of getting a reality check before you are too far down a certain path. A term coined by two Silicon Valley software entrepreneurs, Eric Ries and Steve Blanc, minimum viable product (MVP) refers to an efficient way to develop software; it works as a principle across innovation. I love the quote in this chapter by Ries, author of *Lean Startup*, "While you decide what's minimal, the customer decides what's viable."

Segment Overview

This lecture focuses on a critical element of a successful innovation- keeping your new technology as simple as possible and designing your MVP to test with customers as early in the process as possible.

Recommended Discussion Questions

▪ Define the MVP and describe its role in the innovation process?

▪ What are the benefits of an MVP? (Response: getting something into the customers hands early and creating early adopters for your product, gauging customer response to help refine the product or service and focusing on a small set of features, reducing costs and time.)

- Review the example in the book of a team of Princeton graduate students who designed a kitchen robot by first designing and testing only the robotic arm for chopping. What can you learn from this example? (Testing one feature before moving on to the next one.)

- You can also discuss with the students how to design a MPV when your idea is a service or a product that doesn't lend itself to demonstration. There are examples in the book of software, services and even drug development MVPs. What are some examples and ways of testing a service or product that can be demo'd?

- What are the types of MVPs? (The book outlines numerous examples, including the Back-end test: manually simulating the solution. Zappos 'initial solution of delivering shoes to customer's homes is an example of conducting a back-end test in order to ensure a good customer experience while the company was testing the concept of on-line shoe ordering.)

- Review with the class how to prepare an MVP briefing document which defines what needs to be learned and from whom. What are the components of the briefing document for an MVP?

- Ask the students for their thoughts on how to get a MVP into customer's hands to guide feature development and inform the best business or profitability model. How do you go about finding customers to test your MVP with? How will you evaluate and record your results? How will you use your results to inform your product?

In Class Activity

Students have a lot of questions about this step in the process. While most understand it conceptually, many struggle with how to develop an MVP for their own idea. The story about Zappos is a concrete and simple example they can grasp. Founder Nick Swinmurn couldn't find a pair of boots at his mall, so he started an online retail shoe company offering a limited selection of hard to find running and hiking boots, to test the idea of consumers purchasing footwear through a website. What customers didn't know was that once they placed their orders, Nick went into action behind the scenes, purchasing the shoes at retail outlets and delivering them to the customers 'doors. This is a great example of testing a minimal version of your product—with very basic features—and ensuring its meeting customers 'needs.

You can guide the class through a group exercise of developing a MVP. Choose from the many examples in the book and facilitate a discussion about the pros and cons and best fit for each. Have the class choose a MVP example from their projects or from the book or life experience and describe which methodology was used and what the results were. Watch the video interview with Leslie Aisner Novak on her company Howda.

Video Interview Leslie Aisner Novak: https://youtube.com/watch?v=fY5h43WK87A&t=13s

Deliverable

At this stage in the process, project teams should have identified their problem and the three solutions that best fit and chosen one solution for their MVP. Following the MVP methodology and referring to examples in the book and class, they should present their mockup product/service emphasizing the least number of features they want to test with their customer.

They should be able to articulate what their solution is, why it addresses a customer's needs and the smallest number of features they need to test for confirmation that the product design and functionality are clear and can be tested with a customer. The students MVP plan should be a deliverable. Students develop a two page write up describing their MVP, who they will test it with and what questions they will ask and importantly, describing how they plan to incorporate the results into product design. See MVP worksheet in Appendix.

Further Reading

Blanc, Steve, *The Startup Owner's Manual*, Wiley, 2020

Carola, Shawn, *The Secret to Cracking the Minimum Viable Product?: Pick a Leaf for Your MVP Tree,* Menlo Ventures, Blogs, April, 2022, Medium.com.

Minimal Viable Product in Biotechnology, Nature Biotechnology/Trade Secrets, Dec. 20, 2011.

Ries, Eric, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Business,* Crown Business, 2011.

