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Agile Product Management

Using Design Thinking to Create Valuable Products in the Lean Enterprise

SAFe® Course Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

5.0.0.1



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Notes:

Logistics

- ▶ Class times
- ▶ Breaks
- ▶ Lunch
- ▶ Restrooms
- ▶ Accessing Wi-Fi
- ▶ Working agreements

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Notes:



Activity: Welcome to your diverse table team



Your task is to make sure your table has a diverse level of Product Management experience.

- ▶ **Step 1:** Create a human matrix:
 - 10 years or more experience in a PM role go north, fewer go south
 - 3 years or more experience with SAFe go west, fewer go east
- ▶ **Step 2:** Form table groups with a mix of experience levels.
- ▶ **Step 3:** Discuss your SAFe and PM experience at your table. Ask questions, share experiences. Learn from each other.

Notes:



Video: Introduction to Terrific Transport Corporation (TTC)



At certain times in this course, you are going to play the role of a Product Manager at the Terrific Transport Corporation working in the Autonomous Delivery Vehicle Solution Train.

Please watch this company background video where Anthea Bowen, CEO of TTC, provides the history and future direction of the company.



Click to here to play video
<http://bit.ly/2GGDpWc>

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Notes:

Chief Executive Officer - Anthea Bowen

Anthea is a major stakeholder in Terrific Transport and a member of the Board of Directors. Anthea has an MBA and previously worked in automotive industry for a major US brand. Promoted to Executive VP, she was responsible for an entire division of the company. As part of the company acquisition by a competitor, Anthea was offered a new role in Europe. Not wanting to move her family, she joined Terrific Transport as its CEO. She has successfully grown the company for the past two years, with the government autonomous vehicle contract being the latest win for Terrific Transport.

Agile experience: Lean-Agile was prevalent in her automotive industry experience. Anthea is responsible for moving Terrific Transport to SAFe, and is working with her teams as they continue to launch ARTs and execute Program Increments



Discussion: I just spoke with Anthea!

Duration



- ▶ Anthea has some ideas around potential markets but needs your Product Management expertise
- ▶ Potential markets include (but are not limited to):
 - Medical services
 - Manufacturing
 - Food delivery
 - Could there be more?

Notes:



Activity: Identifying the scope of Product Management



Using the TTC Autonomous Delivery Vehicle example, working at your table, write down the questions and concerns that Product Managers must address as they do their job.

- ▶ **Step 1:** Write one question per sticky note.
- ▶ **Step 2:** Organize these questions based on time and context. Specifically, what kinds of questions are the 'big questions' you need to ask sooner? What are the 'smaller questions' you need to ask later? What kinds of questions do you ask once, and what kinds of questions do you ask many times?

Notes:

Some of the questions we'll explore in this course



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Notes:

Course map

- ▶ Lesson 1: Analyzing Your Role as a PM in the Lean Enterprise
- ▶ Lesson 2: Continuously Exploring Markets and Users
- ▶ Lesson 3: Driving Strategy with Market Segmentation
- ▶ Lesson 4: Using Empathy to Drive Design
- ▶ Lesson 5: Defining Product Strategy and Vision
- ▶ Lesson 6: Creating Roadmaps to Build Solutions
- ▶ Lesson 7: Delivering Value
- ▶ Lesson 8: Managing Value Stream Economics
- ▶ Lesson 9: Creating Innovation in the Value Stream
- ▶ Lesson 10: Becoming a SAFe Agile Product Manager

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Notes:

Lesson 1

Analyzing Your Role as a PM in the Lean Enterprise

Learning Objectives:

- 1.1 Describe Product Management's role and responsibilities
- 1.2 Identify Product Management stakeholders and collaborators
- 1.3 Explain Design Thinking for Product Management



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

1.1 Describe Product Management's role and responsibilities

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Notes:

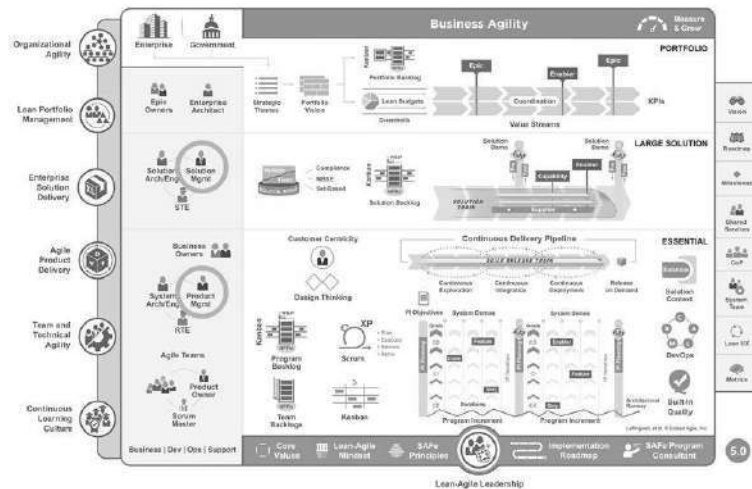
You are here - Product and Solution Management in SAFe



Solution Management



Product Management



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Notes:

Product Management flows value to Customers

Customers come in many forms:

- ▶ B2C: Business-to-Consumer
- ▶ B2P: Business-to-Professional
- ▶ B2B: Business-to-Business
- ▶ B2B2C: Business (Supplier)-to-Business-to-Consumer



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Notes:

External Product Managers deliver to external Customers

- ▶ External Customers purchase or acquire Solutions
- ▶ External PMs collaborate with product marketing, sales, channel partners, and distribution



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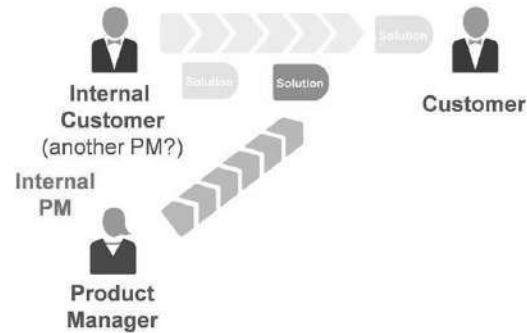
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Notes:

1.1 Describe Product Management's role and responsibilities

Internal Product Managers deliver to internal Customers

- ▶ Internal Customers provide Solutions to another Value Stream
- ▶ Internal PMs collaborate with their internal Customers:
 - IT Solution and release management
 - Purchasing Customer in a supply chain/system-of-system context



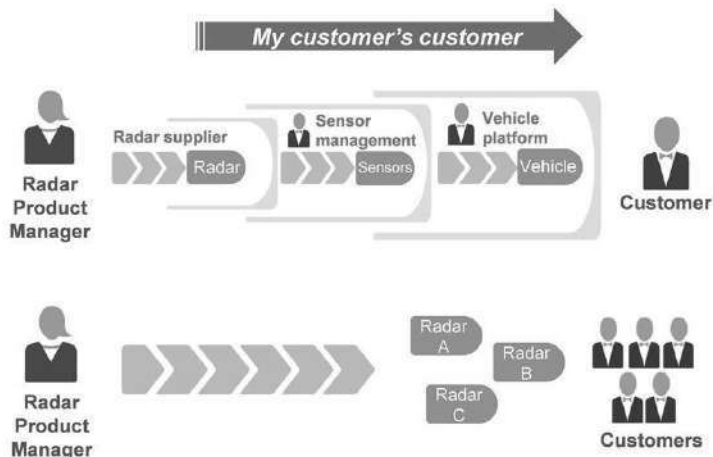
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Notes:

Large supply chains complicate PM responsibilities

- ▶ Solutions are constrained by supply chain contexts
- ▶ Product lines support multiple customer segments



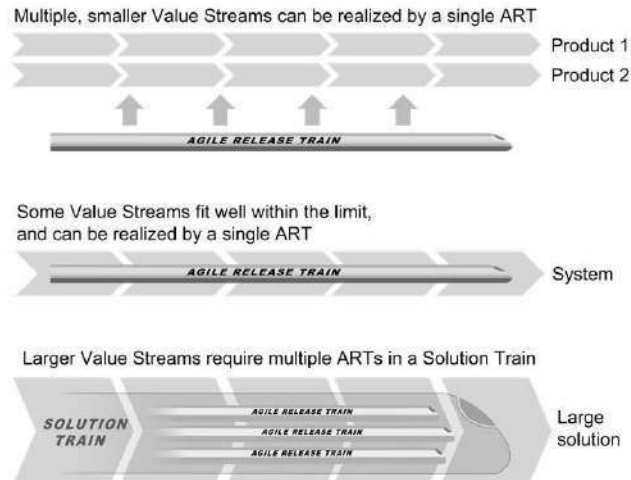
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Notes:

Product Managers lead varying-sized development efforts

- ▶ Some small teams create multiple products
- ▶ Some products require many, many teams to create them



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Notes:

A single PM can manage smaller, simpler Solutions

- ▶ The PM may fulfill the role of the Product Owner: defining Stories, prioritizing Team Backlogs, accepting Stories, and so forth
- ▶ The PM may perform activities that support all product aspects:
 - Acts as product marketing
 - Is the contact for product sales
 - Reviews legal agreements
 - Responds to service requests
 - Manages Value Stream economics



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Notes:

Create a PM team for larger and/or distributed development

- ▶ PM relies more on POs for development-facing concerns
- ▶ Support organizations also grow to support development growth
- ▶ Product Owners work with the teams



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Notes:

Larger Solutions require a larger PM team

Solution Management coordinates multiple trains within a Solution Train



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Notes:

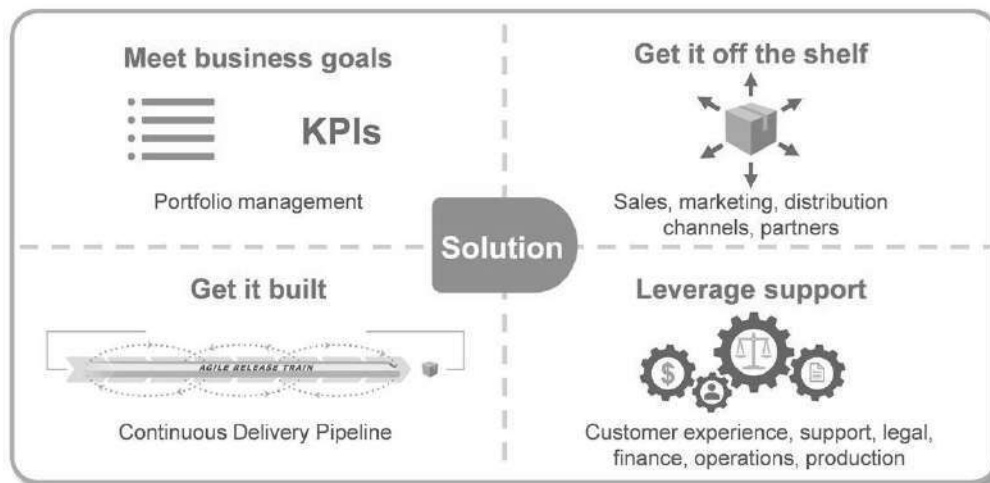
1.2 Identify Product Management stakeholders and collaborators

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Notes:

Dimensions of Product Management stakeholders



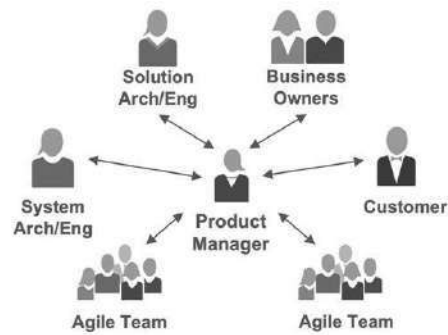
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Notes:

Product Managers collaborate with many roles

While the most frequent collaborations may occur with teams, Product Managers collaborate with many different roles.




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Notes:

1.2 Identify Product Management stakeholders and collaborators




Activity: Key stakeholders and collaborators

Prepare
10 min

Share
5 min

PMs can increase performance by proactively identifying and managing stakeholders and collaborators.

- **Step 1:** Working individually, write your name in the middle of a circle. Write the names of people you consider stakeholders and collaborators around your name. Draw lines to capture relationships.
- **Step 2:** Working as a team at your table, write “TTC PM” in the middle of a circle. What are the stakeholders and collaborators of an effective TTC PM? Make certain you cover the four key dimensions of PM stakeholders.



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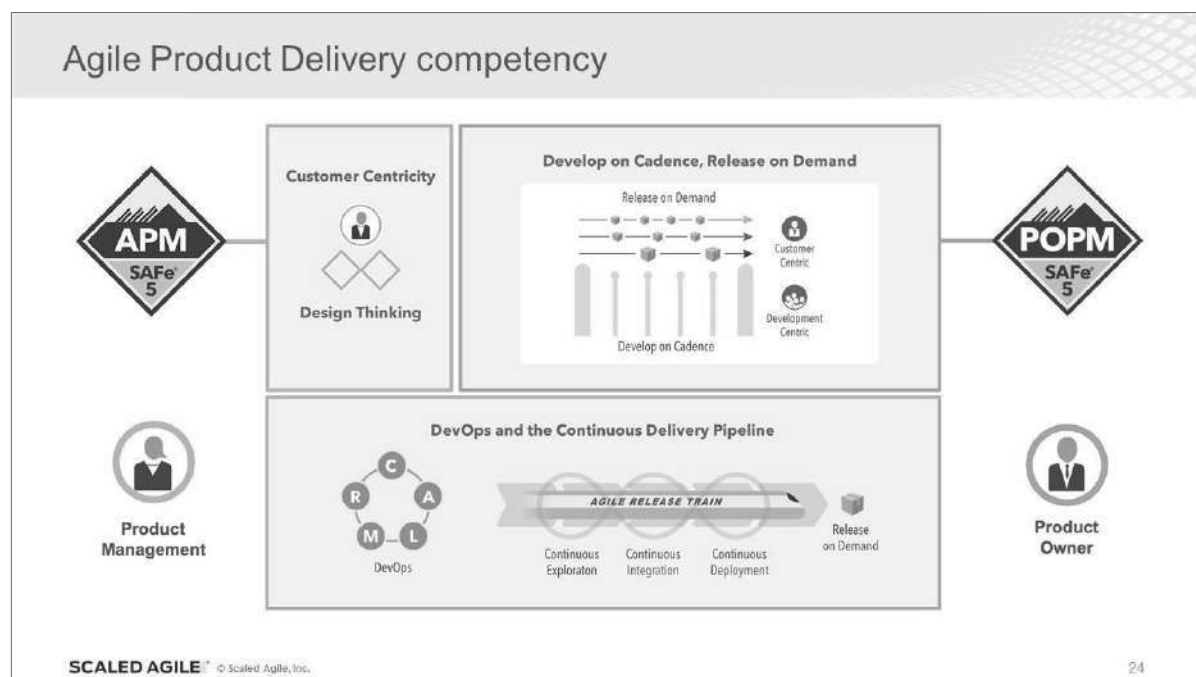
Notes:

1.3 Explain Design Thinking for Product Management

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Notes:

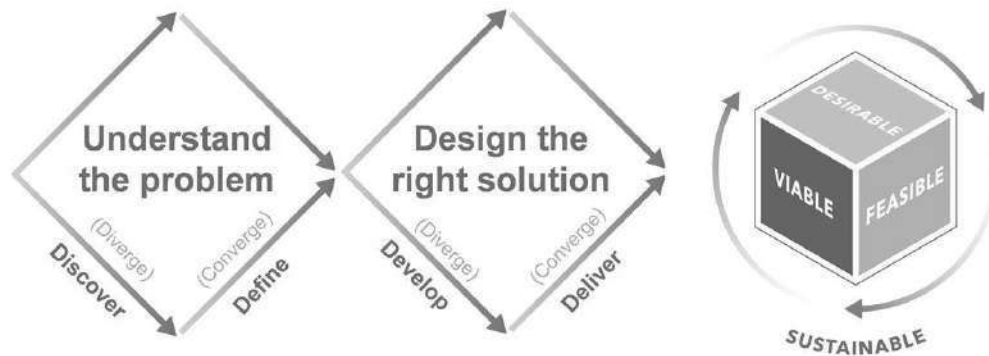


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Notes:

What is Design Thinking?

Design Thinking is an iterative Solution development process that promotes a holistic approach to delighting all stakeholders.



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Notes:

Connect APM and Design Thinking

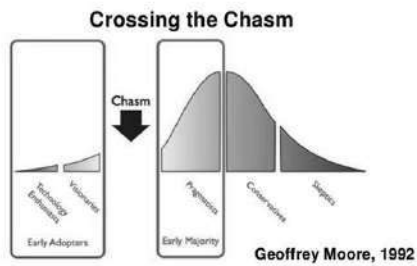
Product and Solution Management		
Desirable	Viable	Feasible
<ul style="list-style-type: none"> Understand your markets and Customers Perform market research Segment and size markets Utilize personas 	<ul style="list-style-type: none"> Ensure economic investment in line with business strategy Own pricing, licensing, ROI Manage Suppliers and supply chain 	<ul style="list-style-type: none"> Drive product strategy and execution Communicate Vision Manage Program Backlog Collaborate with stakeholders
Sustainable		
<ul style="list-style-type: none"> Continue innovation throughout product's lifecycle Ensure product's future health (e.g., Architectural Runway, technical debt) 		

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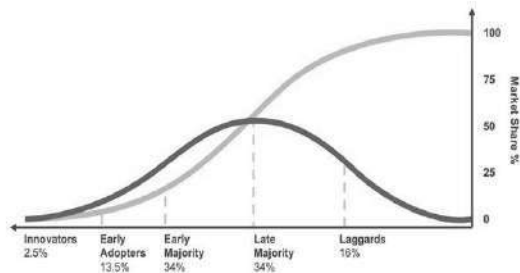
Notes:

The lifecycle of product evolution



Geoffrey Moore noted that many technology products face a 'chasm' between the expectations and requirements of early adopters and the rest of the market.

Moore, Geoffrey. *Crossing the Chasm*. Harper Business, 2006.

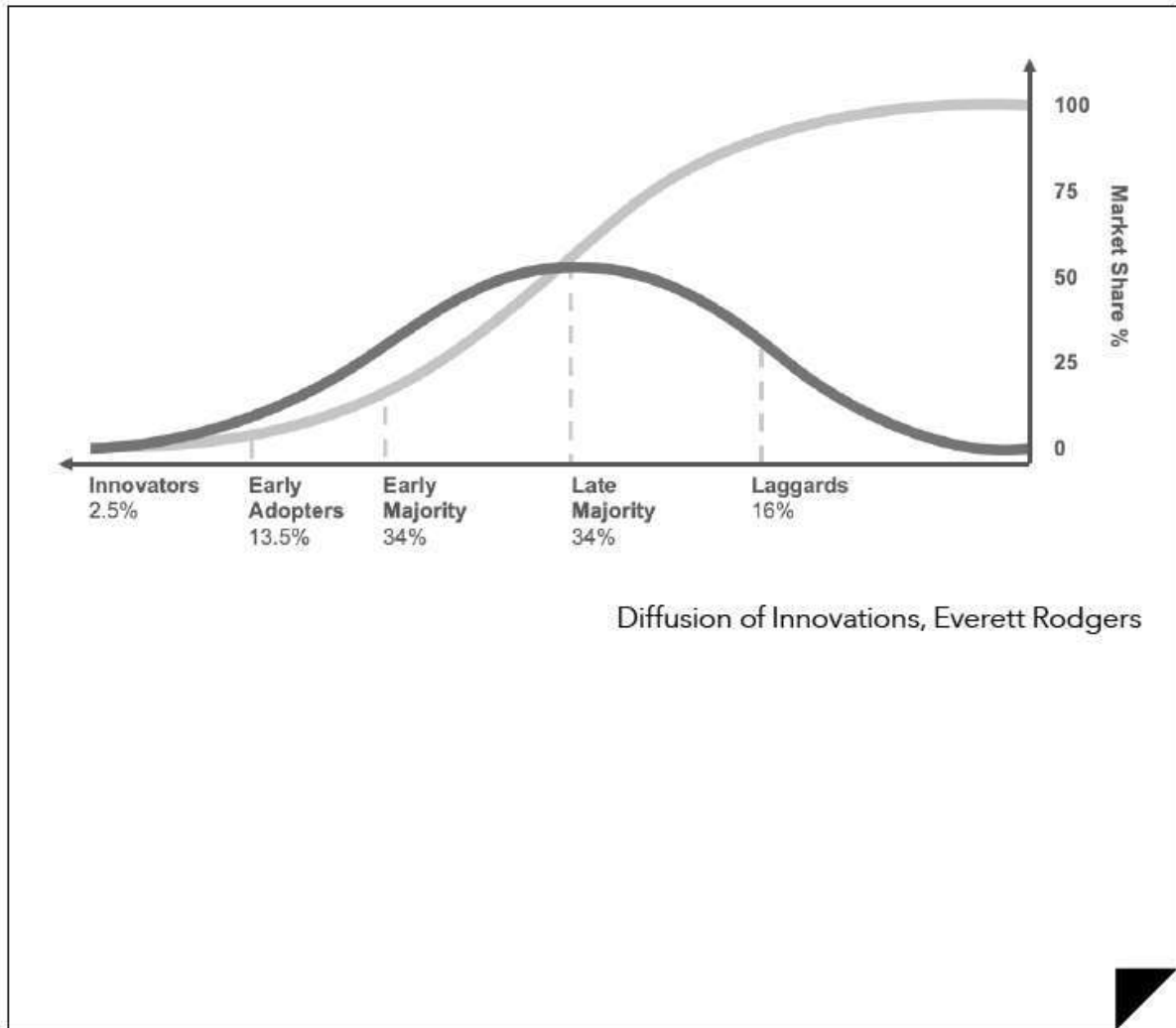


Innovations follow a predictable curve of growth known as the 'S-shaped' curve of adoption.