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Chapter 4: The Law of One hundred customers--they can't be wrong!

Summary

You can't innovate by sitting in your office or talking only to family and friends about your big idea— you **must** get out of the office and talk to people, mainly potential customers. In this chapter we examine the often-missed opportunity to do high quality customer research, early in product development, to confirm need, design, market opportunity and importantly, prove that someone is willing to pay for or invest time in your innovation.

Segment Overview

The opening story in the book of the Princeton student in the innovation accelerator program who made some grand assumptions about her customers, based almost exclusively on conversations with a few friends, showcases the danger of falling in love with your own idea. In this chapter, we talk about why, when we say one hundred customers, we mean one hundred customers. I am a great stickler on this point. Your research may take several different forms: surveys, small groups and one-to-one interviews, but you need to communicate with one hundred potential customers to confirm that your innovation addresses a problem worth solving and that a customer is willing to pay for it. I provide an example of how to get to 100 customers and show how in many cases it was that 100th customer discussion that shaped what became the final product!

Recommended Discussion Questions

Customer research is the hardest part of the innovation process for students and even seasoned executives and serial entrepreneurs. It can be challenging to identify customers who

are willing to give up their time to share an opinion, and it can be equally challenging to really "hear" their feedback if it doesn't align with our expectations or wishful thinking. This step has to be designed and executed correctly.

- What is customer research and how is it different from market research? (Instructor: Definitions are in the book.)

- Provide examples of companies who failed to thrive because they didn't keep pace with their customers 'changing needs and wishes and didn't respond to new market dynamics. (Instructor: There are a few in the book to kickstart the discussion. For example, I point out failures in the transportation industry including railroads and taxis. But there are many more examples-- this is a good place for student participation. Students will have either observed brands they know and love lose their luster or read about iconic cases such as Blockbuster and Kodak.)

- Next, using the book, discuss Voice of the Customer (VOC) research. What is voice of the customer research? Why is it important? (Instructor: You can compare how Jobs conducted customer research at Apple with other corporations 'and contrast those models with how startups may approach customer research.)

- What experience do you have with market research? (Instructor: Tap the class for experiences and case studies to supplement what's in the book.)

- Why is it important to speak with 100 customers? (Instructor: the book outlines the reason why 100 is the magic number—and how to find customers.)

- Provide examples of customer research methods and what you can learn from each? (Instructor: the book explains how focus groups, one-on-one interviews and surveys work.)

- What are the best social channels for research? (Instructor: Students can use LinkedIn, Facebook and may also have experience using TikTok, which is now very popular for sharing information and generating feedback.)

- The section on the Killer Questions is popular because it gives tangible lists of questions/topics to discuss.

  - For example, start with the basic question: what work does the customer do and how do they do it? What don't they like about the current state? (Instructor: These questions help innovators think about the problem and not just how best to frame or sell their own solution.)

  - What is the ultimate purpose of customer research? What does customer research teach you? (Instructor: Emphasize that customer interviews should be designed to get the customer talking about the problem(s) they face and solutions they have tried or would consider trying, including yours if appropriate. Students relax a bit when they realize they don't have to grill the customer about their "solution," which can feel salesy.)

In Class Activity

Spencer Rascoff's profile at the conclusion of this chapter is one of my favorites. He explains how Zillow, which he co-founded, developed customer personas based on interviewing hundreds of customers. He describes how the personas of Bob the Builder, Sue the Seller and Len the Lender were displayed as caricatures around the office and used regularly to test new concepts, messaging and solutions. Have students read Rascoff's interview and watch the video clip and meet in small groups to discuss how to design their own customer research for their project.