— Percentage of customers by designed profile
— Total percentage of market

Notes:

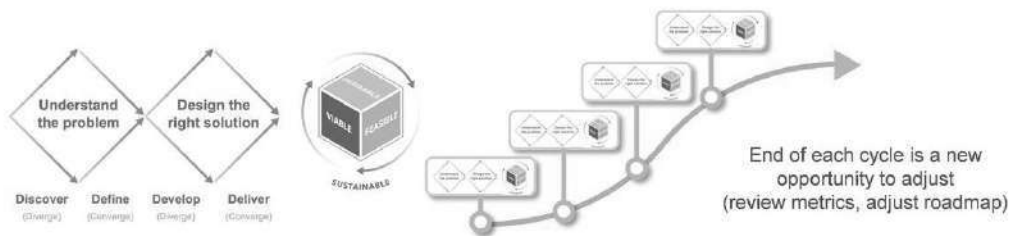
1.3 Explain Design Thinking for Product Management



1.3 Explain Design Thinking for Product Management

Design Thinking is a continuous process

- ▶ Delivering value quickly in small batches allows for fast feedback, which promotes innovation
- ▶ Arrive at the optimum Solution by deciding and learning faster
- ▶ Support new product development and ongoing product enhancement

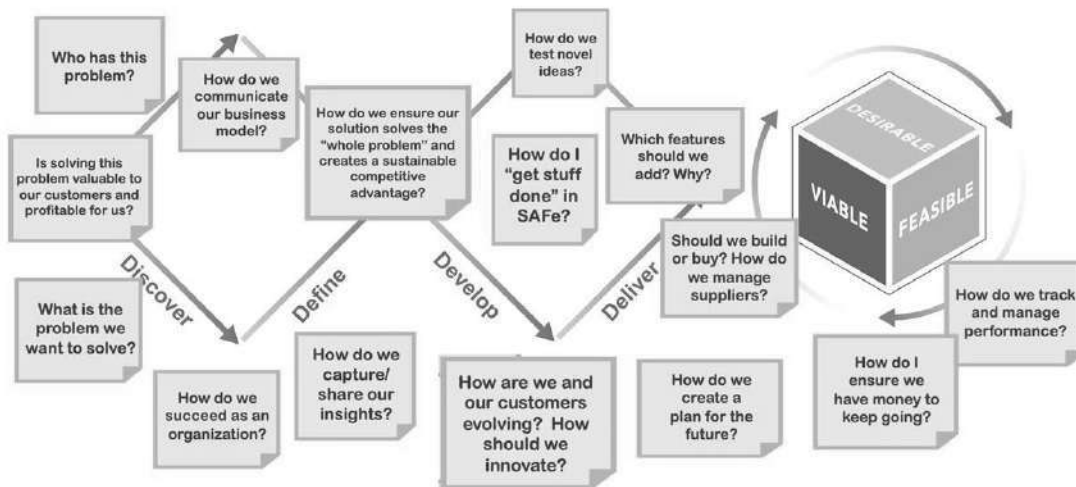


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Notes:

Connecting PM questions to Design Thinking

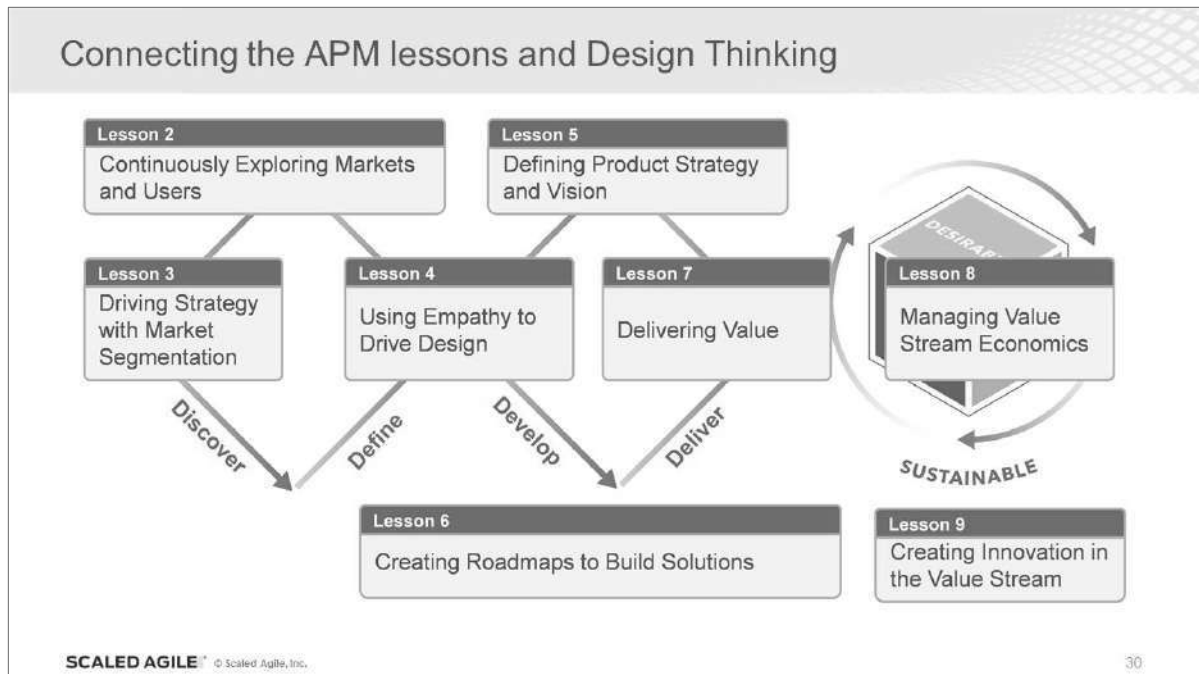


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Notes:

1.3 Explain Design Thinking for Product Management



Notes:



Action Plan: Analyzing your role as a PM in the Lean Enterprise



Review the questions that will be answered in this course on the Lesson 1 Action Plan page of your workbook.

- ▶ **Step 1:** Circle the questions that are most relevant to you right now.
- ▶ **Step 2:** Place a star by questions you will need to answer at some point.
- ▶ **Step 3:** Write some 'big' and 'small' questions of your own that will need to be answered.



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Notes:

Lesson review

In this lesson you:

- ▶ Explored Product Management's role and responsibilities
- ▶ Identified Product Management stakeholders and collaborators
- ▶ Reviewed Design Thinking for Product Management

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Notes:

Lesson 2

Continuously Exploring Markets and Users

Learning Objectives:

- 2.1 Explain market research in the context of Continuous Exploration
- 2.2 Discover the right hypothesis and ask the right questions
- 2.3 Apply data-driven practices to answer questions
- 2.4 Plan your research
- 2.5 Use Innovation Games® for Customer understanding



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.



Notes:

2.1 Explain market research in the context of Continuous Exploration



Discussion: What is market research?

Prepare
3 min

Share
3 min

- ▶ **Step 1:** Discuss at your tables, “What is market research?”
- ▶ **Step 2:** Include examples of market research you’ve conducted and the impact it has had on your work
- ▶ **Step 3:** Be prepared to share with the class

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Notes:

What is market research?

What are some examples of market research you've conducted and the impact it has had in your product?

2.1 Explain market research in the context of Continuous Exploration

Gaining a deeper understanding of the problem

Discover	What do our Customers and stakeholders want? What are their needs?
Define	What are possible ways to address those needs? Where should we start, and how would we measure progress?



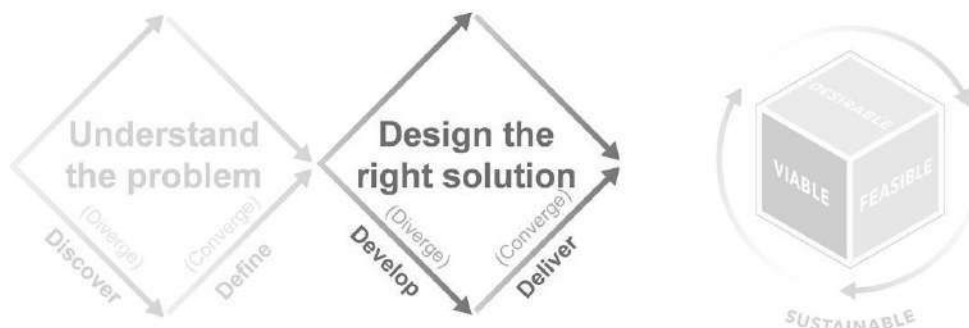
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Notes:

Creating a better Solution

Develop	Leverage insights and data to develop compelling options.
Deliver	Use data-based techniques to converge on compelling products and services.



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Notes:

2.1 Explain market research in the context of Continuous Exploration

There are two broad motivations for research

Understand: Market research

- Focuses on the who, what, and why
- Determines concepts, opinions, and values
- Assesses value provided and what internal/external customers will pay
- Influences marketing and sales

Primarily drives product strategy

Design: User research

- Focuses on the how
- Observes and evaluates what customers and users do
- Determines how customers use or will use the product
- Influences Capabilities and Features

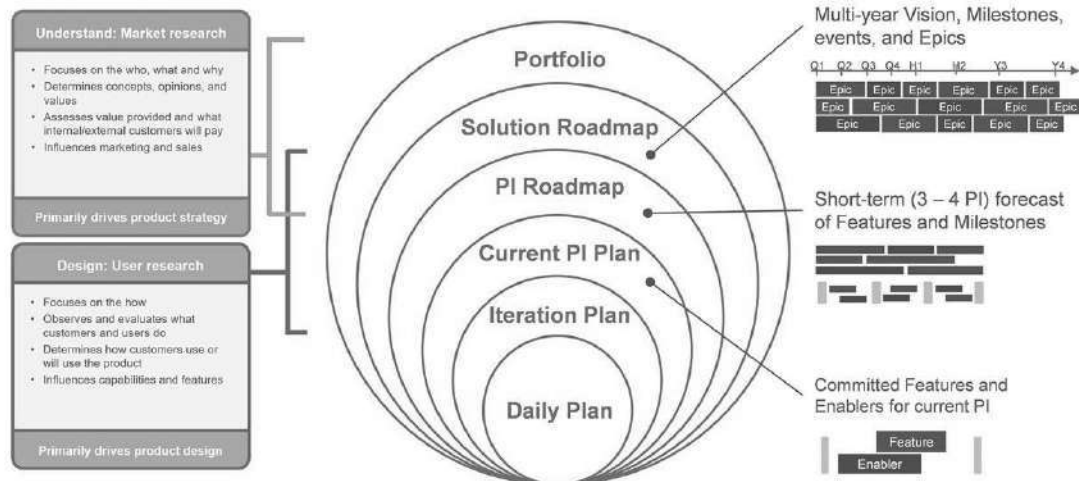
Primarily drives product design

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Notes:

Research (generally) aligns to planning horizons



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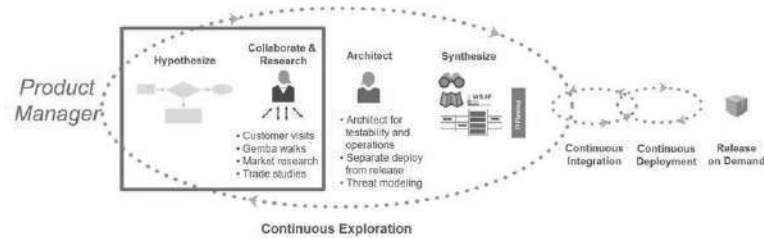
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Notes:

2.1 Explain market research in the context of Continuous Exploration

Continuous Exploration is market research

Continuous Exploration (CE) is the process that fosters innovation and builds alignment on what should be built by continually exploring market and Customer needs and defining a Vision, Roadmap, and set of Features for a Solution that addresses those needs.



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Notes:

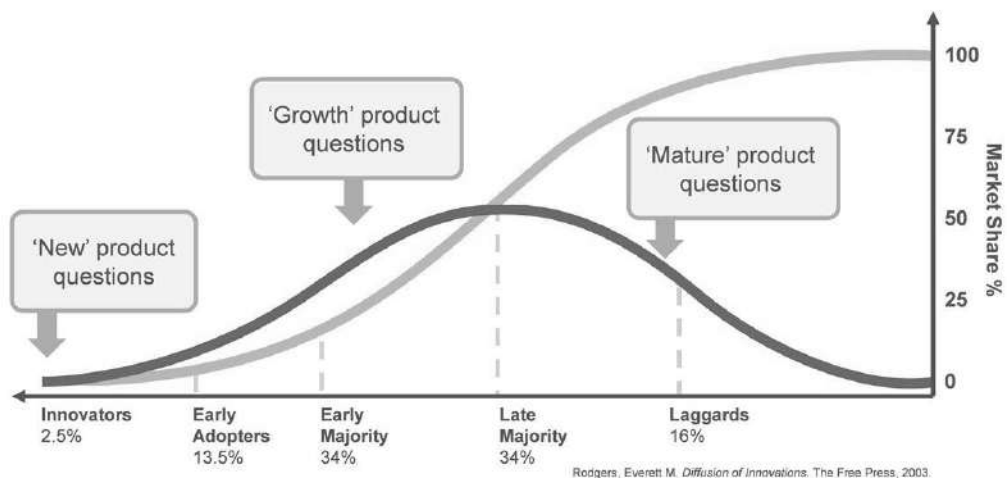
2.2 Discover the right hypothesis and ask the right questions

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Notes:

Market context and growth stage influence questions



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Notes:

Core new product development questions

These questions are fundamental to understanding if you're solving the right problem!

- ▶ Do customers recognize that they have the problem you are trying to solve?
- ▶ What are they doing to try and solve it now?
- ▶ If there was a Solution, would they buy it?
- ▶ Would they buy it from us?
- ▶ Can we build a Solution for that problem?
- ▶ How can we differentiate our Value Stream?

Success is not delivering a feature; success is learning how to solve the customer's problem.
—Eric Ries, *The Lean Startup*

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Notes:

Core questions for products in the growth phase

We know that Customers within the same market segment have different expectations as products continue to mature and evolve. Questions to address in this phase:

- ▶ How should our product change to meet changing expectations?
- ▶ Is our product growing well? If not, is the product failing or are we in a 'chasm'? If we are in a chasm, what do we need to do to cross it?
- ▶ Has our success changed the macro-environment? How are competitors responding?



Could we change the order process to streamline fulfillment?

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Notes:


Core questions for mature Solutions

Mature Solutions may be ripe for extracting profit or may be an opportunity for renewal and future innovations. These questions can help determine future strategy choices.

- ▶ Is this segment still attractive?
- ▶ How can we further extract profit from superior operations?
- ▶ Have we lost sight of the core challenges facing our Customers?
- ▶ Is it time to exit this product/segment and invest elsewhere?

Notes:

2.2 Discover the right hypothesis and ask the right questions





Activity: What questions do you have about TTC?

Prepare
5 min

Share
3 min

Imagine that you've been given a magic lamp that can answer Customer and market research questions.

- **Step 1:** With your table group, choose three questions you'd ask the lamp and describe how the answers to these questions would help you in developing the TTC Autonomous Delivery product.
- **Step 2:** Be prepared to share with the class.



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Notes:

2.2 Discover the right hypothesis and ask the right questions

Question 1:

Question 2:

Question 3:

How would these questions help you in developing the TTC Autonomous Delivery product?

2.3 Apply data-driven practices to answer questions

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Notes:

Use data to answer questions

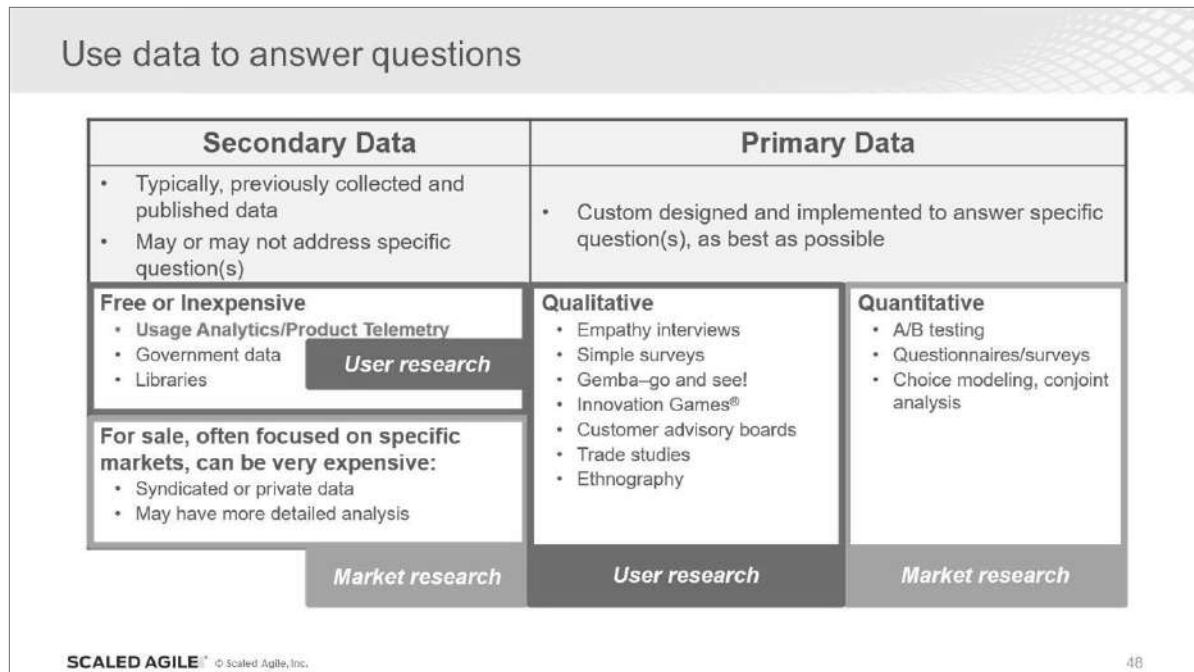
Secondary Data		Primary Data	
<ul style="list-style-type: none">Typically, previously collected and published dataMay or may not address specific question(s)		<ul style="list-style-type: none">Custom designed and implemented to answer specific question(s), as best as possible	
Free or Inexpensive <ul style="list-style-type: none">Usage Analytics/Product TelemetryGovernment dataLibraries For sale, often focused on specific markets, can be very expensive: <ul style="list-style-type: none">Syndicated or private dataMay have more detailed analysis		Qualitative <ul style="list-style-type: none">Empathy interviewsSimple surveysGemba-go and see!Innovation Games®Customer advisory boardsTrade studiesEthnography	Quantitative <ul style="list-style-type: none">A/B testingQuestionnaires/surveysChoice modeling, conjoint analysis

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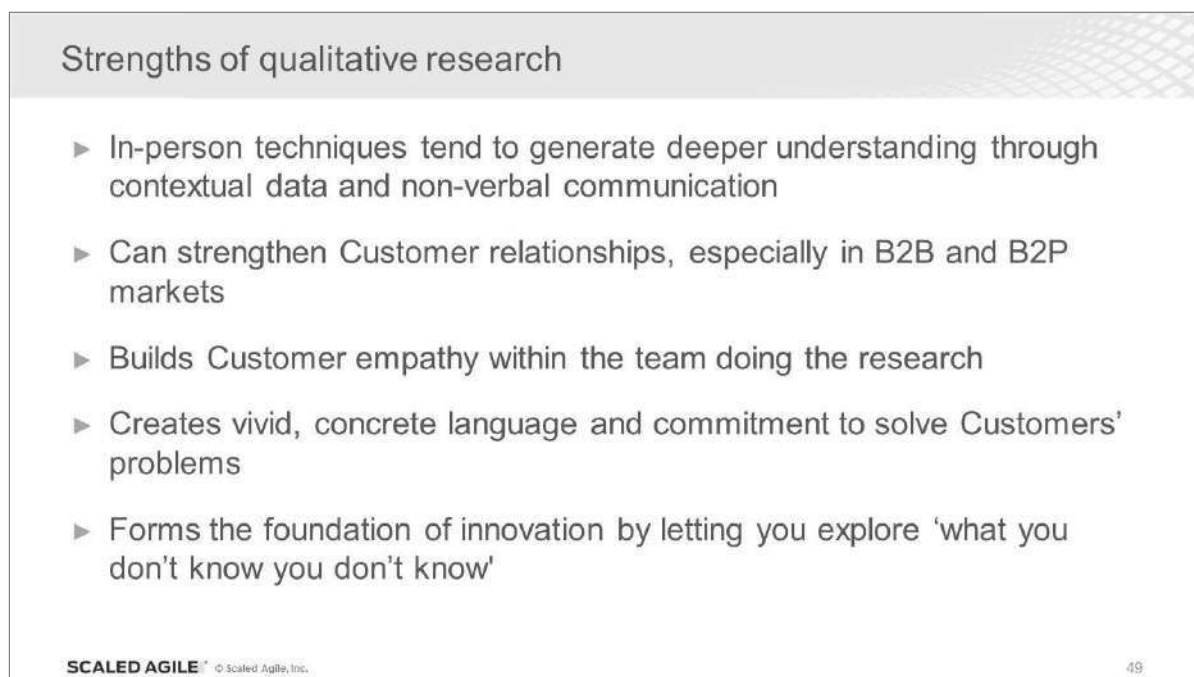
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Notes:

2.3 Apply data-driven practices to answer questions



Notes:



Notes:

Weaknesses of qualitative research

- ▶ Is less objective than other market research methods
- ▶ Does not scale to large numbers of people
- ▶ Is not statistically significant; however, statistical significance is often not needed in B2B markets
- ▶ Is relatively costly on a per customer cost basis but is often relatively cheap in terms of actionable results

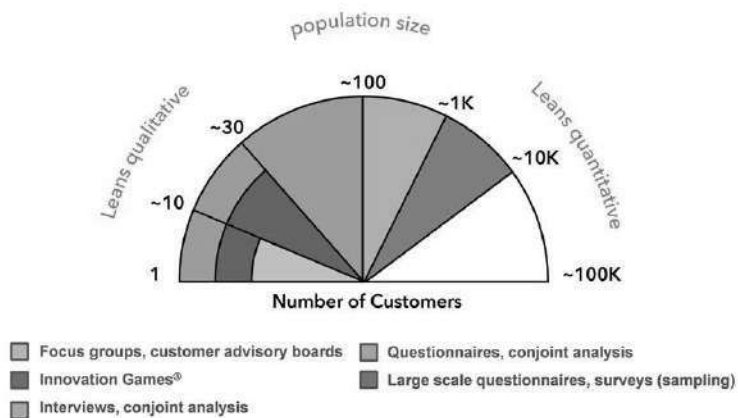
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Notes:

Techniques vary based on number of respondents/participants

Use segmentation or sampling to manage large numbers of respondents



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Notes:

Techniques also vary based on market size

Qualitative research is often more obtainable and useful with these types of products.

Complex, large solutions often have:

- ▶ Relatively small numbers of Customers
- ▶ A small number of transactions with each Customer
- ▶ Transactions costing hundreds of thousands to millions of dollars

Moore, Geoffrey A. *Dealing with Darwin*. Penguin Group. 2008.

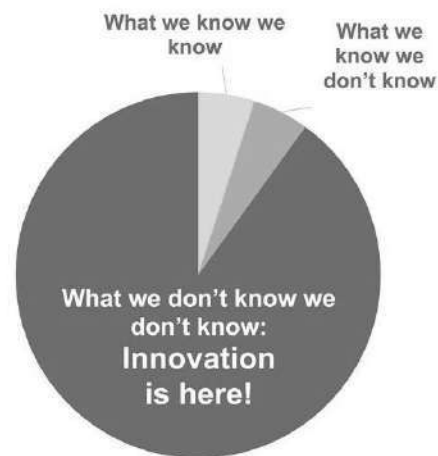
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Notes:

Qualitative research fuels innovation


- ▶ We act confidently on what 'we know we know'
- ▶ We seek more data on what 'we know we don't know' before we act
- ▶ Innovation is fueled when we use research to enable ourselves to find new information: 'what we didn't know we didn't know!'



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Notes:



Activity: Selecting research techniques

Prepare
5 min

Share
3 min

Different research techniques are useful in different contexts.

- ▶ **Step 1:** Select research techniques appropriate for TTC
- ▶ **Step 2:** Working in your groups, match the research technique most useful for a given question in each context on the next slide
- ▶ **Step 3:** Be prepared to share with the class

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Notes:

Research techniques

Note which research techniques you would use for each of these questions.

Question	Recommended research technique(s)
How big is the TTC market?	
What Features should we build for our target market segment?	
Should we brand the packaging and vehicle design?	
How should we sequence the delivery of key Features?	
How are we perceived vs. our competitors?	
Is our Roadmap aligned to changing Customer needs?	

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Notes:

2.3 Apply data-driven practices to answer questions

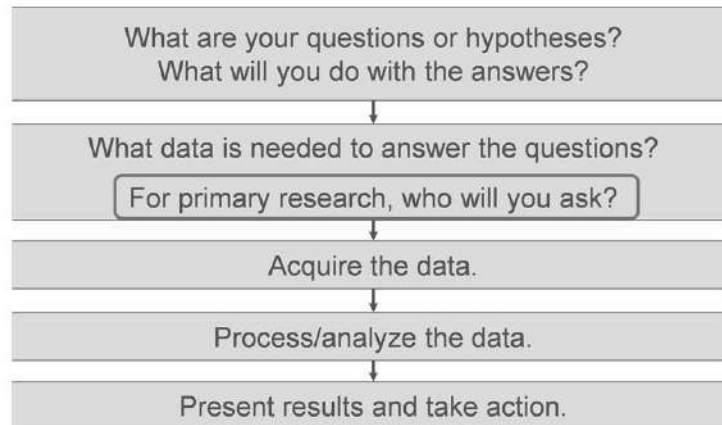
Question	Recommended Research Technique(s)
How big is the TTC market?	
What features should we build for our target market segment?	
Should we brand the packaging and vehicle design?	
How should we sequence the delivery of key features?	
How are we perceived vs. our competitors?	
Is our roadmap aligned to changing customer needs?	



Notes:

Apply a market research process

Who you ask is often the most important planning question for primary research.



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Notes:

Who should you ask: The respondent profile

- ▶ A *respondent profile* is a profile of the respondents who are desired for the research.
- ▶ The *respondent screener* is a series of questions or data characteristics that are used to determine if a given person meets the desired respondent profile.
- ▶ **Example:** Knowledge workers in companies of more than \$100M in annual revenue who have a need to collaborate with peers, other people within their company, and internal/external stakeholders on an as-needed basis.

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Notes:

How many people should you ask?

As many people as it takes to get actionable insights!