Video Interview Spencer Rascoff: https://www.youtube.com/watch?v=UjdARIszJ5I&t=23s

Deliverable

If the students are working in project teams on developing and testing a new idea, ask them to prepare a customer research plan to present to you and share with the rest of the class. Again, given this is a challenging part of the process, we don't want to leave it to chance they interview friends and family members ONLY or that they do a handful of interviews with easy to find surrogates for customers—I've seen both occur. Their plan should outline what they need to learn from the research; the 6 Voice of the Customer Questions they will ask; the types of research that makes sense—surveys, 1-1 and groups—and the profiles of the people they want to interview. And of course, you'll want to establish a timeline and plan including number of interviews and types (focus groups, 1-1) and importantly, how the findings will be incorporated into product design. Their customer research plan should be a deliverable. Actual customer research findings should also be a deliverable.

Students should develop a customer research plan describing their target customer and outlining the 6 voice of the customer questions they will pose (customized to their customer and their product/idea) (see appendix for questions). (2 pages). See customer worksheet in Appendix.

Further Reading

Blanc, Steve, *The Startup Owner's Manual*, Wiley, 2020

Boaz, Tamir, "Put the 'I 'before the Apple," Lean Post, July 14, 2016,

https://lean.org/LeanPost/Posting.cfm?LeanPostid=610#ftn2.

Cespedes, F., Eisenmann, T., Blank, S. Customer discovery and validation for entrepreneurs. HBS Note 9-812-097.
Cespedes, F. Customer visits for entrepreneurs. HBS Note 9-812-098
https://giffconstable.com/2010/07/12-tips-for-early-customer-development-interviews/

Gannes, Liz Zuckerberg Tells Investors, 'We don't Build Services to Make Money,'" All Things D, February 1, 2012, https://allthingsd.com/20210201/zuckerberg-tells-investors-we-dont-buld-services-to-make-money/

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Chapter 5: Innovators Must be Ready to Pivot at Any Point in the Process!

Summary

Pivoting is an important skill for any innovator. You need to read the signs that your assumptions, forecasts, and expectations are not panning out as planned. A change in direction may be needed. But knowing how and when to pivot is an art—we explore the distinction.

Segment Overview

Open the class by asking students what PayPal, Netflix, and Instagram all have in common? While they go through their litany of suggestions, they should bring up that the final business model was different from the original. Bingo! These companies all pivoted at key milestones in their development to become powerhouse innovators. The point of this topic is that while it may sound cliché to encourage you to strike "failure" from your vocabulary and replace it with "pivot," the importance of the pivot — defined as a change in strategy without a change in vision—is vital.

Recommended Discussion Questions

- ▪ The opening story about Sylvana Sinha, founder and CEO of Praava Health is a great case in point and there is video listed below on her pivot story.

  - ☐ What challenges did Sylvana face in the wake of Covid and how did she pivot to meet the healthcare crisis head on?

- ▪ Covid is replete with great examples of a black swan event necessitating pivoting.

  - ☐ What are some of the best stories of Covid pivots you've observed?

- • What are some of the signals your business is not performing according to expectations and a pivot may be in order?

- (Answers should include low customer response; underperforming sales forecast, competitor performance is stronger than yours in a growing market; low partner engagement; and external constraints.)
- Give an example of a pivot you've observed, one that was prompted by external market factors, product-customer fit, pricing etc.?

- You can then review how to pivot—the case study on Mountain Guitar is easy to understand and a fun look at a customer guitar company adjusting its product to meet customer needs.

  - How did Mountain Guitar respond to market feedback? Describe their pivot.

- In the book there are ample examples of how to get the company back on track-- focusing on the big picture and staying true to your vision.

  - What are examples of the six successful pivots outlined in the book or some examples of your own or those drawn from the class.

In Class Activity

Invite a guest speaker to present their case study on pivoting. Ask them to outline their business and the external constraints they faced. Then break the class into small groups and ask them to brainstorm what the company could do in the face of these challenges—should they pivot? Why or why not? If yes, how should they pivot? And if not, why should they do to keep moving the company forward. Watch video interview with Sylvana Sinha and discuss what lessons we can learn from her experience. Video Interview Sylvana Q Sinha:

https://www.youtube.com/watch?v=uKV_BgYyVZQ

Deliverable

At this point in the course, our student innovators will be running into some issues confirming whether their new idea, tested in its MVP form with customers, is viable in its current form. The MVP test may have been inconclusive, the customer research may have been mixed and they may be wondering if their simulation of a new company is ripe for a pivot. So, this chapter should engender the right discussions—a reality check if you feel—is this the right solution for the right audience at the right time. Our quintessential question: Is a customer willing to pay for my solution to their problem? Guide the students in revisiting their MVP, casting a wider or deeper net with their customer research, or tweaking their business idea altogether. It's at this point when students start to experience just how hard innovating is and why having a process and steps is essential to keeping them on track.

Further Reading

Crowe, Steve, "Anki Addresses Shutdown, Ongoing Support for Robots," The Robot Report, May 7, 2019, https://www.therobotreport.com/anki-addresses-shutdown-ongoing-support-for-robots?.

Lamare, Amy, "A Brief History of Away: From Suitcases to Scandals,"B2; The Business of Business, https://www.businessofbusiness.com/articles/history-of-away-luggage-data/.

"Eight Famous (and Staggeringly Successful) Business Pivot," CEO Magazine, April 20, 2020, https://www.theceomagazine.com/business/marketing/famous-and-successful-business-pivots/.

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Chapter 6: Developing your business model and plan

Summary

Once you've confirmed the best solution based on ample customer research, it's time to develop your business model and business plan, two very different things. This chapter covers purpose and development with examples of both.

Overview of Segment

Discuss with class how a business model is a framework describing how the business will make money whereas a business plan outlines your future objectives and strategies for achieving them. Explain how the plan integrates your competitive advantage, value proposition and business strategy with your R&D and intellectual property, marketing and partnerships, sales and distribution, operations model and financial forecast and budget. This section opens with the story of the business case competition at a prison in New Jersey; take-aways are outlined in the case. This chapter makes ample use of frameworks, templates and tools and provides hands-on step-by-step instructions for business model and business case development.

Recommended Discussion Questions

- This opening story of my work with the inmates at the New Jersey prison is one of my favorites in the book. The inmate story is a perfect example of why you need a business plan—you need to write it down or it's not real; a business plan that stays in your head will never see the light of day. The story highlights how the idea, the justification, who the customer is, how you'll make money must be effectively articulated so you can test your solution. The story also shows just how simple a business plan can be! For the inmates, their business plan was written in pencil on notebook paper. You can use a computer! The point is, gone are the days when a business plan meant a 100-page document filled with charts and forecasts and tables. Today's business plan is a succinct 15-page deck that follows an outline that we learn more about in Chapter 8. At the same

time, it's important to emphasize to the students that simplification and conciseness doesn't mean you conduct enough research to warrant a 100-page document. Your homework is the same and you can remind students that the value of the business plan is the process of developing it, testing your hypothesis—the plan is the output of all that diligence and research.

▪ You can discuss the business model—the popular business model canvas by Alexander Osterwalder and Yves Pigneur is cited in the book and I use it in my class as a tool. It helps you articulate how the business will make money—revenue channels, pricing, partnerships, costs of goods sold, and getting your product to market.

▪ Another relevant topic in this chapter is the Silicon Valley's "fail fast" mantra, which means using your MVP and customer research to test the viability of your plan and making a go-no go decision. Even so, you want to always stay a step or two ahead of investors and strategic partners so even if your plan is still preliminary, you still want to show you've done your homework.

▪ Finally, referring to the book, review with the students the top business plan mistakes, like forgetting that "cash is king." You may want to review examples of good and not so good plans.

In-Class Activity

Present the slides for the business model canvas to the class. Have the group break into teams and start working on the business model canvas for their project. If time permits, have team present the first couple sections of the canvas, e.g. customers, key partners, revenue sources. Watch the video interview with biotech founder Laurent Levy. Video Interview Laurent Levy: https://www.youtube.com/watch?v=cPm5iQhbYeY

Deliverable

Students should submit their completed business model canvas. It's a good opportunity to provide feedback and guide them through how to think about the nine components of the business model.