- **Quantitative:** Use a sample-size calculator based on the level of confidence you need
- **Qualitative:** Research from Griffin and Hauser suggests that if you have the right people, 12 Customers can be expected to represent 70 to 75 percent of market needs, and 30 Customers can be expected to represent 90 percent of market needs.

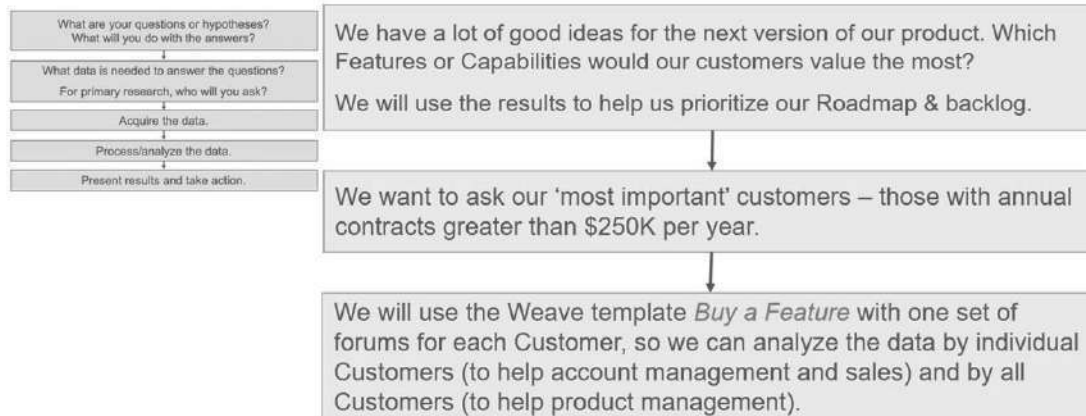
Calculate your sample size		
Population size	Confidence level (%)	Margin of error (%)
500	95	5
Sample size		
218		

<https://www.surveymonkey.com/mp/sample-size-calculator/>

Griffin, Abbie and John R. Hauser: "The Voice of The Customer" in Marketing Science, Vol. 12, No. 1, Winter 1993, pp. 1–27.

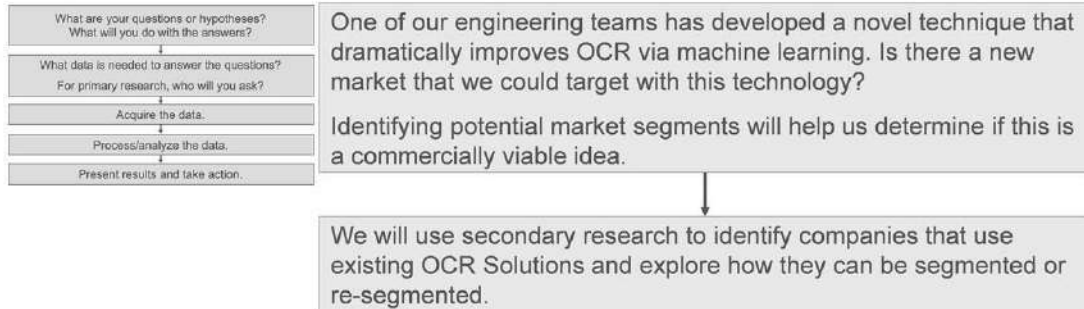
Notes:

Planning example: Qualitative research, existing product



Notes:

Planning example: Quantitative research, new product

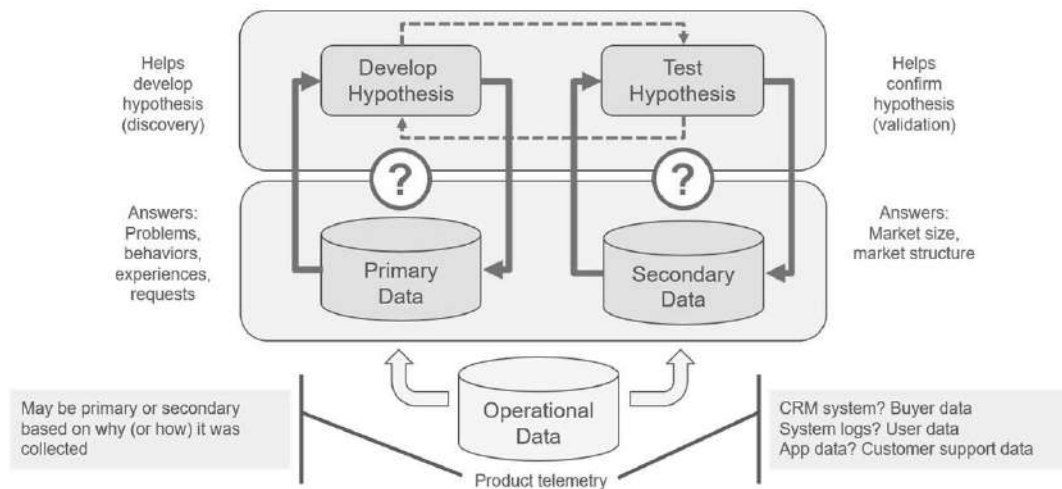


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Notes:

Apply a market data process system



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Notes:

2.5 Use Innovation Games® for Customer understanding

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Notes:

Introducing Innovation Games®

- ▶ Innovation Games® are collaborative, serious games designed for qualitative market and Customer research
- ▶ There are 12 games, each designed to help answer a different set of questions
- ▶ A single game (or forum) is designed for 4 to 8 participants to maximize collaboration
- ▶ Multiple forums are used to identify patterns of larger groups of people
- ▶ Games can be played in-person or online



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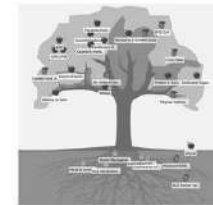
Notes:

What makes Innovation Games® unique?

- ▶ Game playing provides a relaxed, less rigid environment for participants
- ▶ Each game leverages research from cognitive psychology and organizational behavior to create highly actionable results
- ▶ Most games are available in-person and online, providing opportunities for both intimacy and scale
- ▶ Some games let participants create 'artwork' which can be retained and shared with others, further increasing empathy and understanding



Product Box (in-person)
Identifies desirable features



Prune the Product Tree (online)
Shapes products to market needs

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Notes:

Match Innovation Games® to questions

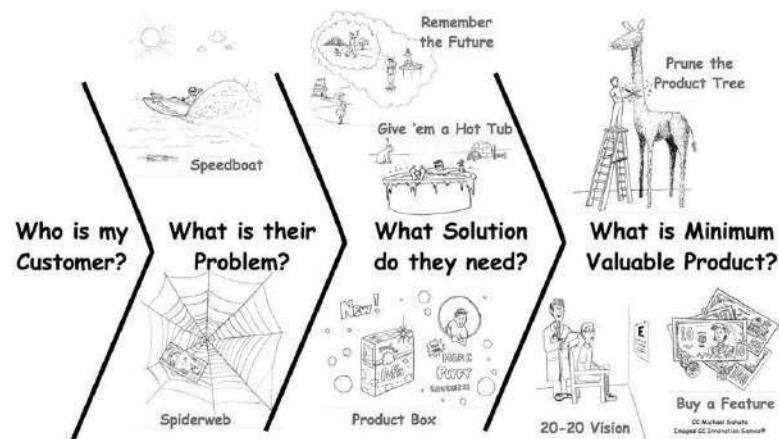
	... consider these games	Prune the Product Tree	Remember the Future	Spider Web	Product Box	Buy a Feature	Start Your Day	Show and Tell	Me and My Shadow	Give them a Hot Tub	The Apprentice	20/20 Vision	Speedboat
<i>To better understand...</i>													
Customer Needs	✓	✓		✓		✓		✓	✓	✓		✓	✓
Solution Requirements		✓	✓	✓	✓		✓		✓				✓
Solution Usage				✓			✓	✓	✓		✓		✓
Future Solutions	✓	✓	✓	✓						✓		✓	

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Notes:

Innovation Games® map into Design Thinking flows




"The Innovation Games," Conteneo Inc., accessed August 2019, innovationgames.com/the-innovation-games

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Notes:



Activity: Spider Web

Prepare

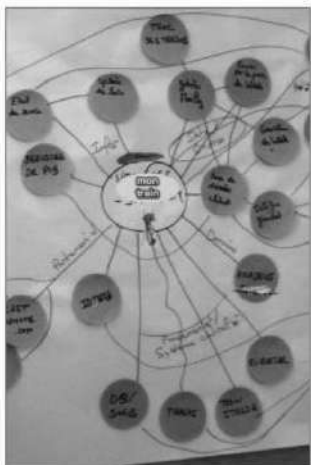
7
min

Share

3
min

In this activity you will use the Innovation Game® *Spider Web* to better understand relationships between TTC, merchants, Customers, and other entities.

- ▶ **Step 1:** Draw a circle in the middle of a flip chart. In that circle, write the words **TTC**.
- ▶ **Step 2:** What systems might provide data to TTC? What systems might consume data from TTC? Draw these as nodes and connect them to TTC via lines indicating potential data flows. Are these systems connected within themselves?
- ▶ **Step 3:** Consider merchants, Customers, and other entities.



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Notes:



Action Plan: Continuously exploring markets and users



On the Lesson 2 Action Plan page in your workbook, answer the following questions:

- ▶ Agile development often emphasizes user market research. How can you make certain your research is balanced?
- ▶ To what degree can you instrument your product to capture data that can help you understand your customers?
- ▶ What are the three most important questions you can ask about your product? What actions would you take based on the answers to these questions?



Notes:

Lesson review

In this lesson you:

- ▶ Examined market research in the context of Continuous Exploration
- ▶ Explored how to discover the right hypothesis and ask the right questions
- ▶ Explored data-driven practices to answer questions
- ▶ Discovered how to plan your research
- ▶ Reviewed Innovation Games® for Customer understanding

Notes:

Lesson 3

Driving Strategy with Market Segmentation

Learning Objectives:

- 3.1 Explain market segmentation
- 3.2 Create market segments through market research
- 3.3 Determine market segment value
- 3.4 Assess market segment fit



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

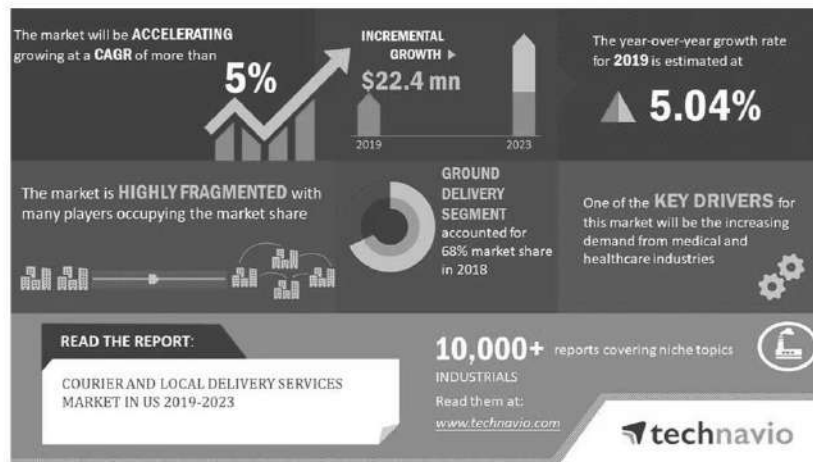
3.1 Explain market segmentation

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Notes:

TTC has a compelling market opportunity



<https://www.technavio.com/report/courier-and-local-delivery-services-market-in-the-us-industry-analysis>

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Notes:

Market segmentation

Market segmentation is the process of dividing a potential market into distinct subsets (called segments) with common needs or characteristics in order to focus effort on the most attractive segment. Segments are:

Identifiable	We can identify its members
Measurable	We can determine its size
Significant	It is large enough to be economically feasible
Homogenous	Members within a segment are similar
Heterogenous	Members between segments are distinct
Reachable	Contacted through promotion and distribution efforts
Compatible	Aligned with our mission, strengths, and ability

Notes:

Attributes help create market segments

- ▶ Some attributes depend on market type:
 - **B2B:** Vertical industry, operating characteristics, firm size, firm structure, revenue, number of employees, rate of change (growing?)
 - **B2P/B2C:** Behavioral/lifestyle, personality, geography, demography (age, gender), rate of change (growing?)
- ▶ Multiple attributes are used to create attractive segments and encourage focus

Notes:

3.1 Explain market segmentation

Jobs to be done is a tool for problem-centric segmentation

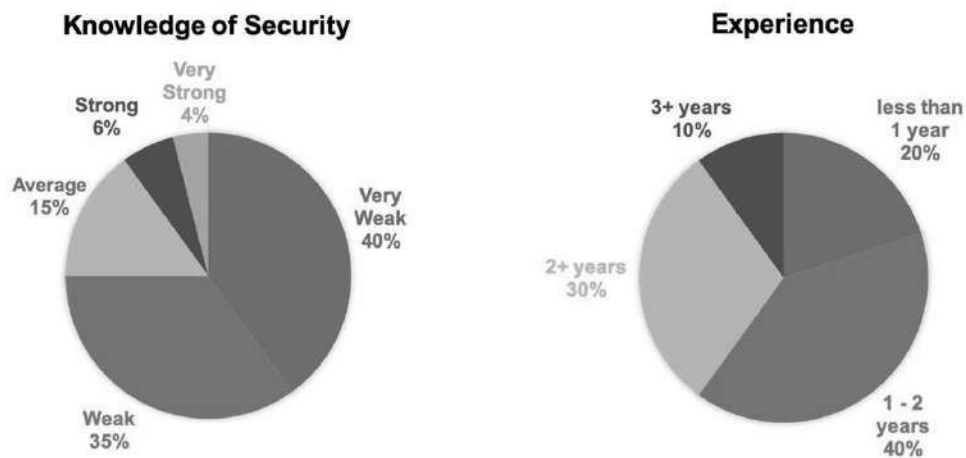
- ▶ A *job to be done* (JTBD) is not a product, service, or a specific Solution; it's the higher purpose for which Customers buy products, services, and Solutions.
- ▶ Clarity in understanding JTBD helps:
 - Create market segments of Customers *facing similar problems*
 - Improve the design of operational Value Streams and Customer experiences
 - Create opportunities for innovation when we find entirely new ways to solve a problem (e.g., the job of ingesting medicine can be accomplished by taking a pill or by applying a skin patch)

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Notes:

Use different attributes to explore markets in fresh ways



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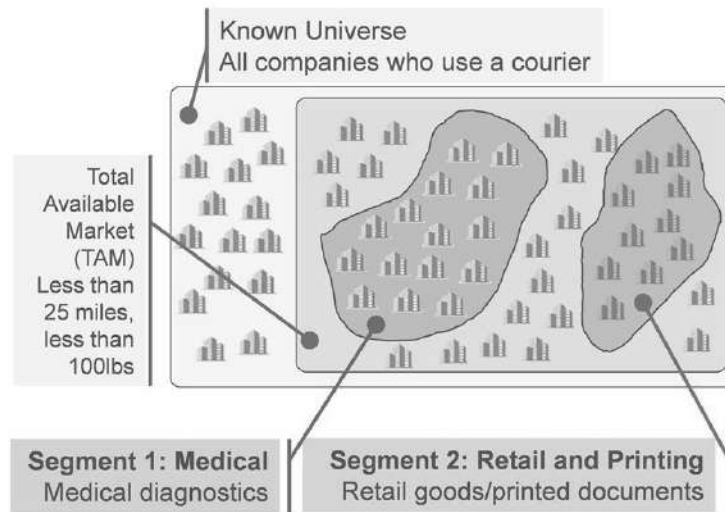
76

Notes:

3.1 Explain market segmentation

Understand total available market (TAM) and segments

The *attractiveness* of a segment is based on analyzing the segment's needs and the degree to which your products can profitably meet these needs.



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Notes:

Local courier services market segmentation (U.S.)


Segment	Core Need/Job	Competitors	2021 Est. Spend (US, M)
Medical Services	Secure, sometimes urgent transport of medical specimens for testing/diagnostics.	Cars, vans, bikes	\$2,000
Manufacturing	Reliable transport of goods and services, often related to just-in-time manufacturing.	Vans, small trucks	\$5,000
Retail and Printing	On-demand delivery of retail goods or printed documents.	Bikes, cars	\$1,000
Food Delivery	On-demand delivery of prepared (mostly hot) food.	UberEats, DoorDash, GrubHub	\$23,000
Specialized Items	On-demand delivery of specialized items (such as luggage or artwork). Security is a priority.	Specialized vendors	\$4,000

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Notes:

3.1 Explain market segmentation



Activity: Which segment is most attractive to TTC?

Prepare
7 min

Share
3 min

Work with your table group. Use the segmentation data provided on the previous slide to answer the following questions:

- ▶ **Step 1:** Which segment should TTC target? Why?
- ▶ **Step 2:** What unusual or unique needs can TTC service better than its competitors?
- ▶ **Step 3:** Can you find a way to focus on a narrower segment?

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Notes:

3.1 Explain market segmentation

Which segment should TTC target? Why?

What unusual or unique needs can TTC service better than competitors?

Can you find a way to focus on a narrower segment?

3.2 Create market segments through market research

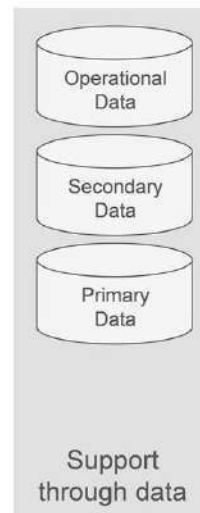
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Notes:

Use a research-based segmentation process

1. Understand portfolio Strategic Themes
2. Develop segment-motivated questions
3. Develop a research plan and acquire data



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Notes:

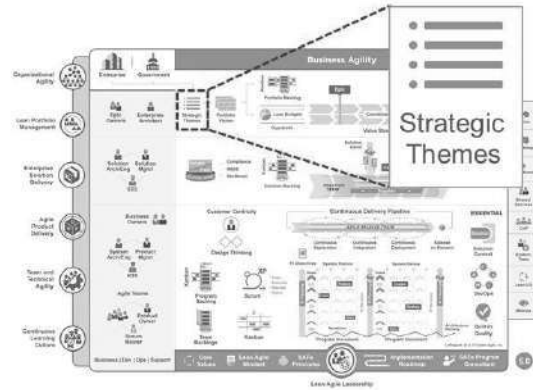
3.2 Create market segments through market research

Strategic Themes drive Product Management's goals

Examples of potential TTC Strategic Themes:

- ▶ Use government sector experience to enter the commercial market
- ▶ Cloud and mobile first
- ▶ Leverage AI for delivery optimization

These Strategic Themes suggest that the PM team should consider a commercial market segment that is 'closer' to the work performed in the government sector.



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Notes:

Develop your research strategy

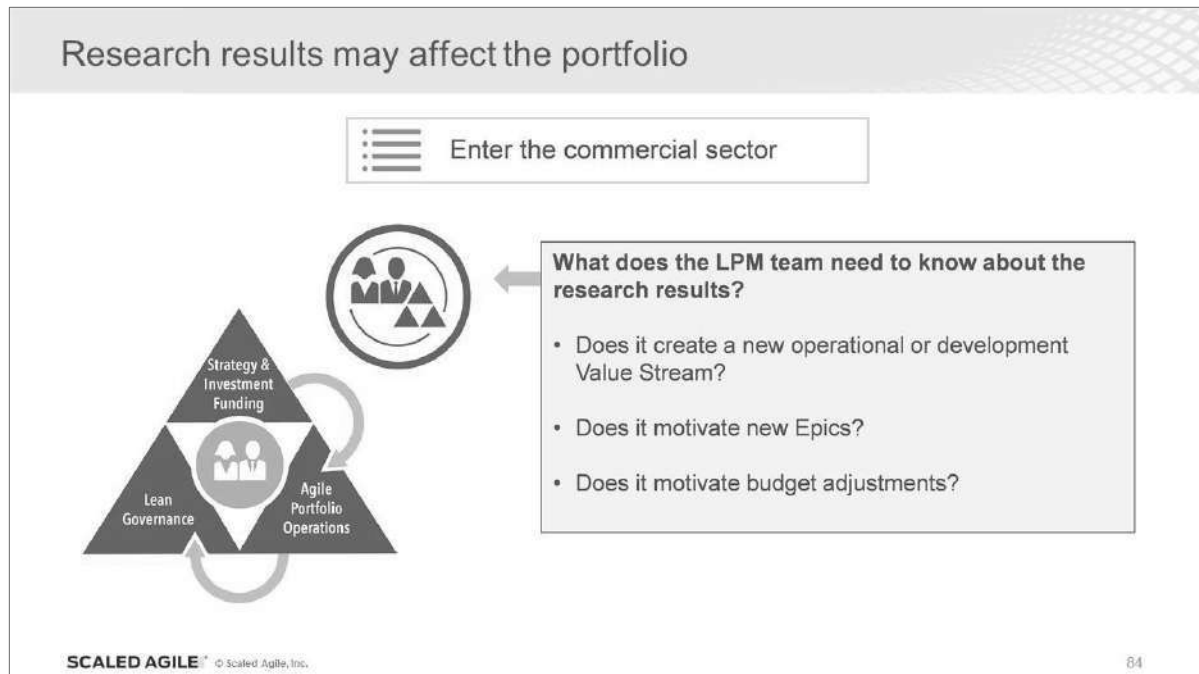


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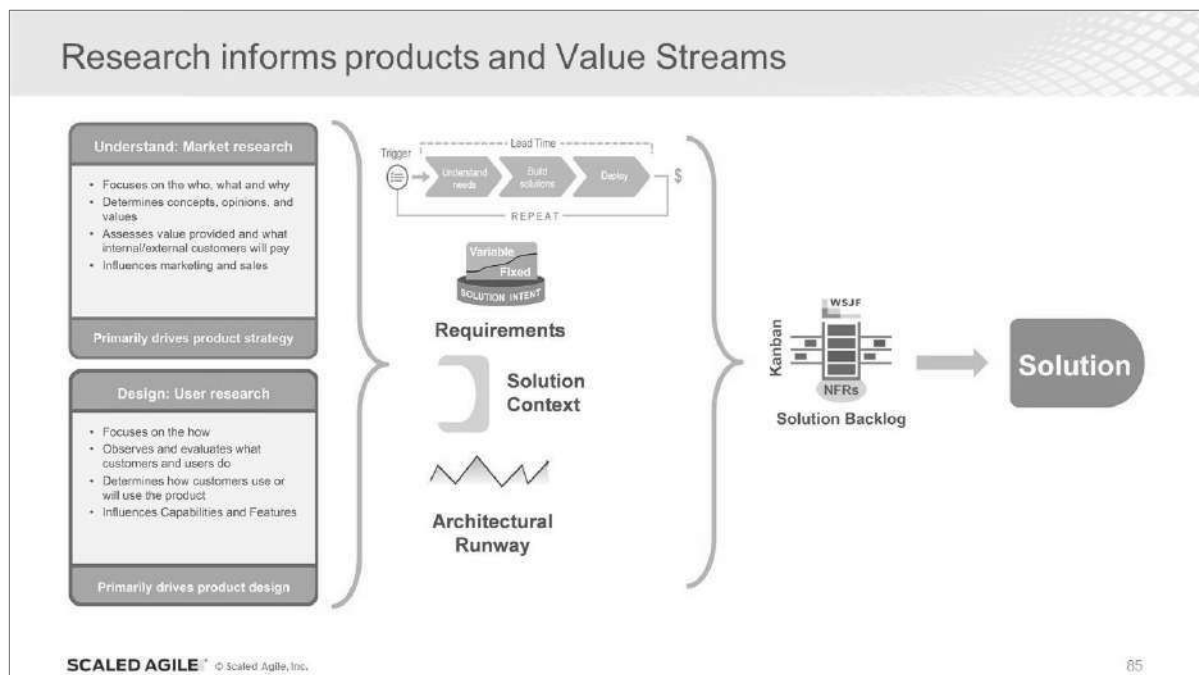
63

Notes:

3.2 Create market segments through market research



Notes:



Notes:

3.3 Determine market segment value

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Notes:

Determine market segment value

- ▶ The value of a market segment is determined by key factors:
 - The current and future size of the segment
 - The amount Customers are willing to pay for your products or services
 - Competitors, substitutes, and compliments
- ▶ Market segment value informs strategy questions
 - Is this segment valuable enough?
 - Is it aligned to our Enterprise and/or portfolio strategy?
 - What would it take for us to win? Can we do this given our current team, our current offerings, our go-to-market structures, and so forth?

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Notes:

3.3 Determine market segment value

Exploring the medical delivery services market segment

- ▶ A good first step in understanding a market segment is to identify how much it currently spends.
- ▶ This table is reflective of U.S. cities of 750K – 1.25M people.

Entity	Number	Total Avg Daily Shipments for all entities	Avg Cost of a Shipment	Gross Spend
Large Hospitals	2	1000	\$120	\$120K
Small Hospitals	4	500	\$120	\$60K
Test Labs	17	200	\$90	\$18K
You would likely add more segments				
Notice that we are creating more detail as we explore the segment; this is good as focus promotes clarity in Design Thinking				
These data are usually purchased from secondary sources.				

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Notes:

Guidance: Sizing data is integrated from multiple sources

- ▶ You may not be able to get accurate size data from a single source
 - Example: You want the amount of money each type of business spends on courier services, but you may only be able to obtain data on the total spend of courier services by geographic region
- ▶ You may have to estimate detailed data from aggregated data
- ▶ Keep your data and calculations transparent and update as more accurate and/or precise data becomes available
- ▶ Your confidence increases with market research and product metrics

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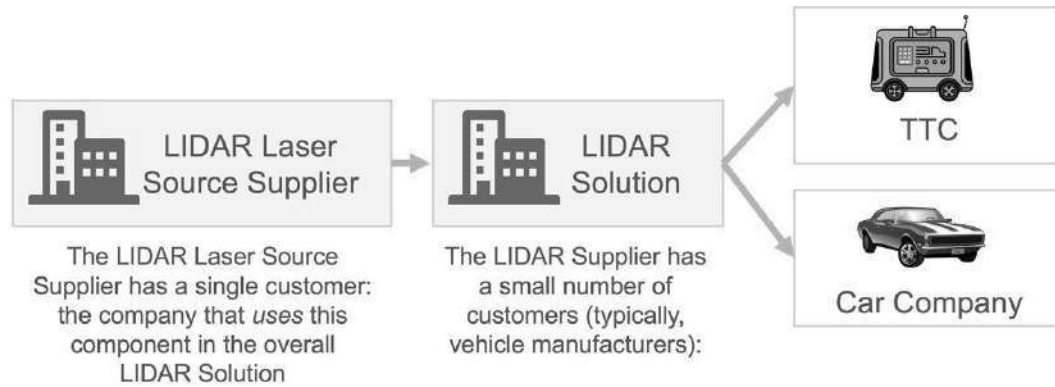
69

Notes:

3.3 Determine market segment value

Some companies serve a small number of large customers

Consider the example of a LIDAR Laser Source Supplier



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Notes:



Discussion: Segmenting internal customers



Discuss this statement:

- ▶ Internal customers are captive—they have to use our systems. Therefore, we don't need to segment them.

Notes:

3.3 Determine market segment value



Activity: Extending the medical market segment financial model



There are several factors that contribute to the attractiveness of a given market segment.

- ▶ **Step 1:** Working at your table, identify ways you could extend the initial financial model of the medical services delivery segment to help TTC determine if this is an attractive segment.
- ▶ **Step 2:** Which data might be obtained from external sources?
- ▶ **Step 3:** Which data is based on internal factors or choices?

Notes:

3.4 Assess market segment fit

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Notes:


Evaluate segments: Value, Mission, Vision, Operations

- ▶ Values/Mission/Vision: For each potential segment, we can ask if serving this segment:
 - Aligns with our values and mission
 - Help us advance our Vision
- ▶ Operations
 - Do we have the right operations (marketing, sales, service, customer support) to service this segment?
 - Do we have or can we create relationships with the right partners?
 - Are we capable of meeting the unique needs of this segment?

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Notes:



Activity: Evaluating market segment fit

Prepare
5 min

Share
5 min

Product Managers typically explore segments from a positive bias, focusing on the beneficial applications and uses of products and services. However, not all customers or segments use products and services in the manner intended.

- ▶ **Step 1:** With your table group, answer these questions about potential negative applications or unintended consequences.
 - What are some potential *negative* applications or *unintended consequences* of autonomous delivery vehicles?
 - Could these constitute an undesirable segment?
 - How might the design of the product or service take these into account?
- ▶ **Step 2:** Each table group should share their thoughts with the class.

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Notes:



Action Plan: Driving strategy with market segmentation



On the Lesson 3 Action Plan page in your workbook, answer these questions:

- ▶ Is your market characterized by a small number of large and influential customers (B2B/large systems) or by many small or common Customers (consumers, retail merchants)?
- ▶ Are you selling directly or through a channel? If selling through a channel, do you need to conduct research on your Customer's Customer?
- ▶ What segmentation attributes can help you see old/existing Customers in new ways?

Notes:

Lesson review

In this lesson you:

- ▶ Explored market segmentation
- ▶ Examined research-based segmentation
- ▶ Reviewed how to determine market segment value
- ▶ Explored how to assess market segment fit

Notes:

Lesson 4

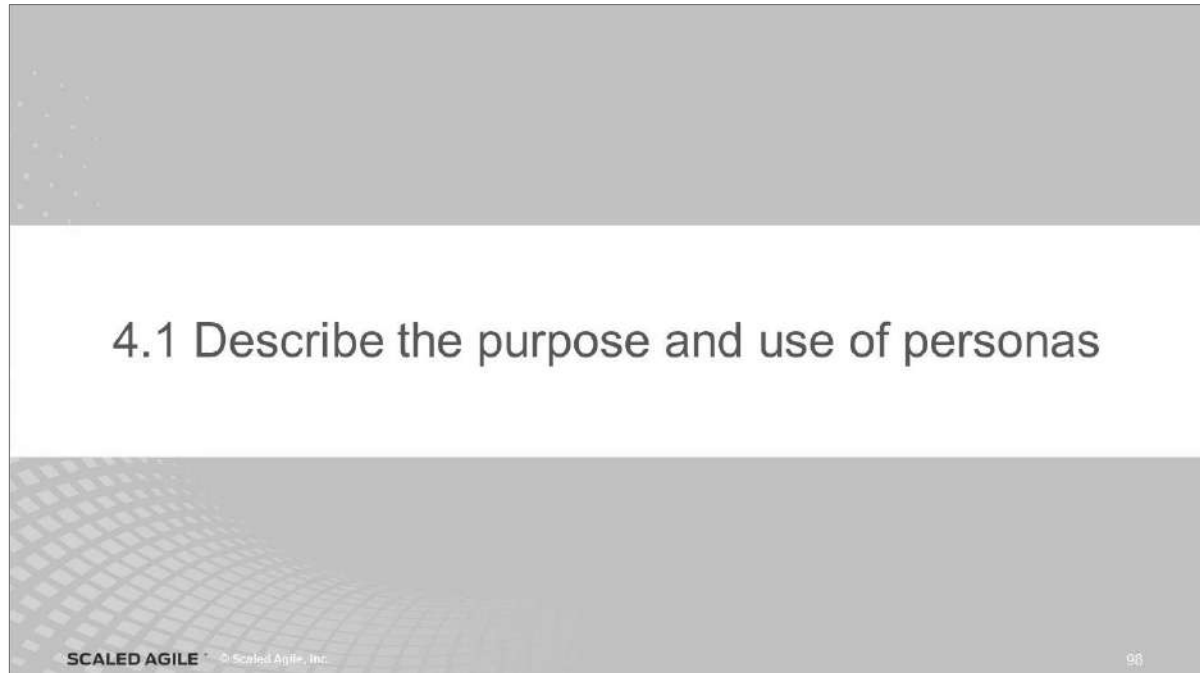
Using Empathy to Drive Design

Learning Objectives:

- 4.1 Describe the purpose and use of personas
- 4.2 Create and use personas
- 4.3 Improve Customer experience through empathy



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.



Notes:

4.1 Describe the purpose and use of personas



Video: Expanding the use of autonomous vehicles

Duration
2 min

Let's watch this video to explore another potential use of autonomous vehicle delivery.



<https://vimeo.com/317362936/13a0ff8d07>

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Notes:

Describe personas

Personas are fictional characters based upon your research. They represent the different people who might use your product or Solution in a similar way.

- ▶ Convey the problems they're facing in context (e.g., their work environment) and key triggers for using the product
- ▶ Capture rich, concise information (photographs, family stories, jobs, etc.) that inspire great products without unnecessary details

**Cary the Consumer**

Age: 36
Location: Reno, Nevada, USA
Time in App: 10 minutes

"I'm a working dad with three children ages 3, 6, and 10. I'm also in a band, which means I want to spend as much time as possible with my kids and my band. I need my package delivered on time so that I can maximize time with my family."

I like technology! I have an iPhone, iPad, and nice home Wi-Fi setup	I'm not home on some weekends	I'd rather order online than dial the phone and talk to somebody
My wife also works during the week, so she doesn't have much spare time to help	Text is my favorite form of communication with suppliers	I don't own a computer, only tablets and phones

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Notes:

4.1 Describe the purpose and use of personas

Example persona: TTC Consumer



Cary the Consumer

Age: 36
Location: Reno, Nevada, USA
Time in App: 10 minutes

"I'm a working dad with three children ages 3, 6, and 10. I'm also in a band, which means I want to spend as much time as possible with my kids and my band. I need my package delivered on time so that I can maximize time with my family."

I like technology! I have an iPhone, iPad, and nice home Wi-Fi setup

I'm not home on some weekends

I'd rather order online than dial the phone and talk to somebody

My wife also works during the week, so she doesn't have much spare time to help

Text is my favorite form of communication with suppliers

I don't own a computer, only tablets and phones

What benefits does Cary want?

What features might deliver these benefits?

Benefit Hypothesis	Potential Feature
24/7 access	iPhone app for tracking order status
Ability to receive packages without being home	Secure package delivery/ability to designate delivery to a neighbor
Packages delivered where I want, even if I change my mind	Rerouting packages in transit

Normally, we talk about 'Feature-Benefit'. But in design thinking, it often helps to flip the ordering and talk 'Benefit-Feature' as this helps promote considering different features that can provide the desired benefit.

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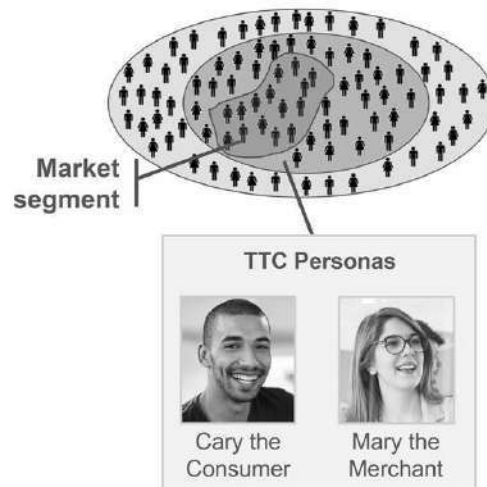
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Notes:

Personas refine market segments

- ▶ Personas bring segments to life
- ▶ Personas help personalize experiences to meet individual Customer needs
- ▶ Define your segments; then build personas that support them



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Notes:

4.1 Describe the purpose and use of personas

Personas are strategic, longer-lived artifacts that define product direction

Normally, we talk about 'Feature-Benefit.' But in Design Thinking, it often helps to flip the order and talk about 'Benefit-Feature' as this helps promote considering different Features that can provide the desired benefit.



Cary the Consumer
Age: 36
Location: Reno, Nevada, USA
Time in App: 10 minutes

"I'm a working dad with three children ages 3, 6, and 10. I'm also in a band, which means I want to spend as much time as possible with my kids and my band. I need my package delivered on time so that I can maximize time with my family."

I like technology! I have an iPhone, iPad, and nice home Wi-Fi setup.	I'm not home on some weekends.	I'd rather order online than call the phone and talk to somebody.
My wife also works during the week, so she doesn't have much spare time to help.	Text is my favorite form of communication with suppliers.	I don't own a computer, only tablets and phones.

What benefits does Cary want?	What features might deliver these benefits?
Benefit Hypothesis	Potential Feature
24/7 access	iPhone app for tracking order status
Ability to receive packages without being home	Secure package delivery/ability to designate delivery to a neighbor
Packages delivered where I want, even if I change my mind	Rerouting packages in transit

Normally, we talk about 'Feature-Benefit.' But in design thinking, it often helps to flip the ordering and talk 'Benefit-Feature' as this helps promote considering different features that can provide the desired benefit.

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Notes:

Complex products often have 3 – 7 user personas

Type of Persona	Description
Primary	The personas that <i>must</i> be satisfied for a successful product. Their goals <i>drive</i> the design process. There are typically 1 – 4 primary personas.
Secondary	Another user of the primary interface, one for whom we will make accommodations so long as the primary persona's experience is not compromised. There are typically 1 – 3 secondary personas.
Negative	Someone for whom you're explicitly <i>not</i> going to satisfy. This helps you make tough choices about product Features and is used rarely. Focus on your primary and secondary personas.

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Notes:

Create buyer personas for B2B markets

- ▶ In many B2B markets, buyers make the purchasing decisions, not the end users
- ▶ Buyer personas capture their role, authority, and buying journey
- ▶ Buyer personas reveal insights about buyers' decisions—the specific attitudes, concerns, and criteria that drive prospective Customers to choose our Solution, a competitor, or the status quo
- ▶ Buyer personas help drive often-overlooked aspects of the product: buyers care about ROI, economic modeling, service, and support

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Notes:

4.2 Create and use personas

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Notes:

Use many artifacts to develop personas



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Notes:

Persona development best practices

- ▶ Persona formats may differ based on product and Solution Context
- ▶ Personas create options for communicating objectives and requirements (persona-specific Stories):
 - *Role*: As a <user role> I can <activity/goal> so that <business value>
 - *Persona*: Frank wants to <activity/goal> so that Frank gets <value>
- ▶ Personas are not roles—a user may have multiple roles
- ▶ Periodically assess your personas as your product evolves

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Notes:

Role-playing with personas brings them to life

- 1** Team members pick a persona



- 2** Team plays *Buy a Feature*:
“What would this persona want?”



- 3** Review the results:
- What did they fund?
 - Why do they think these Features are important to this persona?
 - What new ideas emerged on helping the persona accomplish their goals?

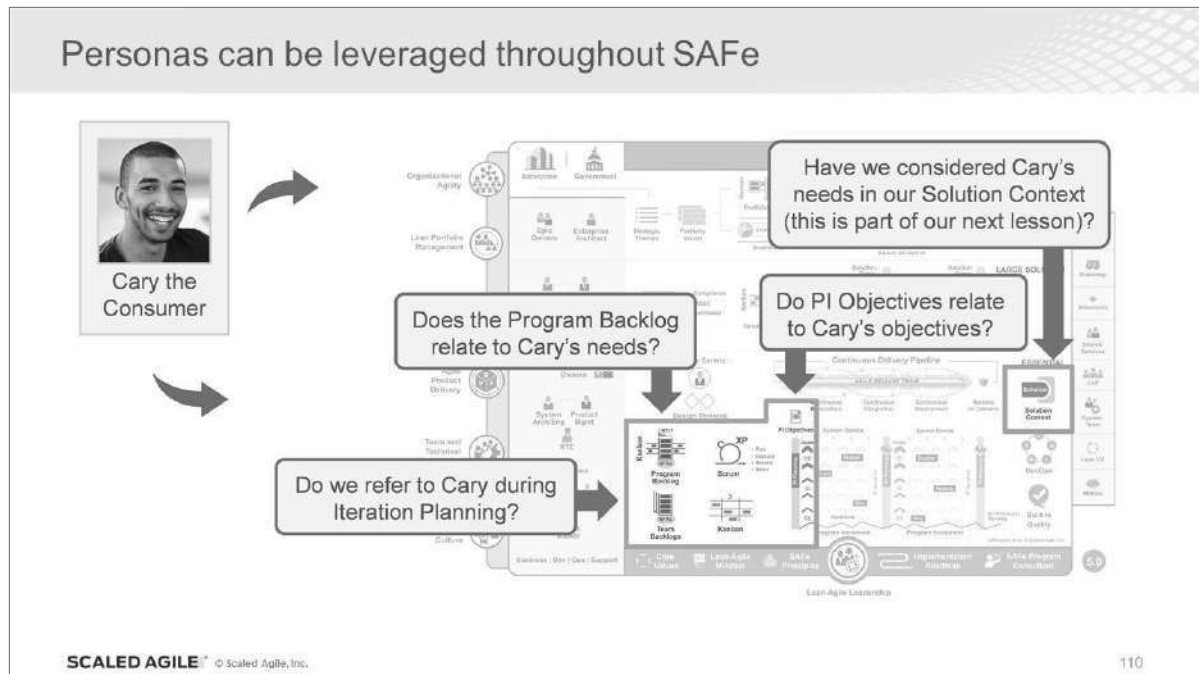
A bar chart titled 'Fully Funded' and 'Partially Funded'. It displays the results of the role-playing exercise, showing the number of features that were fully funded versus partially funded for each persona. The chart uses horizontal bars to represent the data, with 'Fully Funded' bars in a darker shade and 'Partially Funded' bars in a lighter shade.

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Notes:

4.2 Create and use personas



Notes:



Activity: Develop Mary the Merchant persona

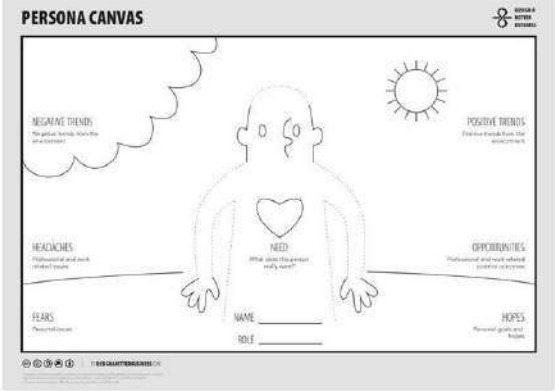
Prepare

15
min

Share

5
min

- ▶ **Step 1:** With your table group, use the handout provided to develop a persona for Mary the Merchant, a small business owner who is interested in understanding how autonomous delivery vehicles can help her business.
- ▶ **Step 2:** Share your persona canvas with the class.



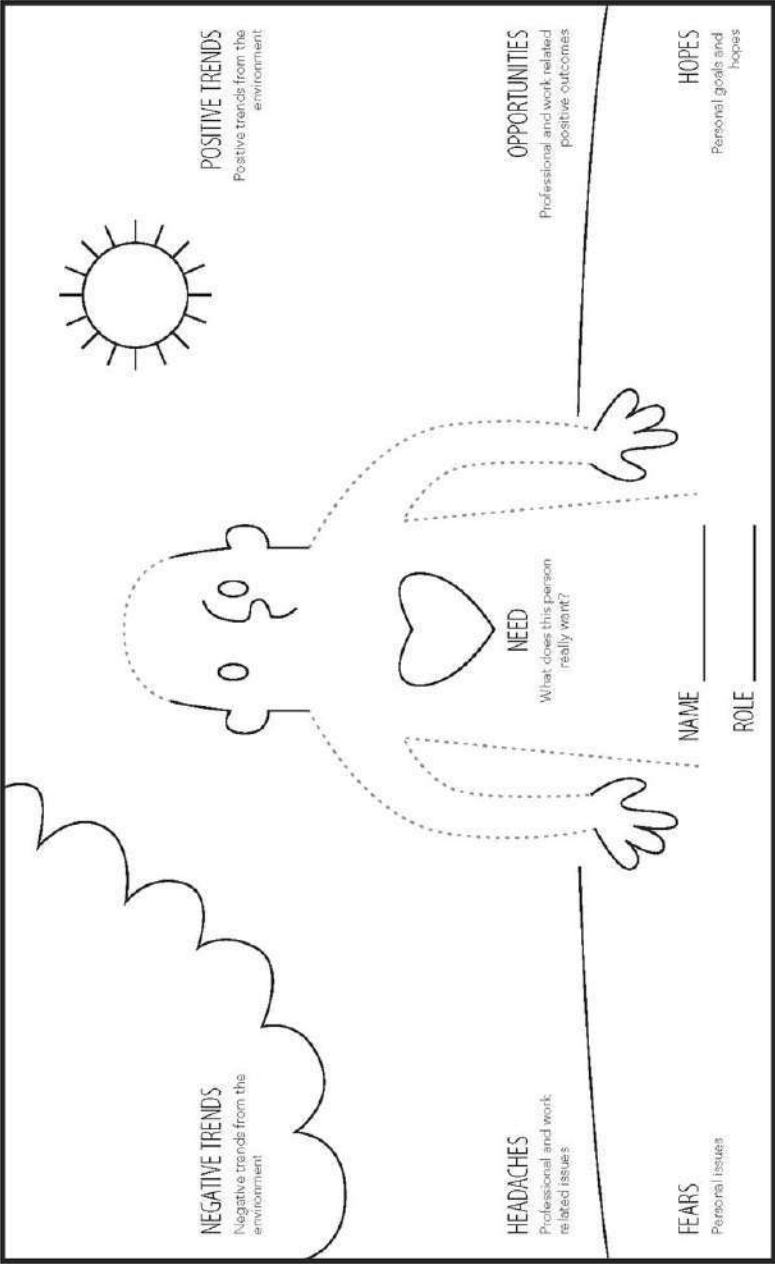
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Notes:

PERSONA CANVAS

DESIGN A BETTER BUSINESS



NEGATIVE TRENDS
Negative trends from the environment

POSITIVE TRENDS
Positive trends from the environment

HEADACHES
Professional and work related issues

OPPORTUNITIES
Professional and work related positive outcomes

FEARS
Personal Issues

HOPES
Personal goals and hopes

NEED
What does this person really want?