Further Reading

Osterwalder, Alexander, Pigneur, Yves. Business Model Generation. Hoboken, NJ: John Wiley & Sons, 2010.

Stephen Spinelli, Jr, and Robert J Adams, Jr, New Venture Creation: Entrepreneurship for the

21st Century, 10th ed. (New York: McGraw Hill Education, 2016)

Group Office Hours

Student teams should be at the stage now where they have a draft of the business model canvas, at least up through steps 5, and can fill in the outline for their plan. Have teams present their progress to you and class for feedback. If you've decided to have guest lecturers from the entrepreneurial or investor community, you can also ask them to use part of their lecture time to give feedback to the team's canvas or a summary of their business plan. See the templates in the book to guide the process.

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Chapter 7: How Serial Entrepreneurs Increase Their Odds of Success

Summary

In this chapter we look at a critical and often overlooked step in the process of innovation-- de-risking the plan-- by identifying landmines and neutralizing them.

Segment Overview

Discuss with students that de-risking requires learning how to assess risk and understanding how risk is different from uncertainty. In this chapter, you can share with students a tool for conducting a risk assessment along the dimensions of technical, financial and market and steps for developing a risk mitigation plan.   Students also need to know the importance of communicating risks *and* your risk mitigation plan to stakeholders. You can highlight examples of companies that did not notify key stakeholders of risks in their plans with unfortunate results. The profile of entrepreneur Sarah Apgar, Founder of FitFighter and Sharktank winner, gives a firsthand look at managing financial and operational risk.

Recommended Discussion Questions

- Discuss types of business risks: from Uncontrollable Risks like a Black Swan event such as COVID-19, economic recessions, and war; Strategic Risks such as business partnerships, which can help the business grow faster by taking it in a new direction but also bring execution challenges with them; to Manageable Risks, which are the most common and easily managed.

- You can spend most of the time on Manageable Risks which fall into several categories and are outlined in the book with definitions and examples:

  o Technical risks involving the technology or solution itself not working as anticipated

- Operational risks in processes and workflows that impede the ability to generate revenue

- Market risks involve changes in market landscape and/or customer preferences that impact sales

- Financial risks occur when there is inadequate capital to support the entities operation; you can call out the section on how Venture Capital Companies manage risks in this section

- Reputation risks have become more important to corporations and are also relevant to startups. A tried-and-true example of Reputation risk is demonstrated in the Johnson & Johnson Tylenol recall of 1982.

In Class Activity

Guide the class through an example using the Risk Matrix and Risk Identification templates in the book. These can be used in class with the case example in the book or better yet use your own or ask the students to provide a live example if possible.

Discuss Sarah Apgar's experience managing risk as she established Fit fighter, after watching the video:

Video Interview Sarah Apgar: https://www.youtube.com/watch?v=AD9FxfbqRgA

Deliverable:

Students should submit their completed risk matrix, highlighting and prioritizing the risks in their plans.

Further Reading

Stephen Spinelli, Jr, and Robert J Adams, Jr, New Venture Creation: Entrepreneurship for the 21st Century, 10th ed. (New York: McGraw Hill Education, 2016)

Group Office Hours

If working with project teams, use this session to review with each team the risks they've identified using the risk categories covered in class. Walk through the risk matrix with the team and have them explain how they have ranked the relative impact of each risk they've identified. The templates in this chapter should guide the students through the process and documentation of risk identification and management and the summary of that analysis should go into their business plan. The risk plan should be a deliverable.

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Chapter 8: Coaxing Capital: No Innovation Without Communication

Summary

There is no innovation without persuasion! Students need to develop a killer pitch to get their audience talking dollars and cents. In this session, students learn that whether they're pitching angel investors, VCs, Private Equity, strategic partners or business development at their company, there is a way to prepare any pitch for success. And funding is critical to getting a new product to market.