NAME _____

ROLE _____

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4.3 Improve Customer experience through empathy

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Notes:

Empathic design and the Customer experience

- ▶ **Empathic design** refers to our ability to put aside our preconceived ideas and develop Solutions from the perspective of our Customers
- ▶ Empathic design motivates teams to understand and experience the world from the Customer's perspective, learning and appreciating their roles, their work context, and the difficulties they face
- ▶ Customer-centric Enterprises apply empathic design throughout the design process

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Notes:

Empathy addresses more than mere functional needs

- ▶ Aesthetic and emotional needs
- ▶ Ergonomic needs, such as the placement of physical features
- ▶ NFRs or Capabilities not explicitly requested by users:
 - Performance, security, and compliance
 - Operations, maintenance, and support

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Notes:

Building empathy

- ▶ To build empathy, we use a variety of techniques:
 - Empathy interviews
 - Innovation Games: *The Apprentice, Me and My Shadow*
 - Structured interview techniques such as laddering
- ▶ The results of these research engagements can be captured and shared via personas and empathy maps

Resources:

- ▶ https://en.wikipedia.org/wiki/Ladder_in_interview
- ▶ <https://www.innovationgames.com/me-and-my-shadow/>
- ▶ <https://www.innovationgames.com/the-innovation-games/>

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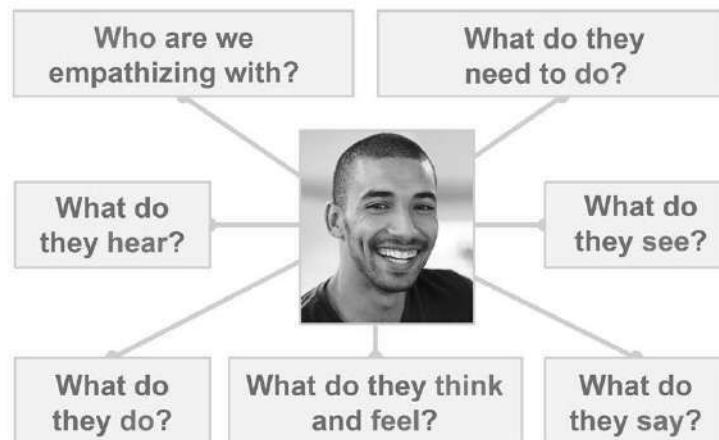
115

Notes:

4.3 Improve Customer experience through empathy

Empathy map

- ▶ The empathy map is a tool that helps teams develop deep, shared understanding and empathy for other people
- ▶ Use it to design better experiences and Value Streams

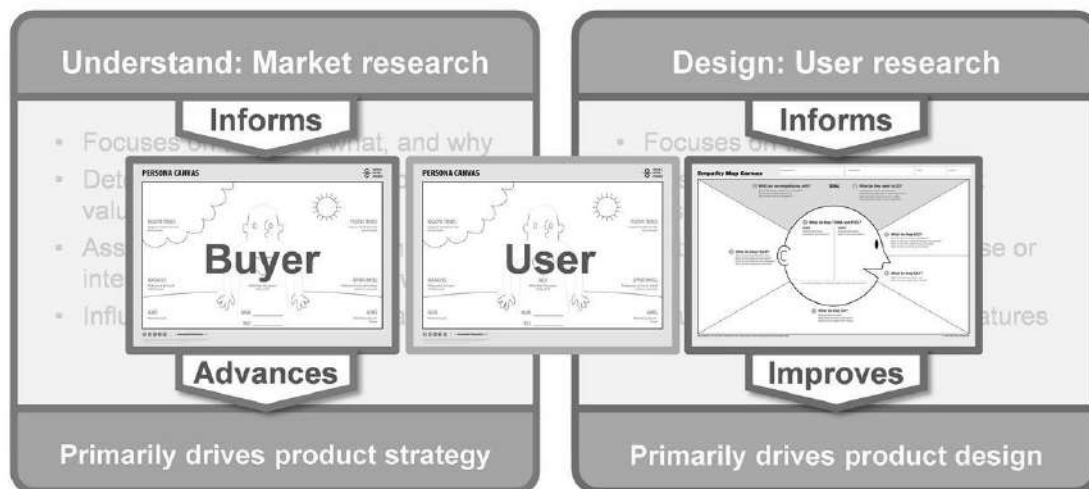


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Notes:

Personas and empathy maps help make research actionable



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Notes:

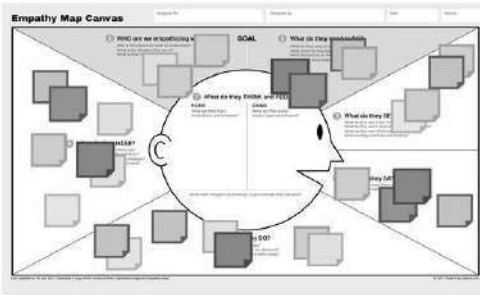
Empathy maps are typically shorter-lived artifacts



What does Mary see, think, and feel now?

How do we hope our planned releases change what Mary sees, thinks, and feels?

When should we update our persona and empathy map based on these changes?



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Notes:

Empathy interview guidelines

- ▶ Face-to-face is best
- ▶ Build rapport before asking questions
- ▶ Keep questions short (fewer than 10 words if possible)
- ▶ Ask only one question at a time
- ▶ Encourage stories
- ▶ Observe non-verbal queues
- ▶ Explore emotions: "How do you feel about...?", "Tell me more..."
- ▶ Thank them!


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Notes:

4.3 Improve Customer experience through empathy

4.3 Improve Customer experience through empathy



Activity: Role play an empathy interview

Prepare
10 min

Share
5 min

- ▶ **Step 1:** Find a partner to pair with. One of you will play the role of Mary the Merchant, who has been identified as a potential TTC Customer, and the other will be the Product Manager.
- ▶ **Step 2:** Using your TTC scenario and the empathy map as a guide, create three questions that the Product Manager will ask Mary.
- ▶ **Step 3:** After five minutes, switch roles.
- ▶ **Step 4:** Be prepared to share with the class.

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Notes:

4.3 Improve Customer experience through empathy

Designed for:
Date:
Version:

Empathy Map Canvas

1 WHO are we empathizing with?
Who is the person we want to understand?
What is the situation they are in?
What is their role in this situation?

2 What do they need to DO?
What do they need to do efficiently?
What job(s) do they need to get done?
What decision(s) do they need to make?
How will we know they were successful?

GOAL

7 What do they THINK and FEEL?
PAINS
What are their fears, frustrations, and anxieties?

GAINS
What are their wants, needs, hopes and dreams?

3 What do they SEE?
What do they see in their marketplace?
What do they see in their competitors' service/segment?
What do they see others saying and doing?
What are they watching and reading?

4 What do they SAY?
What have we heard them say?
What can we imagine them saying?

5 What do they DO?
What do they do today?
What behavior have we observed?
What can we imagine them doing?

6 What do they HEAR?
What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second hand?

What other thoughts and feelings might motivate their behavior?

Last updated on 16 July 2017. Download a copy of this canvas at <http://gamestorming.com/empathy-map/>
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Action Plan: Using empathy to drive design



On the Action Plan page in your workbook, answer the following questions:

- ▶ Sometimes organizations create personas but fail to leverage them. What are some techniques you can employ to ensure your personas are understood throughout the organization?
- ▶ What role can your stakeholders play in developing your personas and empathy to create a better customer experience?
- ▶ To what degree would your product benefit from a buyer persona?



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Notes:

Lesson review

In this lesson you:

- ▶ Explored the purpose and use of personas
- ▶ Examined creating and using personas
- ▶ Discovered how to improve the Customer experience through empathy

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Notes:

Lesson 5

Defining Product Strategy and Vision

Learning Objectives:

- 5.1 Explain the strategic purpose of your product
- 5.2 Create a compelling product Vision
- 5.3 Design value propositions and business models
- 5.4 Design the Customer journey
- 5.5 Design the whole product and Solution Context
- 5.6 Design platform, API, and data strategy




SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.



Notes:

5.1 Explain the strategic purpose of your product



Activity: Let's grow!

Duration
5 min

TTC has decided that it's time to really grow, and you need to hire some great new talent. To do this, you need to explain a compelling Vision of both TTC and autonomous vehicles. Work individually to create four cards:

- **Step 1:** The first two cards will contain one reason why someone should join TTC
- **Step 2:** The second two cards will contain one reason someone should work on autonomous delivery vehicles

Card 1: Reason #1 that
so

Card 2: Reason #2 that
someone should join TTC

Card 1: Reason #1 that
so


Card 2: Reason #2 that
someone should work on
autonomous delivery

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Notes:

5.1 Explain the strategic purpose of your product



Activity: Group your cards

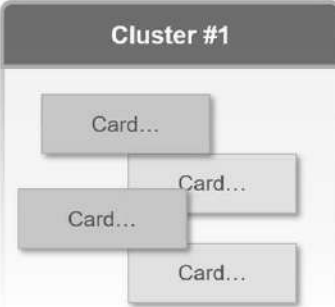
Prepare

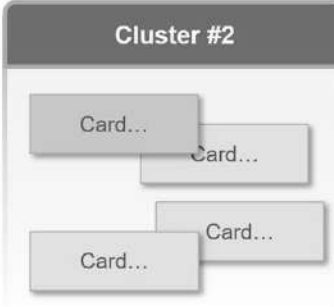
5 min


Share

10 min

Working as a table, group your cards into clusters based on what you see as common characteristics.

Cluster #1


Cluster #2


Cluster #3


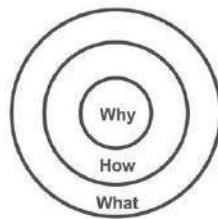
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Notes:

The Golden Circle

- ▶ Research from Simon Sinek suggests that meaning and purpose help create successful products and services and inspire action
- ▶ Sinek summarizes his findings as The Golden Circle




Why: Why do you do what you do? What is the purpose of your product, service, and Enterprise?

How: How do you do this? What makes your Enterprise special or sets you apart from your competition?

What: These are the solutions you're creating.

Notes:

5.1 Explain the strategic purpose of your product



Activity: Can you find the Why?

Prepare
5 min

Share
10 min

Cluster #1

Card...
Card...
Card...
Card...

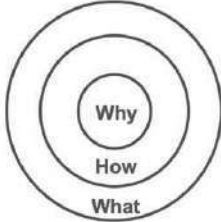

Cluster #2

Card...
Card...
Card...
Card...

Cluster #3

Card...
Card...

Working in your table group, can you restructure your cards according to The Golden Circle?



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Notes:

5.2 Create a compelling product Vision

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Notes:

Vision aligns everyone on the product's direction

The Vision is a description of the future state of the product

- ▶ How will our product solve our Customer's problems?
- ▶ How will it differentiate us?
- ▶ What is the future context in which our product will operate?
- ▶ What is our current business context? How must we evolve to realize this future state?



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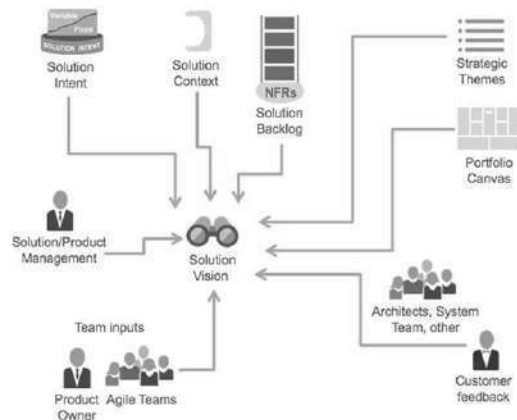
129

Notes:

5.2 Create a compelling product Vision

Vision comes from many sources

- ▶ Industry analysts
- ▶ Mega-trends
 - Teens don't drive
 - Urbanization
- ▶ Government regulation
- ▶ Customer feedback



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Notes:

Powerful Visions motivate

More motivating

- ▶ We will win a "Product of the Year" award from _____
- ▶ The product will reduce call duration in our call centers by three minutes per call
- ▶ Make the product so simple to use that we can cut training time from three days to half a day

Less motivating

- ▶ The product will be released with all planned features by 30 May
- ▶ Release the product by September, so we can go public

Mike Cohn, "Want Better Software? Just Ask: Seven Things Project Customers Can Do," *Better Software*, March 01, 2014, <https://www.mountaingoalssoftware.com/articles/want-better-software-just-ask>

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Notes:

5.2 Create a compelling product Vision

Vision: We're #1 statements

Vision (positioning) statement:		We're #1 statement:	
For	<target customer>	Google: The World's Best Search Engine	
Who	<compelling reason to buy>	BMW: The 'Ultimate Driving Machine'	
Our product is	<product category>	Apple: A computer for the rest of us	
That	<key benefit>		
Unlike	<main competitor>		
Our product	<key differentiation>		

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Notes:

Vision: Postcard from the future

Vision: Postcard from the future

- Aspirational, yet realistic and achievable
- Motivational enough to engage others on the journey

Result: The teams start thinking about how to apply their strengths in order to get there



Heath, Chip and Dan Heath. *Switch: How to Change Things When Change Is Hard*. New York: Broadway Books, 2010

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Notes:

5.2 Create a compelling product Vision

Vision: Vision Box

- ▶ Teams design the packaging for their future product
- ▶ Teams can 'sell on-demand' their Vision



Vision Box is based on the Innovation Game *Product Box*

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Notes:

Communicate the Vision differently to different audiences

Vision technique	Audience	Goal
Elevator pitch	Marketing/ Sales	Effectively communicate desired competitive positioning
We're #1 statement	Brand team	Align Solution with brand attributes and mission
Vision video, Postcard from the future, Vision Box	Solution Train and ARTs	Inspire the future and establish context
Vision video	Customers	For B2B and B2P, maintain and strengthen relationships
	Investors	Secure investors for early stage offers
Cover story/press release	Solution Train and ARTs	Provide context and inspiration for the Program Increment or next major release. The preview or Solution brief supports this.

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Notes:

5.2 Create a compelling product Vision



Activity: Product Vision - Cover story

Prepare
10 min

Share
5 min

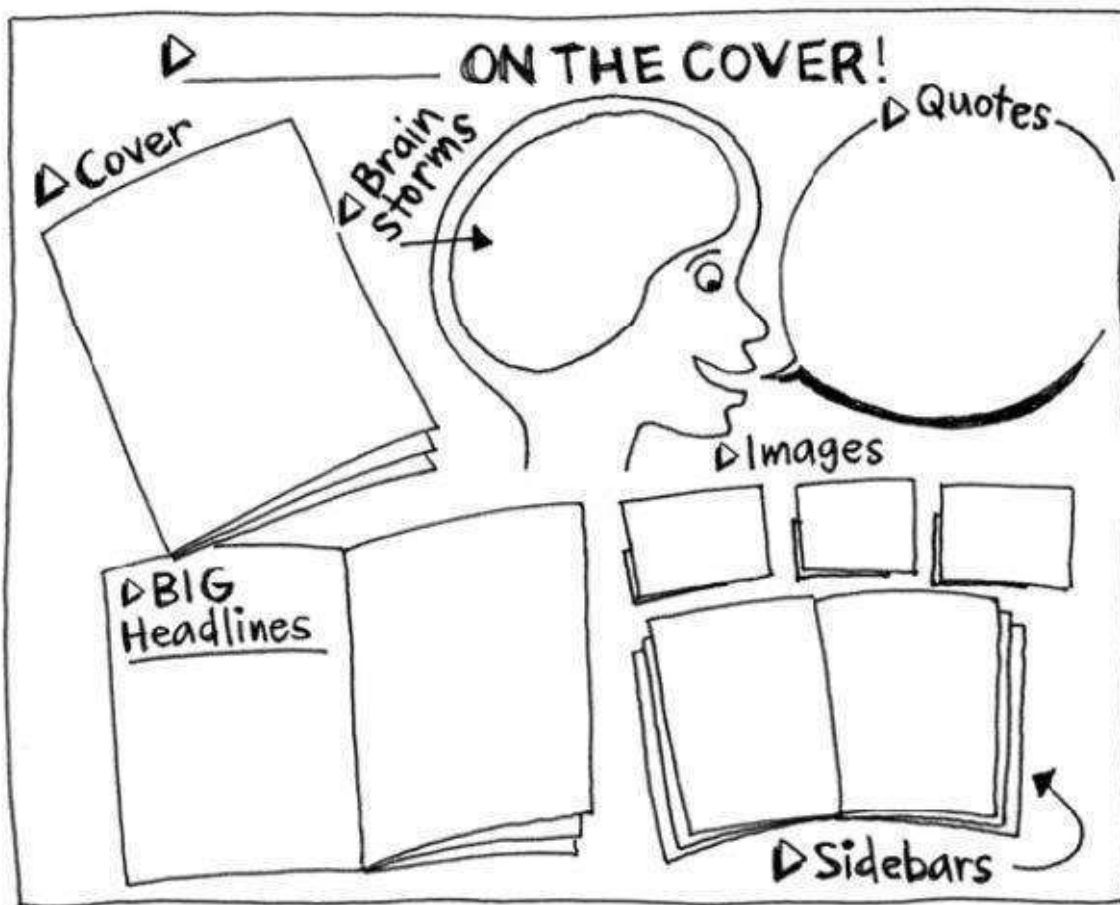
- **Step 1:** Imagine that you have reached the first delivery Milestone of your autonomous delivery vehicle Solution. This achievement is so exciting that a major magazine wants to feature your Solution as their lead article.
- **Step 2:** Working at your table, pick a major magazine and identify the most compelling aspects of your cover story.



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Notes:



5.3 Design value propositions and business models

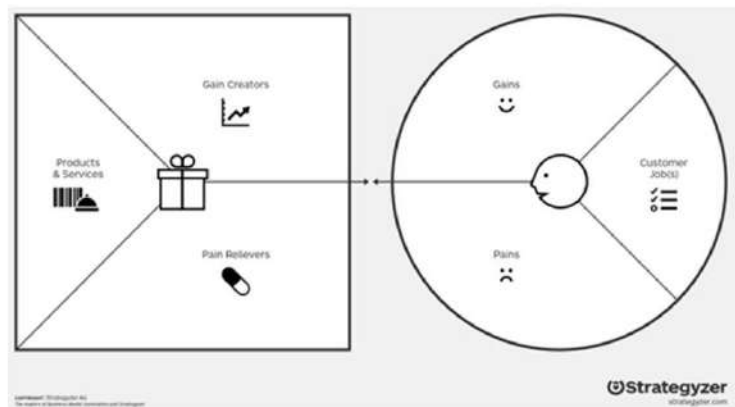
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Notes:

Use a value proposition canvas to understand our Customer

- ▶ The value proposition canvas helps us create products and Solutions that match Customer needs
- ▶ It provides context to create more effective Solutions and business models and evolves over time as we learn more about our Customers



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Notes:

Break down the value proposition canvas

Customer	Who are we discussing? Which Customer or segment?
Customer jobs	What tasks do they perform? How do they do them? How do they feel about them?
Pains	What makes their tasks annoying? What causes negative emotions?
Gains	What benefits do they expect? What would delight them? Consider Capabilities beyond just eliminating the pains.
Products and services	What Solution option can we provide that addresses these concerns?
Pain relievers	How does the Solution alleviate the pains?
Gain creators	How does the Solution create the gains?

Notes:

5.3 Design value propositions and business models



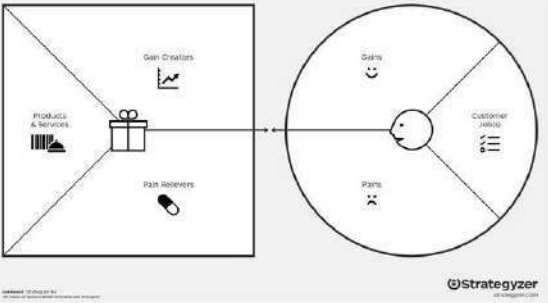
Activity: Developing a value proposition for your offering

Prepare
10 min

Share
5 min

Working at your tables, complete a value proposition canvas for one of your TTC market segments.

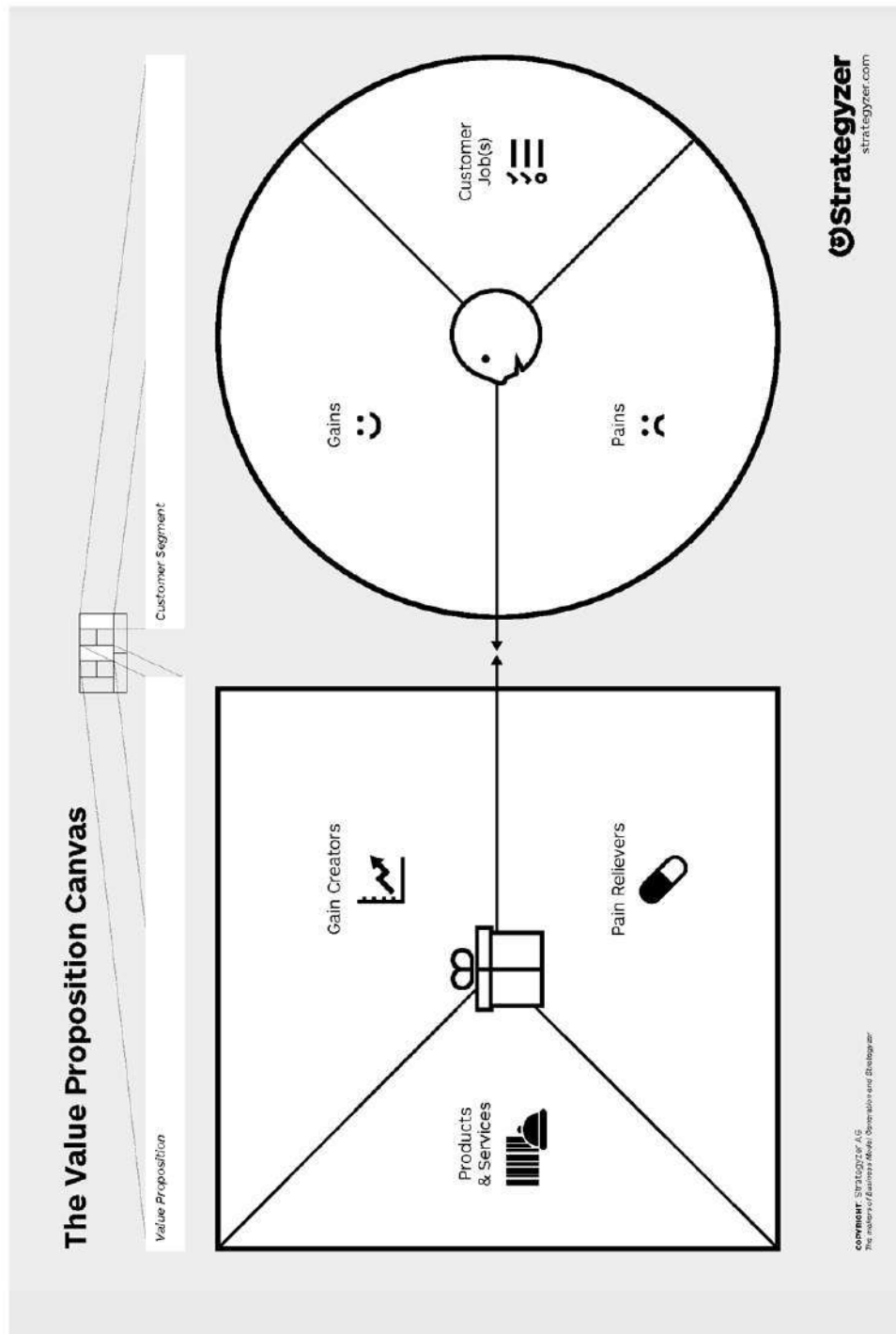
- **Step 1:** Pick a segment. Start with the Customer. What are their jobs? What are their pains? How does TTC create gains?
- **Step 2:** What potential Solution can TTC offer? How does this Solution relieve their pains and create gains?



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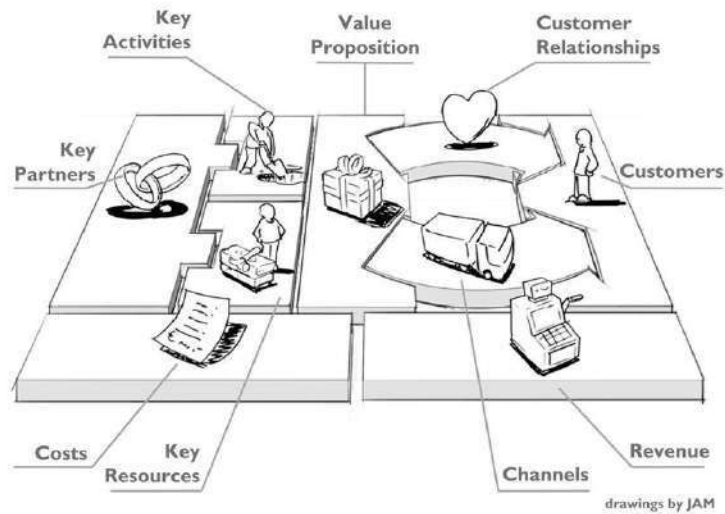
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Notes:



What is a Business Model Canvas (BMC)?

- Documents business models of existing or new products
- Provides a shared language to describe and visualize the current and potential future business models



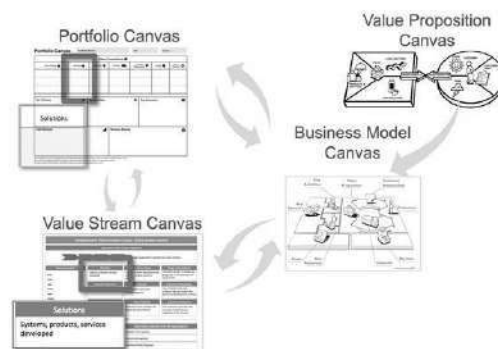
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Notes:

BMCs describe SAFe Solutions

- The portfolio canvas provides business context.
 - How the Solution fits into overall strategy
 - Relationship to other portfolio initiatives
- The value stream canvas provides execution details.
 - ARTs
 - Teams
 - Suppliers




Canvases evolve together and inform one another.

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Notes:



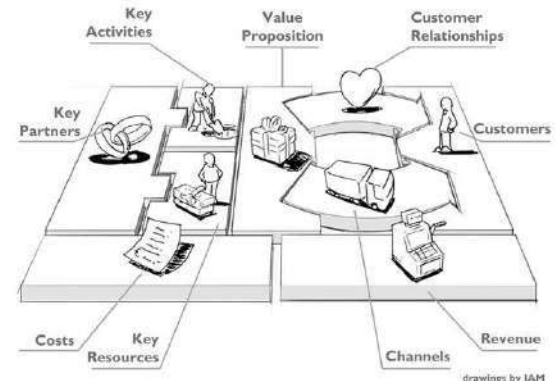
Activity: Develop a business model

Prepare
15 min

Share
5 min

Business models emerge and become clarified as we work on our products and Solutions.

- **Step 1:** Working as a team, complete a draft of a Business Model Canvas for TTC.
- **Step 2:** What aspects are more confident? What aspects need more data or further feedback?



drawings by JAM

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Notes:

Designed for:

Designed by:

Date:

Version:

The Business Model Canvas

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
	Key Resources		Channels	
Cost Structure		Revenue Streams		

DESIGNED BY STRATEGYZER AG

THE CANVAS IS A TRADEMARK OF STRATEGYZER AG AND STRATEGYZER

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Strategyzer
strategyzer.com

5.4 Design the Customer journey

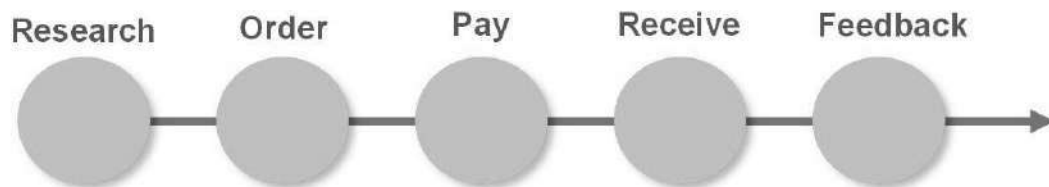
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Notes:

Customer journey maps

- ▶ A Customer journey map illustrates the user's experience engaging with a company through products, online experiences, and services.
 - May document user's desires, activities, feelings, questions, pain points, etc.
 - Identifies gaps and opportunities for new products and capabilities
- ▶ Start with a simple description of the journey and build from there

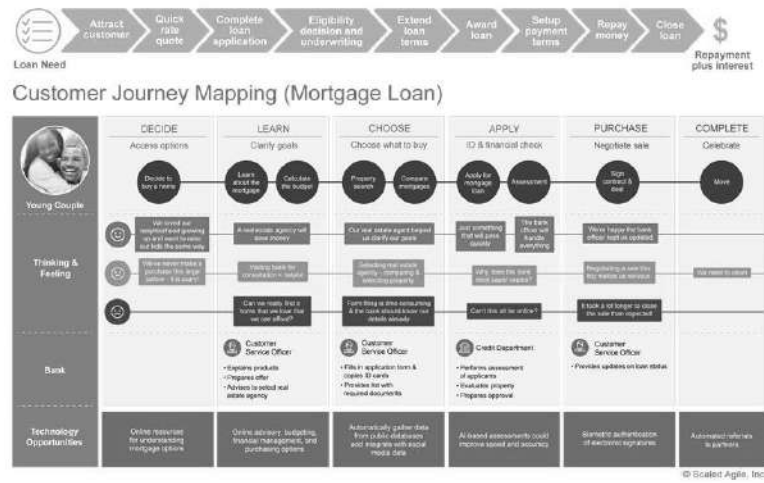


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Notes:

Journey mapping is Design Thinking for operational Value Streams



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Notes:

PMs collaborate with other leaders to create journey maps

- ▶ Let an experienced CX professional take the lead
- ▶ A high-impact customer journey map requires:
 - Research (not your opinion)
 - A graphical representation (not a PowerPoint)
 - A focus on Customer goals and emotions
 - An understanding of your brand promise

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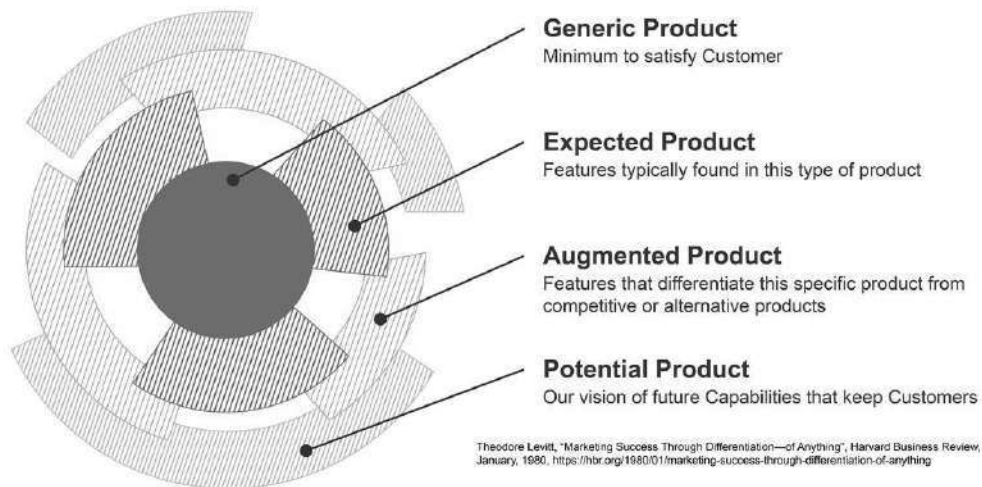
5.5 Design the whole product and Solution Context

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Notes:


Whole-product thinking creates a compelling reason to buy



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Notes:

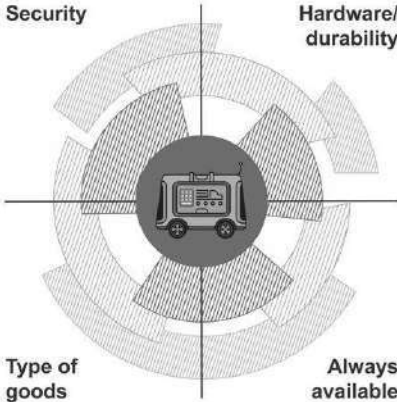


Activity: Organize related sets of Features and Capabilities

Duration
5 min

What clusters of Features could we use to differentiate an autonomous delivery?

- **Step 1:** In your table groups, draw this image.
- **Step 2:** Place Features and Capabilities on sticky notes in the appropriate quadrant and ring of the image.



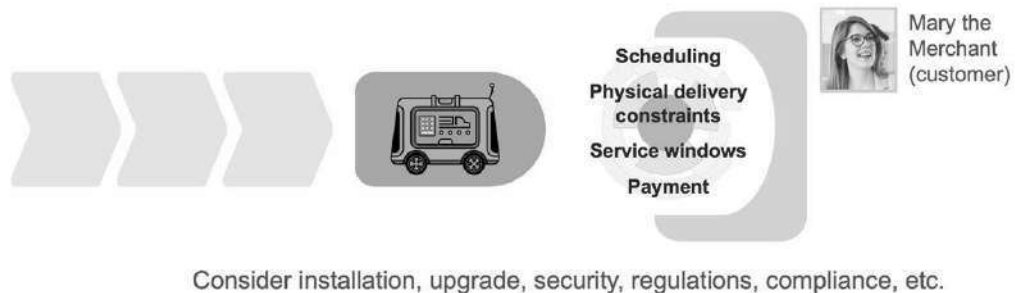
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Notes:

Define the whole product's operational environment

Product Managers identify, account for, and design critical aspects of the operational environment for a Solution on a segment-specific basis, often in collaboration with other stakeholders (architects, legal, operations, etc.).



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Notes:

Identify segment and whole-product differences

Distinct segments and personas



Unique Solution Contexts



Secure

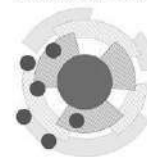
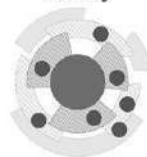
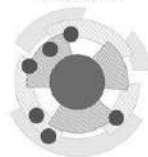


Timely



Different Goods


Distinct whole products



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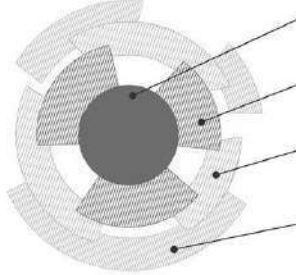


Activity: Create a whole-product model for TTC

Prepare
10 min

Share
3 min

Working as a team, select a TTC market segment and design a whole-product model for your target customer, focusing on the expected and augmented aspects of your offering.



- Generic Product**
Minimum to satisfy Customer
- Expected Product**
Features typically found in this type of product
- Augmented Product**
Features that differentiate this specific product from competitive or alternative products
- Potential Product**
Our vision of future Capabilities that keep Customers

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Notes:

Sweet spot of strategy helps define strategy

The sweet spot of strategy is a tool that complements whole product thinking. It helps you identify competitive advantage and ensure you're not wasting investments.



Notes:

5.6 Design platform, API, and data strategy

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Notes:

Understand your meaning of platform

- ▶ An extensible architecture with a base platform and optional modules
- ▶ Technical platforms other applications build upon (AWS, Twilio)
- ▶ Product platforms extensible by a broader community (Android, iOS)
- ▶ A group of technologies that are used as a base upon which other applications, processes, or technologies are developed
- ▶ A collection of APIs or services provided for a fee

Platforms can provide a faster and more cost-effective vehicle to enter adjacent markets and/or grow into new markets

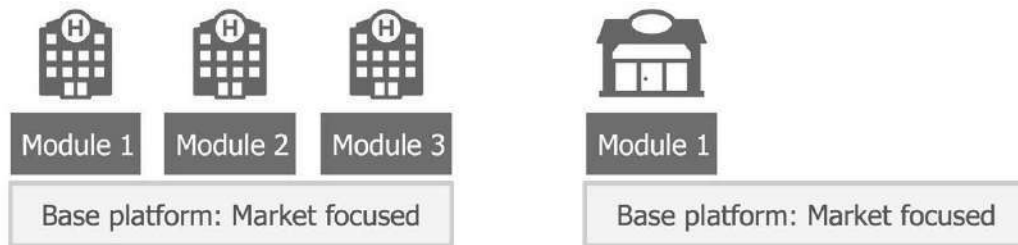
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Notes:

Platforms can enable segment-specific configurations

- ▶ Modules and configurations of modules align to specific segments
- ▶ Architectural choices must align to business objectives



The complexity of a hospital might require several unique modules from TTC, while a retail store might only require one module.

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Notes:

Design your API strategy

- ▶ APIs provide access to complimentary Solutions
- ▶ APIs can be monetized
- ▶ APIs need a product mindset: instead of approaching APIs as one-time projects, design and deliver APIs for long-term value at scale and evolve them over time to meet changing Customer needs
- ▶ APIs' design and development should leverage Design Thinking:
 - What do developers need to use our API?
 - How do we create a sustainable model for API development?

Bala Iyer and Mohan Subramaniam, "The Strategic Value of APIs," *Harvard Business Review*, January 7, 2015, <https://hbr.org/2015/01/the-strategic-value-of-apis>

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Notes:

Design your data strategy

- ▶ Data strategy refers to the choices Product Management makes in how they and their Customers will:
 - Create and manage data and metadata
 - Own, access, use, and share data and metadata
- ▶ This includes supporting any necessary regulations associated with the Solution Context, such as GDPR (EU), or HIPAA or COPPA (US).
 - Data monetization can vastly increase the long-term value of products
 - Data strategy requires close connections with Architects and will likely create unique demands on the Architectural Runway

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Notes:



Action Plan: Defining product strategy and Vision



On the Action Plan page in your workbook, answer the following questions:

- ▶ What is your Golden Circle? If you don't have one, do you foresee anything that would prevent you from creating one?
- ▶ What method do you use to articulate your Vision?
- ▶ Have you defined your whole product? Have you connected your whole product with your Solution Context?
- ▶ Have you defined your platform, API, and data strategy?

Notes:

Lesson review

In this lesson you:

- ▶ Explored how to explain the strategic purpose of your product
- ▶ Discovered how to develop a compelling product Vision
- ▶ Reviewed how to design business models and value propositions
- ▶ Explored the Customer journey
- ▶ Examined how to design the whole product and Solution Context
- ▶ Reviewed how to design platform, API, and data strategy

Notes:

Lesson 6

Creating Roadmaps to Build Solutions

Learning Objectives:

- 6.1 Define Solution Intent
- 6.2 Forecast Roadmaps that link strategy to tactics
- 6.3 Organize Features for balanced Solutions
- 6.4 Refine Features into Stories and Story maps



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

6.1 Define Solution Intent

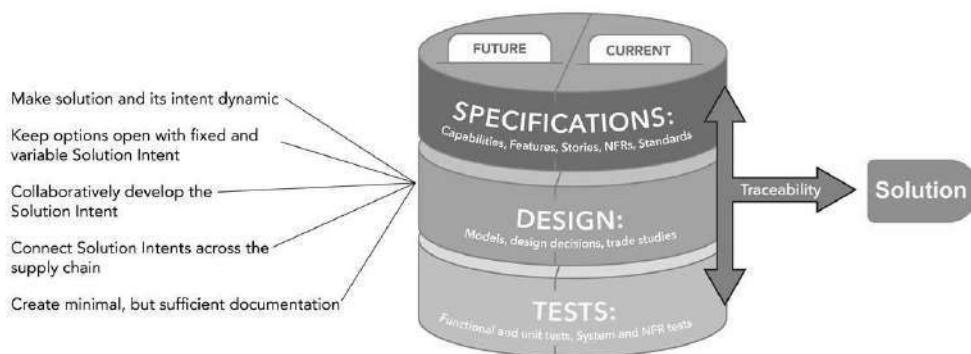
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Notes:

Solution Intent manages requirements and specifications

Solution Intent is the repository for storing, managing, and communicating the knowledge of current and intended Solution behavior.



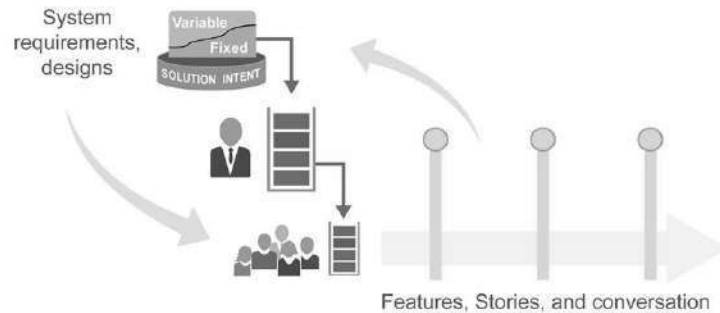
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Notes:

Specifications drive the work that creates the Solution

- ▶ System specifications guide Roadmaps and backlogs
- ▶ Incremental development provides feedback to the system's specifications



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Notes:

Customer-centric requirement artifacts

Artifact	Purpose
Preview or Brief	A short document describing the intended behavior and providing context for subsequent development activities (also known as a mini-Vision).
Epic	A container for a Solution development initiative that is considered large enough or expensive enough to require reasonable up-front analysis, the definition of a minimum viable product (MVP), and financial approval before implementation.
Feature	A delivered piece of business functionality that fulfills a stakeholder need. Each Feature includes a benefit hypothesis and acceptance criteria and is sized or split as necessary to be delivered by a single Agile Release Train (ART) in a Program Increment (PI).
Capability	A Capability is a higher-level Solution behavior that typically spans multiple ARTs. Capabilities are sized and split into multiple Features to facilitate their implementation in a single PI.
Story map	Story maps capture collections of Stories that together define a workflow.
Story	A short description of a small piece of desired functionality written in the user's language.

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Notes:

Technical requirement artifacts

Artifact	Purpose
Enabler	Enablers support the activities needed to extend the Architectural Runway to provide future business functionality.
NFR	Nonfunctional requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

Notes:



Discussion: Choosing a requirements artifact

Duration
5 min

- ▶ Product and Solution Managers seek to efficiently and sparingly communicate requirements and manage the Solution Intent.
- ▶ For each of the following, name one scenario in which the artifact is needed and one scenario in which the artifact carries too much overhead.

Preview or Brief	Epic	NFR
Feature	Capability	Story Map
Story	Enabler	

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Notes:

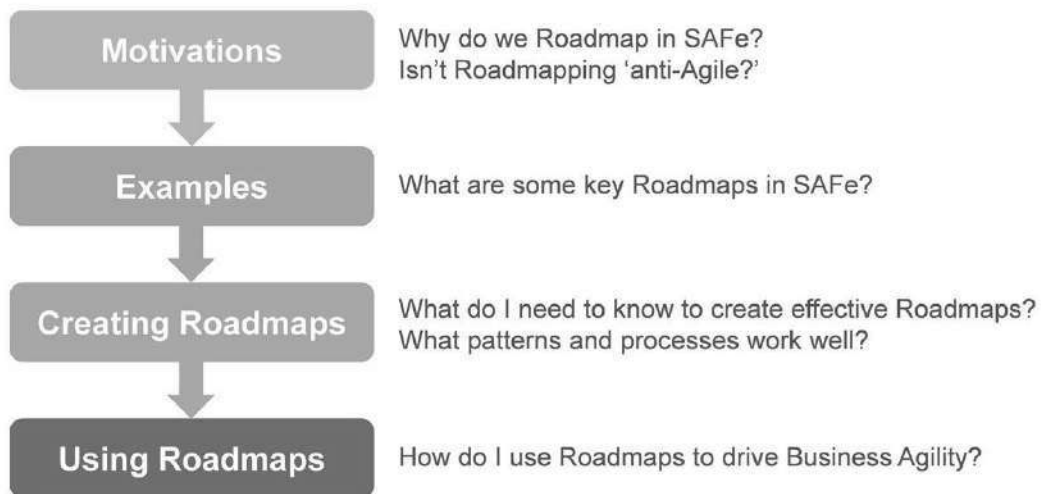
6.2 Forecast Roadmaps that link strategy to tactics

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Notes:

We'll explore these topics



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Notes:

Roadmaps help answer key questions

- ▶ Who are my desirable markets (segments)?
- ▶ What do they care about? What will they pay for?
- ▶ When and how frequently should I release the Solution?
- ▶ How should my architecture evolve?
- ▶ Are there any external factors I need to manage?
- ▶ What versions are supported?

Market Map

Features/Benefits

Rhythms and Events

Architectural Runway

External Forces

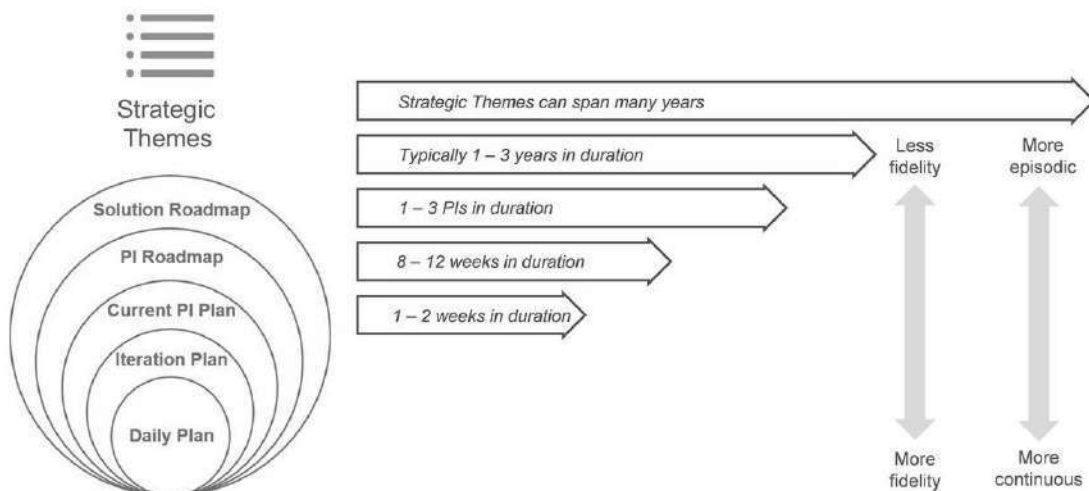
Supported Versions

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Notes:

Roadmaps are the 'glue' that links strategy to tactics



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Notes:

Agile Roadmaps promote intentionality and retain flexibility

- ▶ Roadmapping involves forecasts of the future
- ▶ Product Managers should strive to balance the need to prepare for the future with the desire to respond to change

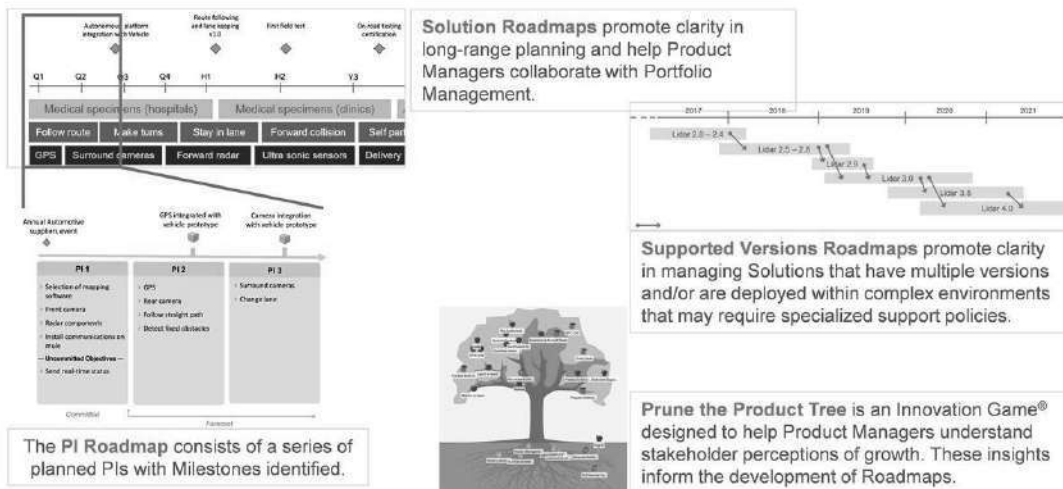
Benefits	Drawbacks/risks
Public companies can demonstrate why they are a good investment	Publicly shared Roadmaps can alert competitors to future moves
Roadmaps enable all stakeholders to prepare for the future	Every long-term commitment decreases the Agility of the Enterprise
Enables the technical teams to prepare for the future	Technology advances may make prior choices obsolete
Aligns the organization on when releases will have the most impact	May perpetuate a market structure that inhibits innovation

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Notes:

Roadmap overview: Four Roadmaps, each with a unique focus



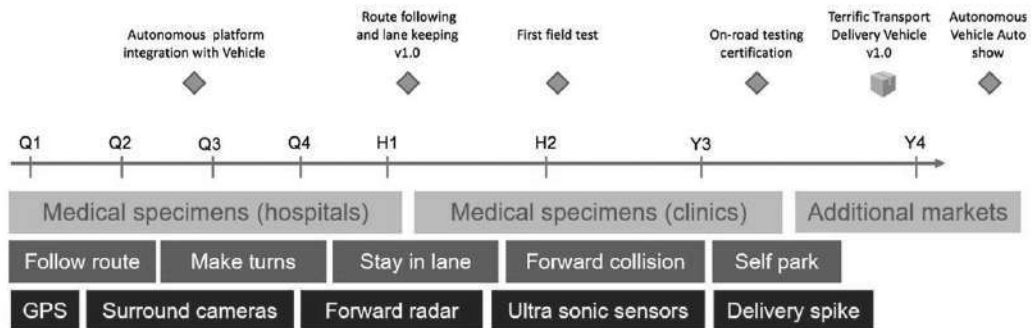
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Notes:

6.2 Forecast Roadmaps that link strategy to tactics

Solution Roadmaps focus on markets, Epics, and Enablers



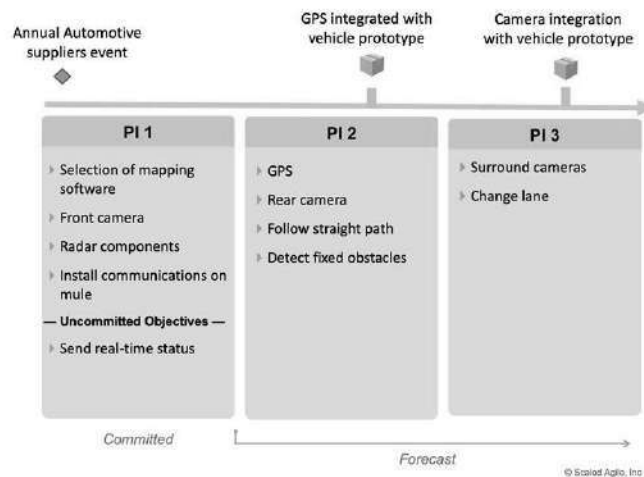
Note that the timeline changes: as we forecast further into the future, fidelity decreases.