Segment Overview

Referring to this chapter and other sources you select, discuss pitch dos and don'ts and analyze examples of pitches that went on to become funded projects/businesses and epic pitch failures that left some great potential innovations in the wastebasket, along with discarded slides and presentation boards. The opening story of Rick and his team is an example of an epic failure—they make every mistake in the book, so to speak. There is much fodder for discussion from that one story alone.

Recommended Discussion Questions

- Use Rick's story to exemplify the pitch requirements—knowing your audience, describing a clear vision and a scalable business model, showcasing a winning team, focus and tight messaging, and preparation, preparation, preparation!
    - Where and how did Rick go wrong?
- You can then review the fundamentals of a powerful pitch and best practices in a pitch deck development—there is a slide-by-slide overview of what to include along with recommendations on slide deck length and even font and point size of type! Bookending

this section is the C2i Genomics case study of an early-stage company that exemplifies a pitch that helped the company raise $100 million.

- o How would you compare and contrast Rick with C2i?
- This chapter also examines the role of investors in backing an innovation. Have students identify funding sources, including friends and family, angel, VC, strategic partners and corporate investment, grants, foundations, social good sources for profit and not for profits. All of these are described in the chapter. You can also provide guidance on how to evaluate funding sources, identify potential investors, understand their requirements and determine the best way to approach them and present your investment opportunity. With some advance preparation you can lead the class in a discussion of successful investment partnerships—ones they have observed or read about--and the ones that went awry. See template in the book.

In Class Activity

In the Coaxing Capital Chapter, we examine the elements of the perfect pitch and students can use the sample pitch deck as the summary deck of their business plans. And present the first draft in class. Watch the interview with Dan Navarro on his music touring service during Covid. How did he think about what he was offering customers and how to support his business. Video interview Dan Navarro: https://www.youtube.com/watch?v=2Aort_8XIvg

Deliverable

First draft of their pitch deck should be submitted for review.

Further Reading

Cremandes, A. The Art of Startup Fundraising: Pitching Investors, Negotiating the Deal, and Everything Else Entrepreneurs Need to Know.

D.DeClerq et al. An Entrepreneurs Guide to the Venture Capital Galaxy. Academy of Management Perspectives, 2-06.

Stephen Spinelli, Jr, and Robert J Adams, Jr, New Venture Creation: Entrepreneurship for the 21st Century, 10th ed. (New York: McGraw Hill Education, 2016)

Group Office Hours

In this office hours, student teams should be ready to present their first pitch to you. Using the template provided in the book and this chapter as a guide, have them prepare a 10-slide pitch based on their research to date. I recommend using a class session, see in class activity above, and having the teams present to each other. Students learn the most observing and providing feedback to their peers. It's a great way to get everyone comfortable being a presenter and a feedback provider. I also make sure at this point, that work is being divided equally on the team and that even the pitch is something each student gets to practice. Often, teams will have one person who enjoys the speaking role and the downside is the other students don't get to hone their presentation skills. This will be the first of at least two or three practice pitches the team will do if you're running the course as a clinic. The deliverable for this class is the first draft pitch.

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Chapter 9: Execution and Exit: Managing Your Innovation, and if Necessary, Moving On

Summary

Ninety-five percent of new ideas never make it to market and of the 5% that do, 80% of new businesses fail to execute their strategies. Why? They lack the discipline and focus to implement. In this chapter we learn that the key to successful execution is PSO: People, Strategy and Operations.

Segment Overview

Many innovators get swept up in the day-to-day, putting out fires, instead of staying focused on implementing the plan that so much time and energy went into developing. Discuss the importance of recruiting the right team, having project management discipline and developing and managing a budget.

In this chapter, we also examine how successful companies chart a path toward growth and continuous value creation for the owners and shareholders. Discuss with the students questions they need to address around Exit. Define and describe choices entrepreneurs face: Do you want to maintain your company as a going concern or form a strategic partnership, or some other type of Merger and Acquisition (M&A)? In this chapter we also examine growth strategies and how to continuously create value.