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Notes:

PI Roadmaps are shorter-term with more fidelity



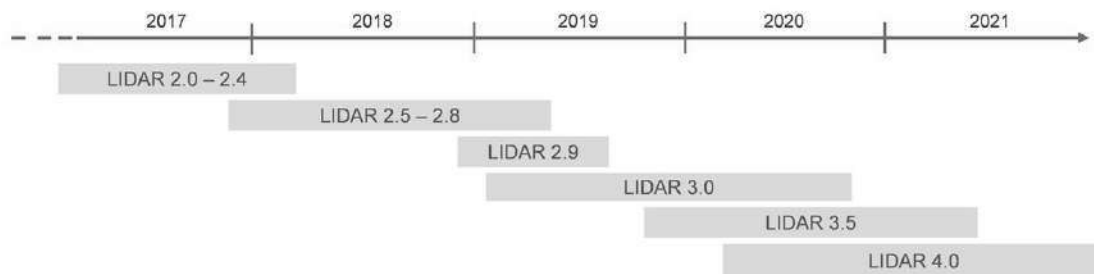
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Notes:

Supported versions Roadmaps focus on Solution lifecycle

- ▶ Standard Roadmaps show what's coming but not what's leaving
- ▶ The supported versions Roadmap provides clarity on releases and informs support, upgrade, and migration policies

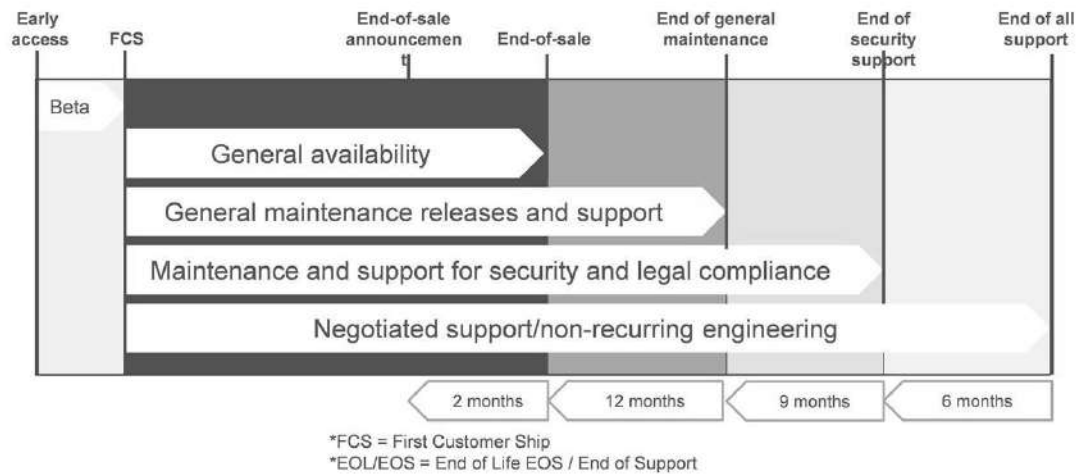


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Notes:

Define general support and migration policies

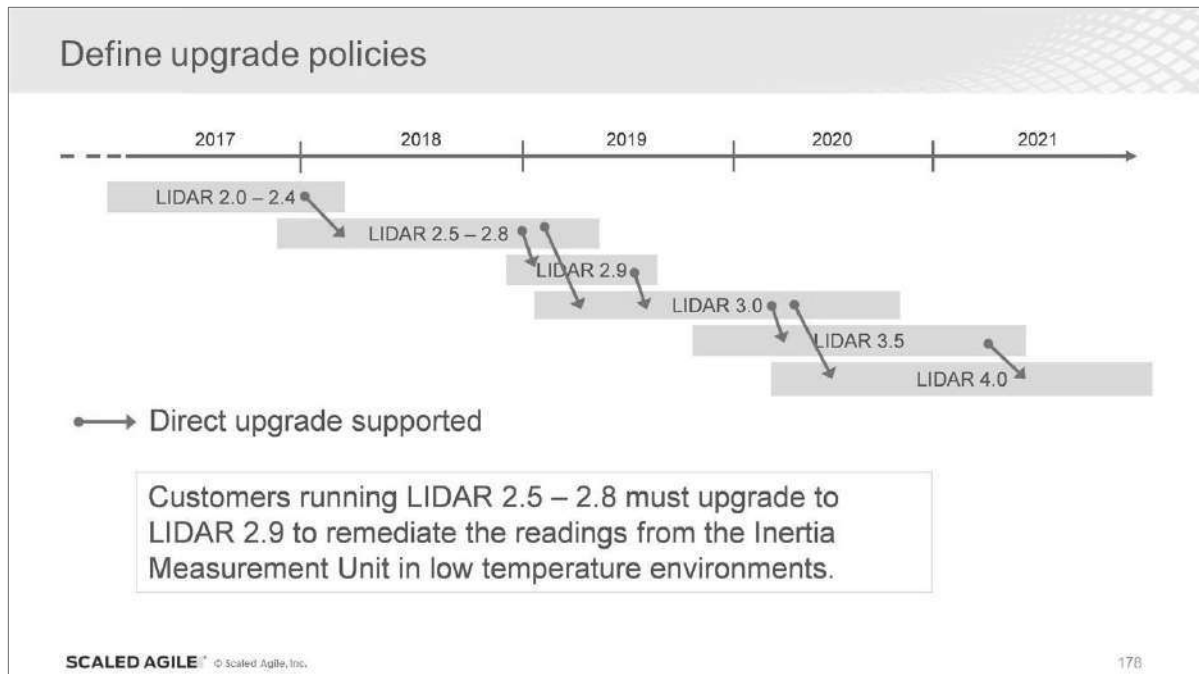


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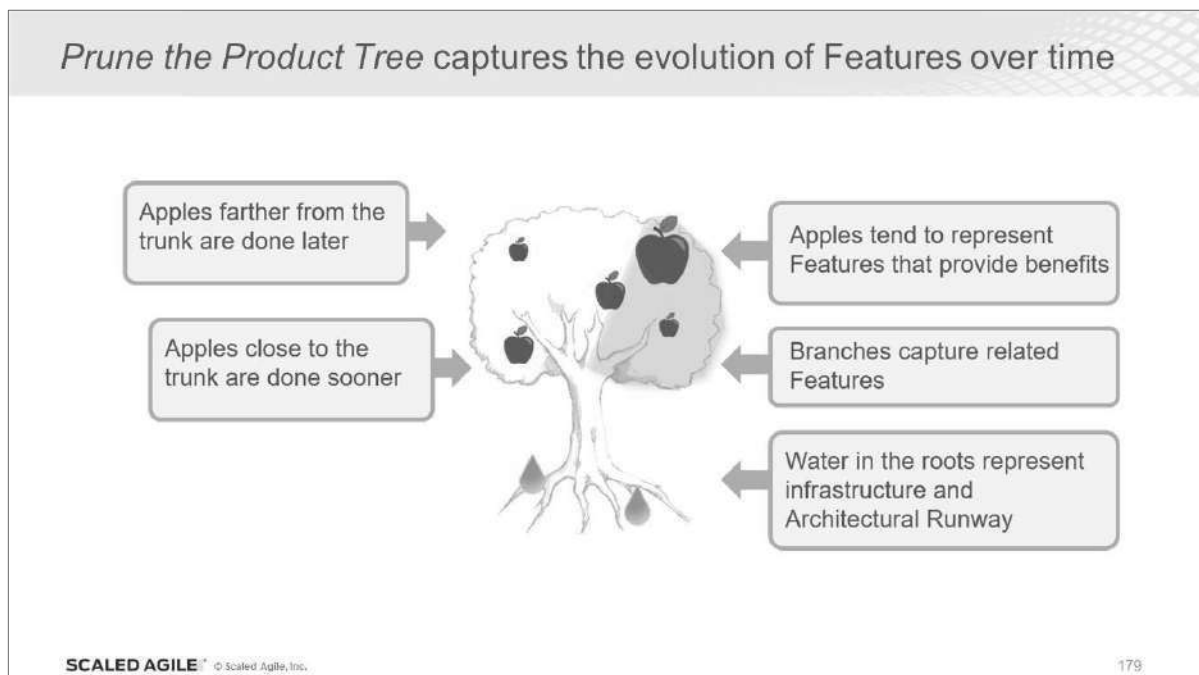
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Notes:

6.2 Forecast Roadmaps that link strategy to tactics



Notes:



Notes:

Use roadmapping patterns to create Roadmaps

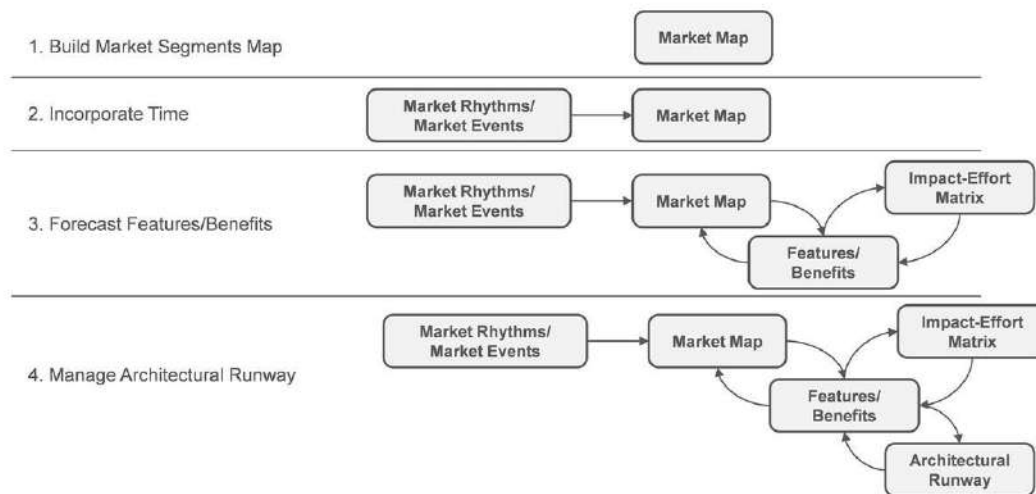
Problem	Solution	Pattern/Solution
How do you align teams on target market segments?	Create a visual representation of the market(s) you're targeting	Market map
Sometimes I need to emphasize time, and sometimes I need to emphasize growth. What do I do?	Choose either a time-centric or growth-centric representation of your Roadmap	Time or growth
How do you integrate important market forces and timing?	Identify the events and rhythms of your market/market segments	Market rhythms/market events; understanding commitments
How do you ensure that the right Features and benefits are being created for your target market(s)?	Create a forecast of the proposed Features and benefits. Tie these to the market(s) you're targeting	Impact-effort matrix; Feature/benefit
How do you manage the evolution of your technical architecture?	Create a Roadmap of known technology trends. Include specific and well-known changes you want to make to your architecture so that everyone can plan for them	Architectural Runway Roadmap

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Notes:

Applying the patterns



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Notes:

Creating a Roadmap: Develop a market map

- ▶ Complex products can serve multiple segments
- ▶ Create a sequence of which segments you intend to serve and how these segments will evolve

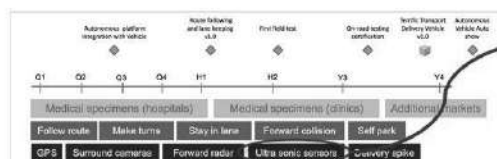
Note: A single large or extremely valuable segment can provide years of growth. In this case, specify that a single segment drives subsequent roadmapping activities in a uniform manner.

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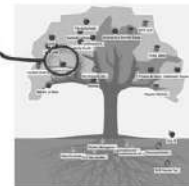
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Notes:

Creating a Roadmap: Choose time or growth structure



The same item, just represented differently



Time-centric Roadmaps make time explicit

Advantage: A clear understanding of time helps coordinate activities among large and/or geographically distributed teams because time is the same everywhere.

Disadvantage: This format suggests that when a Feature is released, it is 'done' and may not capture the intended Feature evolution.

Growth-centric Roadmaps emphasize balance and infrastructure

Advantage: Promotes transparency, promotes the evolution/growth of initiatives, invites participatory feedback from stakeholders when exploring alternatives, and feeds time-centric Roadmaps.

Disadvantage: Integrating multiple product Roadmaps into a single, unified Portfolio Roadmap is more challenging.

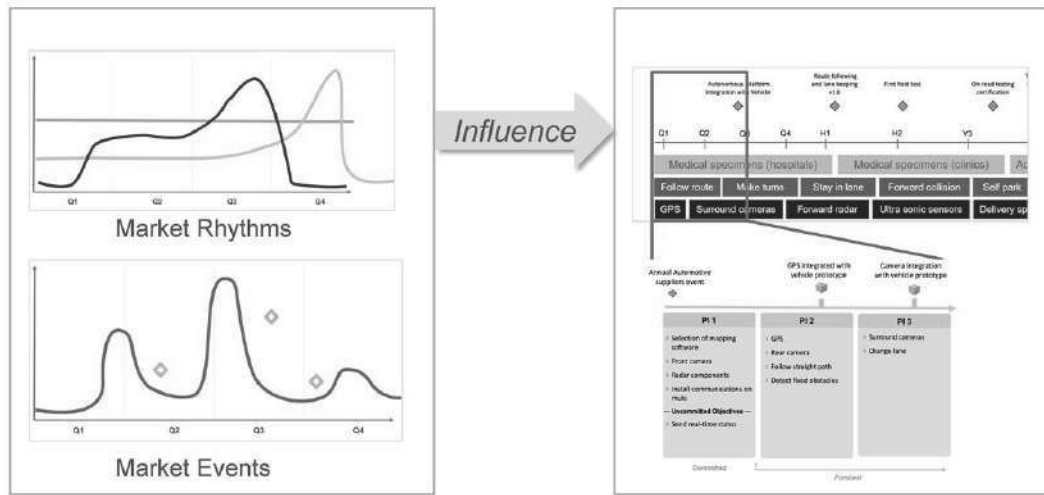
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Notes:

6.2 Forecast Roadmaps that link strategy to tactics

Creating a Roadmap: Map external factors

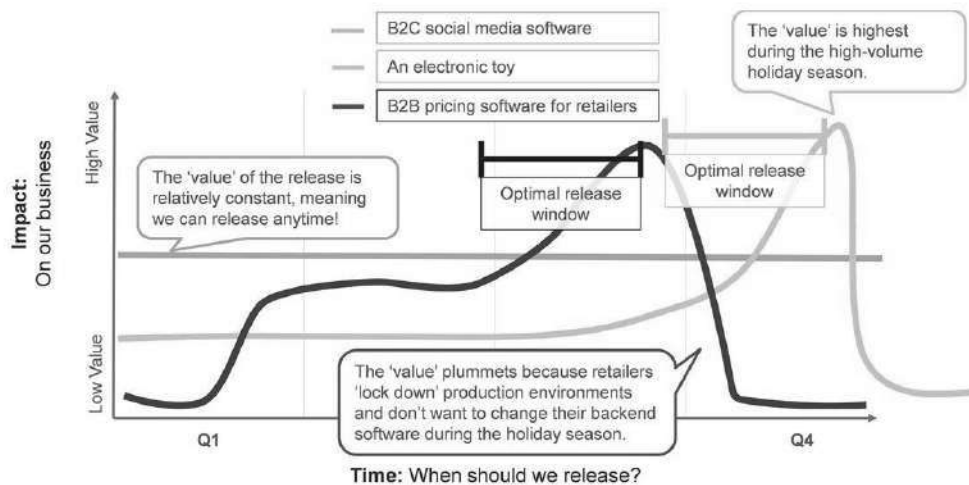


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Notes:

Market Rhythms help identify valuable release windows



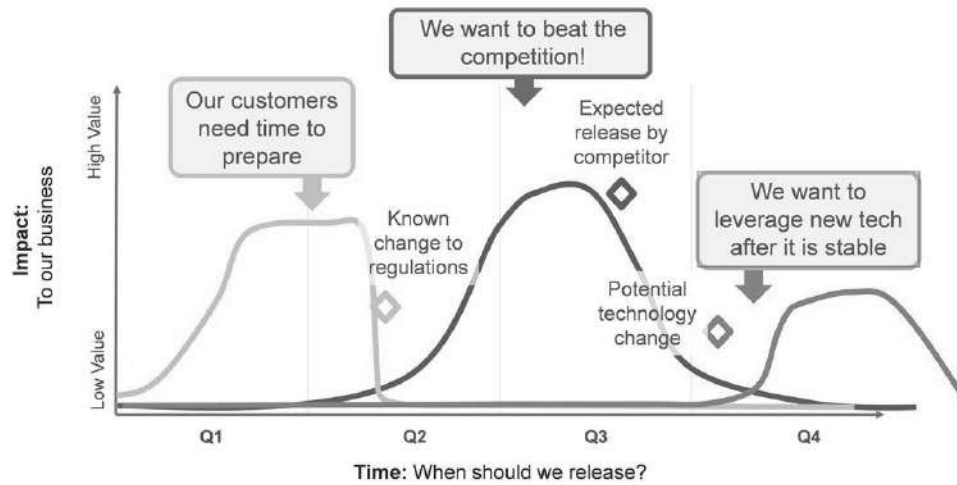
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Notes:

6.2 Forecast Roadmaps that link strategy to tactics

Market Milestones also help identify valuable release windows

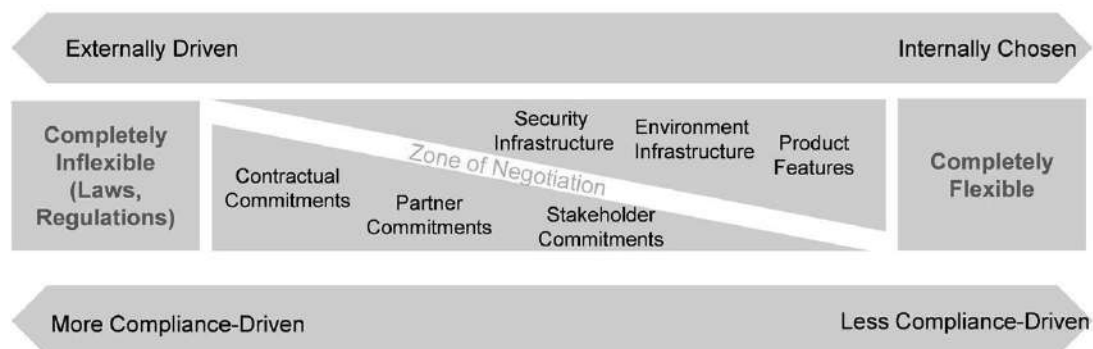


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Notes:

Creating a Roadmap: Understand commitments

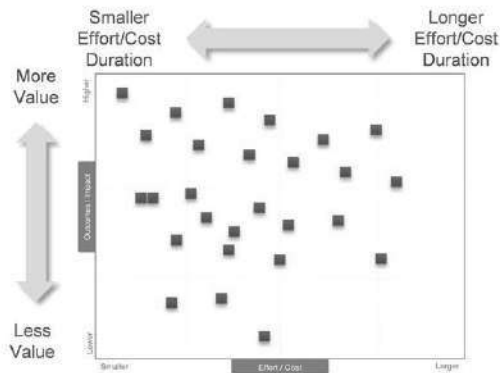


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Notes:

Creating a Roadmap: Forecasting Roadmap items



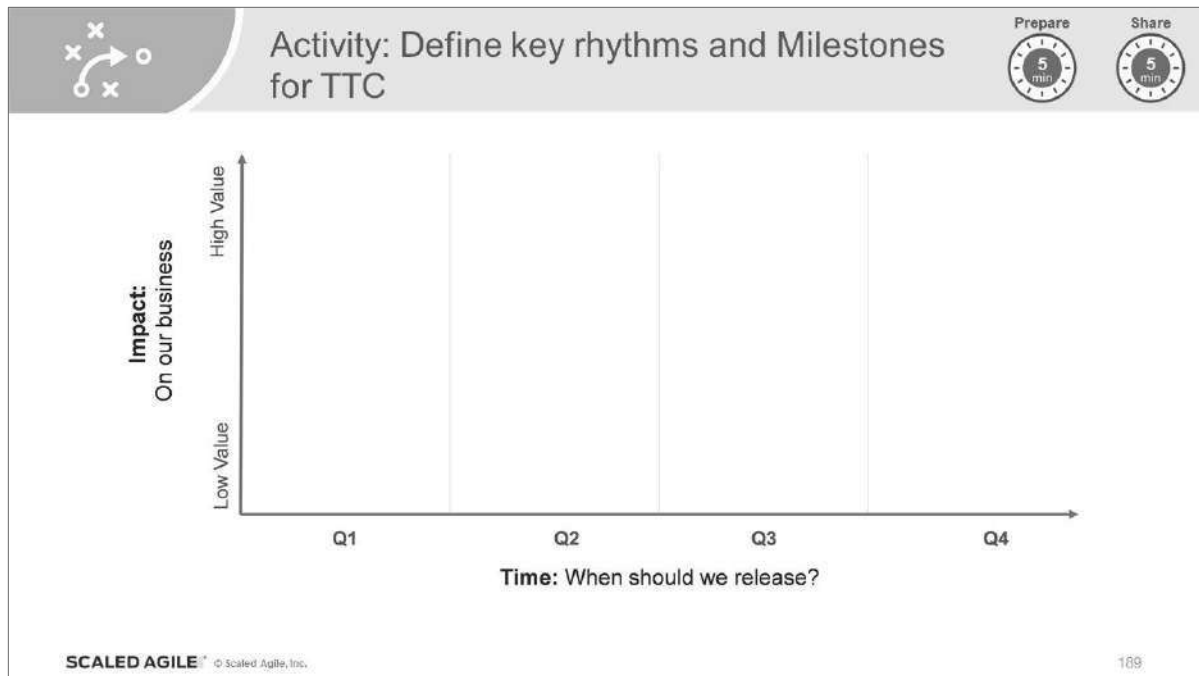
- ▶ A Solution Roadmap must have an estimate of time (or effort) in order to sequence work
- ▶ The impact-effort matrix is a tool that Product Managers and technical leaders (System, Solution, and Enterprise Architects) can use to gain consensus on the value and effort of Roadmap items

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Notes:

6.2 Forecast Roadmaps that link strategy to tactics



Notes:

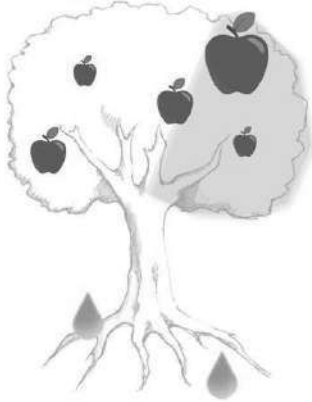
6.2 Forecast Roadmaps that link strategy to tactics



Activity: How should TTC grow over time?

Prepare
8 min

Share
3 min



What are the benefits/Features you want to offer? When?

Are these benefits/Features organized in sensible ways?

What infrastructure or Architectural Runway do you need to provide these benefits?