Recommended Discussion Questions

Use this chapter, and supplement with recommended readings, to prepare students for a discussion about the operational aspects of running a company:

- Hiring and compensating talent in an early-stage company.

o Who should the first couple new hires be? How should they be compensated? When is it ideal to provide equity to new employees?

- Developing strong project management capabilities and ensuring creations of processes and workflows to keep a company on track.

  o What's the role of project management in a start up? An established company? Why is project management important in building a company?

- Developing and managing budgets and forecasts

  o What is the purpose of a budget? A forecast? How are both used to manage the business?

In order to prepare for an exit or eventual sale of the company, discuss with students the topics of:

- Exits, harvest goals, M&A

In Class Activity

A guest speaker who is an attorney or an operations professional are usually a good idea for this section of the course. They can explain terms, share case study examples, and answer student questions.

Deliverable

Student teams should submit the operating model and exit plans for their companies; these should also be included in their pitch decks.

Further Reading

Stephen Spinelli, Jr, and Robert J Adams, Jr, New Venture Creation: Entrepreneurship for the 21st Century, 10th ed. (New York: McGraw Hill Education, 2016)

Group Office Hours

Office hours at this point should focus on the operational and eventual exit opportunities of the company. In the pitch deck this means they will have prepared budgets, be able to articulate key hires and know the processes they need to implement to ensure a smooth-running operation. In the pitch deck they will also need to explain their exit options to investors. .

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Chapter 10: Unique Challenges Women Innovators Face and Why (diversity, inclusion and equity)

Summary

The National Inventors Hall of Fame inducted its first woman in 1991. Gertrude Bell Elion holds 40 patents including those related to the development of the first drugs for leukemia, septic shock and organ rejection. In 2014 deceased Hollywood actress Hedy Lamarr was inducted into the Hall of Fame for her invention in 1937 of the technology that was the forerunner to Bluetooth and Wi-Fi. While these two women innovators are noteworthy, the sad reality is that only five percent of patents are held by women. Only 25% of top innovation firms are led by women and women account for 20% of Fortune 500 chief innovation officers. Numbers of women in science, technology, math and engineering (STEM) are underrepresented and there is a 16% gender wage gap among STEM professionals. Half as many women as men are likely to start their own business and 95% of women who do start their own business fail within a year because they can't secure funding and other necessary support. Why is innovation so challenging for women?

Segment Overview

In this chapter we explore how to close the disparity gap and encourage more women in innovation and entrepreneurship. There is an opportunity to use this chapter and supplement it with other material to more fully explore Diversity, Inclusion and Equity in innovation.

I honor the history of women inventors with my **Women Innovators Hall of Fame**, which represents women of multiple ethnicities and races. Aspiring women innovators may also find my Women Innovator's Resource Guide useful.

Recommended Discussion Questions

- Use this chapter as an opportunity for students to discuss how innovation can be more inclusive. Review the Women Innovators Hall of Fame and ask students to share their favorite innovator, either from the book or someone else they admire. Discuss how the challenges women face are shared by people of color and ask for examples.

In Class Activity

- Have students prepare a case study of their own, bring in guest speakers from different walks of life, and invite investors who represent diverse perspectives to talk about how to foment change.

- This is a good class for a guest lecture or even panel on diversity in innovation and its importance to the culture and to the process of innovation in general.

Further Reading

Stembridge, Bob, "Women in Innovation: Gaining Ground but Still Far Behind," Scientific Amercian, May 3, 2018, https://blogs.scientificamerican.com/voices/women-in-innovation-gaining-ground-but-still-far-behind.

Lang, Ilene H and Reggie Van Lee, "Institutional Investors Must Help Close the Race and Gender Gaps in Venture Capital," *Harvard Business Review*, August 27, 2020.

Lee, Matthew and Laura Huang, "Women Entrepreneurs Are More Likely to Get Funding If They Emphasize Their Social Mission," *Harvard Business Review,* March 7, 2018.

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