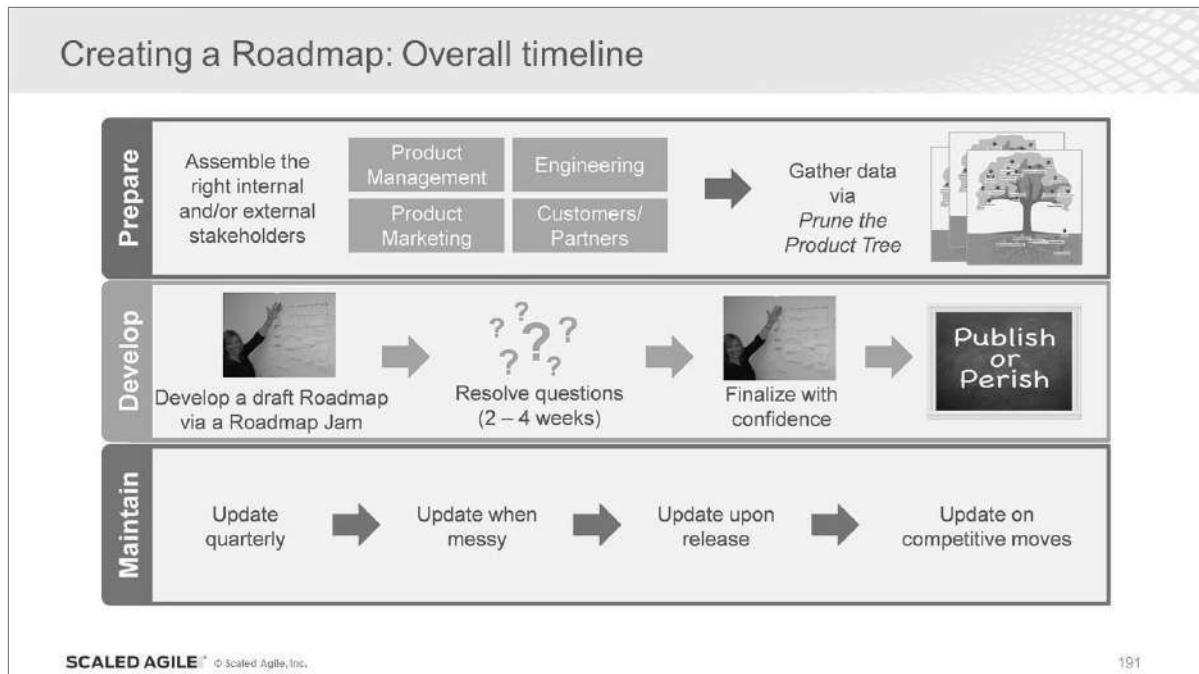
Working in your product teams, draw a tree and create a draft of how you will grow your TTC offering over time.

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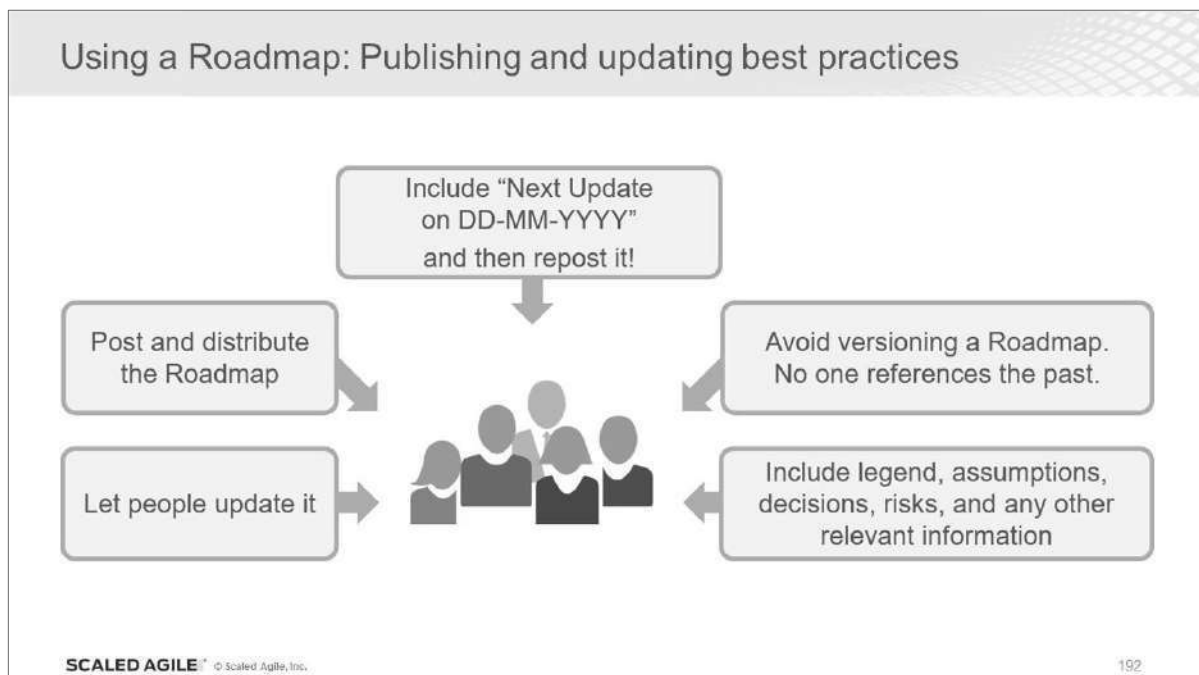
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Notes:

6.2 Forecast Roadmaps that link strategy to tactics



Notes:



Notes:

Using a Roadmap: Exploring possible futures via scenarios

Scenarios are descriptive narratives of plausible alternative futures. They help:

- ▶ Identify potential opportunities/threats
- ▶ Limit 'business as usual in the future' behavior
- ▶ Test Roadmap assumptions against various possible futures
- ▶ Understand how and when to react to changes
- ▶ Focus on the likely case while supporting explorations

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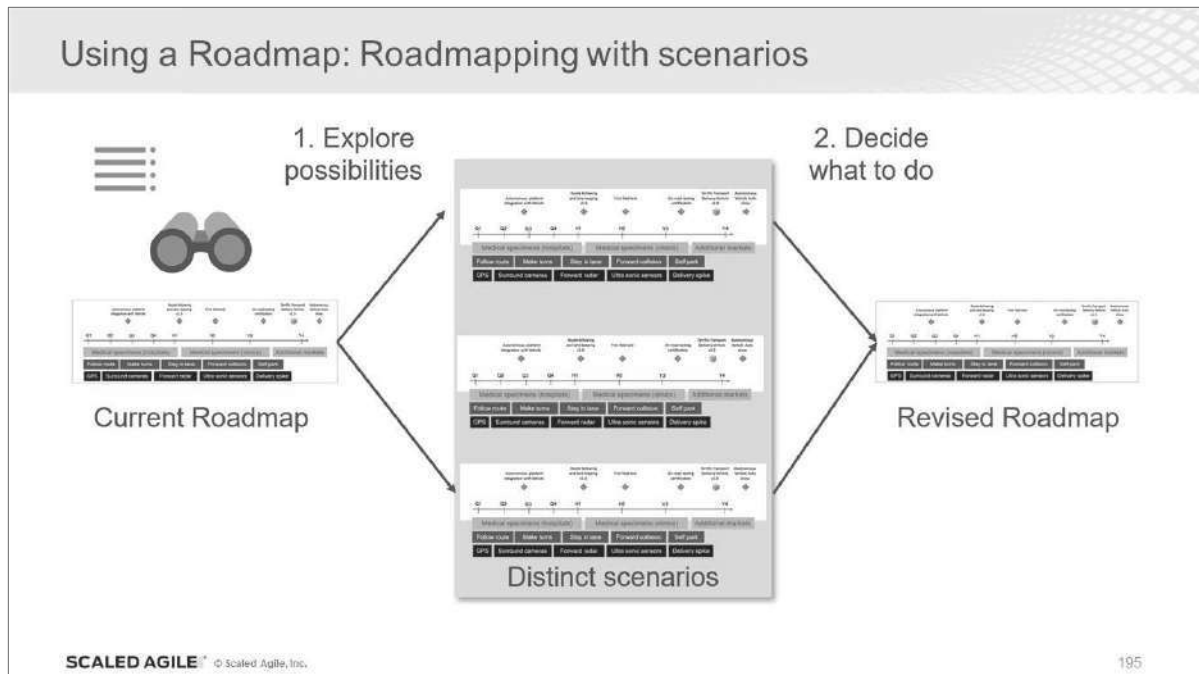
Using a Roadmap: Example scenario questions

- ▶ What if we lost our largest Customer?
- ▶ What if the market demands the product early?
- ▶ What if labor unions curb outsourcing?
- ▶ What if regulatory changes impact us?
- ▶ What if we acquire one or more competitors?
- ▶ What if we expand internationally?

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Notes:



Notes:

6.3 Organize Features for balanced Solutions

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Notes:

Organize Roadmap Features in broad buckets

	New Business	Up Sell	Retention	Op Efficiency
Higher Value ↑ ↓ Lower Value	Features designed to bring new Customers or enter new markets	Features designed to capture new revenue from existing Customers (typically sold as an add-on, upgrade, or plug-in)	Features designed to avoid losing Customers	Features designed to reduce costs, such as investments in new Suppliers

Note: This is not prioritization or sequencing—we use WSJF for that.


"Business Value Game," Agile 42, accessed October 15, 2019, <https://www.agile42.com/en/business-value-game/>

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Notes:


6.3 Organize Features for balanced Solutions



Activity: Let's explore business value

Duration
5 min

- **Step 1:** Using little sticky notes on your flip chart, brainstorm adding new TTC Features
- **Step 2:** Create a value matrix and place the higher valued Features toward the top



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Notes:

6.4 Refine Features into Stories and Story maps

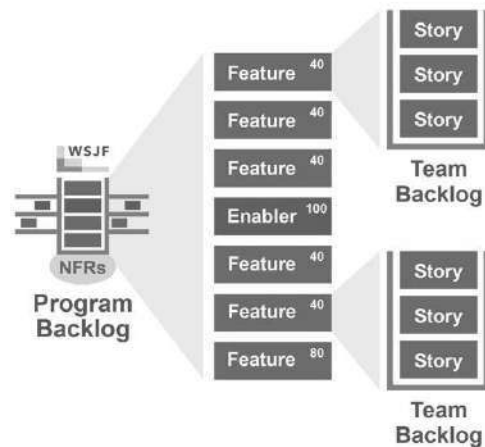
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Notes:

Features are refined into Stories

- ▶ The primary elements of PI Planning are Features
- ▶ Features for implementation are managed through the Program Backlog and implemented through Stories
- ▶ Features that represent a workflow and Story maps are captured and include key tasks



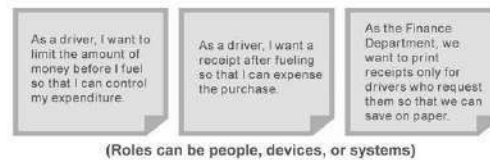
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Notes:

User Stories

- ▶ An Agile way of documenting requirements using the following template:
- ▶ As a [user role] I want [activity] so that [business value]
 - User role is the description of the person doing the action
 - Activity is what they can do with the system
 - Business value is why they want to do the activity

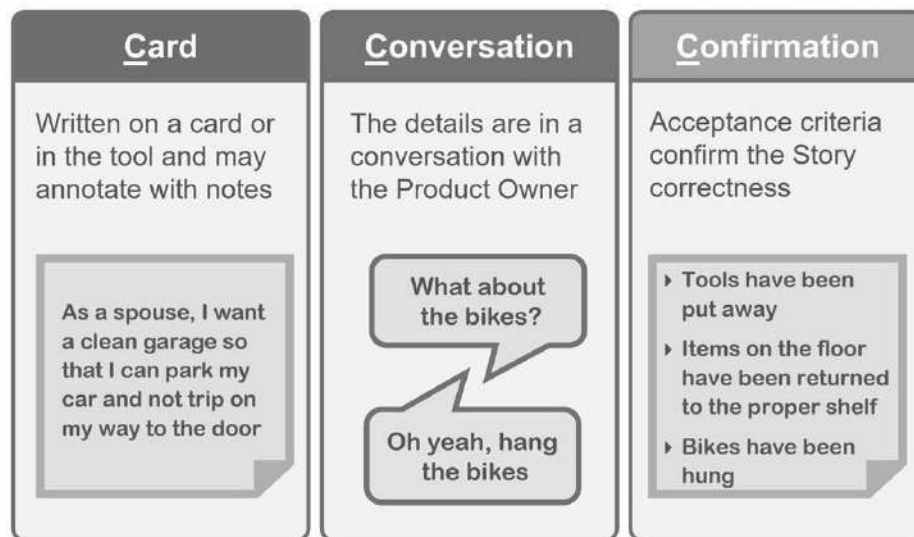


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Notes:

User Story guidelines — The 3 Cs



Source: 3 Cs coined by Ron Jeffries

Notes:

Enabler Stories

Enabler Stories build the groundwork for future User Stories. There are generally four types of Enabler Stories:

1. Infrastructure – Build development and testing frameworks that enable a faster and more efficient development process
2. Architecture – Build the Architectural Runway, which enables smoother and faster development
3. Exploration – Build understanding of what the customer needs to understand prospective Solutions and evaluate alternatives
4. Compliance - Compliance Enablers are used to schedule and manage specific compliance activities, including verification and validation (V&V), documentation and signoffs, and regulatory submissions and approvals.

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Notes:

Story maps address backlog challenges

- ▶ Backlogs are optimized to help teams focus on priorities
- ▶ Backlogs have some challenges
 - It can be difficult to understand workflows
 - The relationship between 'Stories that make something good' and 'Stories that make something better or great' is lost
 - It is hard to validate that the Stories in the backlog support all the steps needed by the user to accomplish her objective
- ▶ Story maps overcome backlog challenges and promote Design Thinking

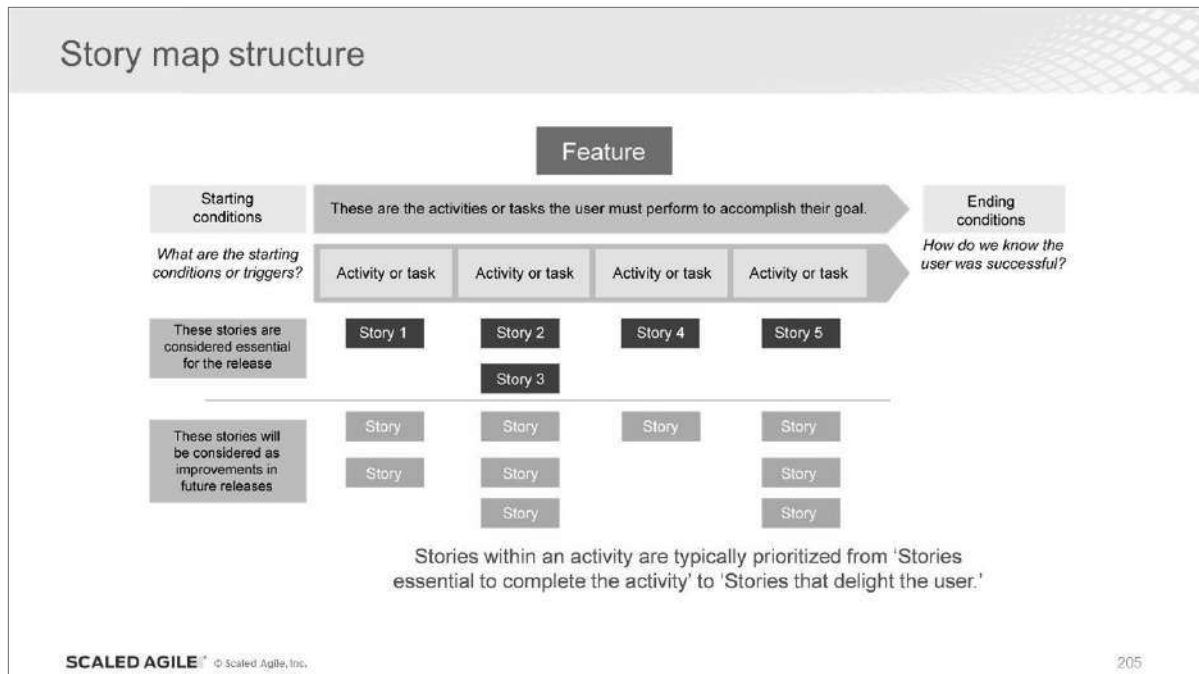
Team Backlog



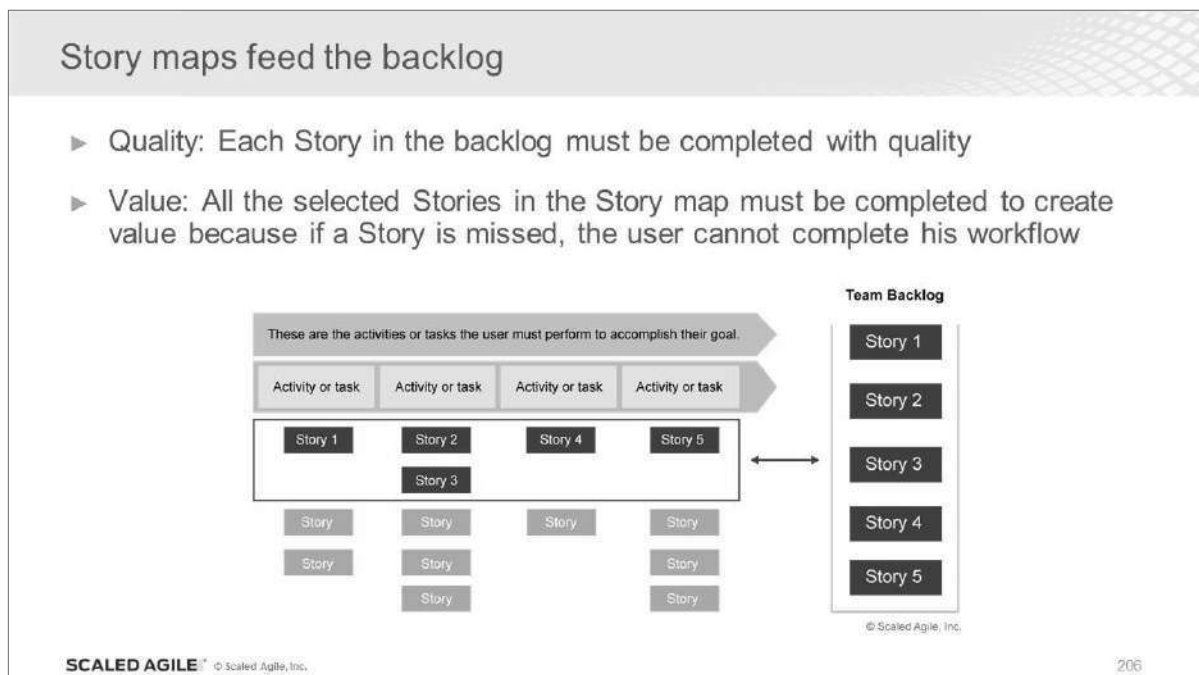
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Notes:



Notes:



Notes:

Example: A Story map for producing a large forum

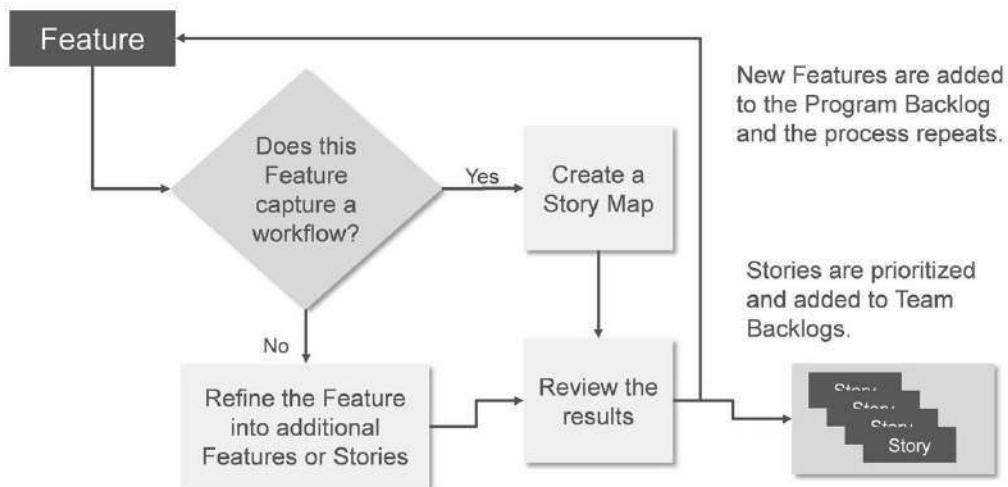


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Notes:

When to use a Story map



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Notes:



Action Plan: Creating Roadmaps to build Solutions



On the Action Plan page in your workbook, answer the following questions:

- ▶ Consider the different kinds of Roadmaps presented in this lesson. Which ones are most relevant to your product? Why?
- ▶ Review the requirements artifacts. Which ones are used and why? Which ones aren't used and why?
- ▶ What are your roadmapping best practices? What can be improved?

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Notes:

Lesson review

In this lesson you:

- ▶ Explored Solution Intent
- ▶ Explored how to develop Roadmaps that link strategy to tactics
- ▶ Reviewed how to organize Features for balanced Solutions
- ▶ Discovered how to refine Features into Stories and Story Maps

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Notes:

Lesson 7

Delivering Value

Learning Objectives:

- 7.1 Visualize development flow using a Program Kanban
- 7.2 Estimate and forecast the backlog
- 7.3 Prioritize the Program Backlog
- 7.4 Create alignment with PI Planning
- 7.5 Execute the PI



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

7.1 Visualize development flow using a Program Kanban

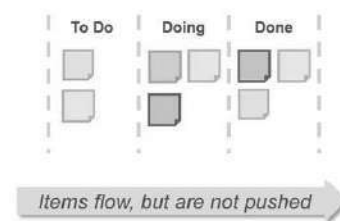
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Notes:

Kanban in a nutshell

- ▶ Visual tool for monitoring and managing workflow
- ▶ Columns represent steps in the work process
- ▶ Work items (Features, Enablers, Stories) are 'pulled' across the board as capacity allows
- ▶ Explicit process policies define how and when a work item moves across the board
- ▶ Work in process (WIP) promotes flow and the continuous delivery of value

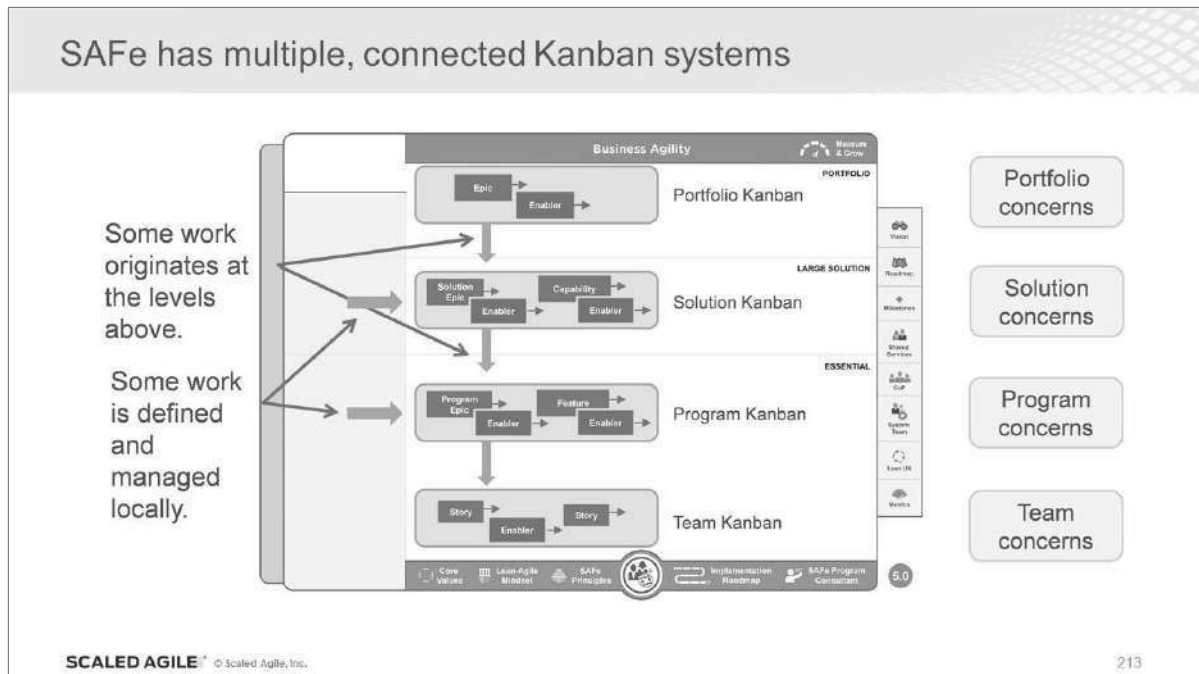


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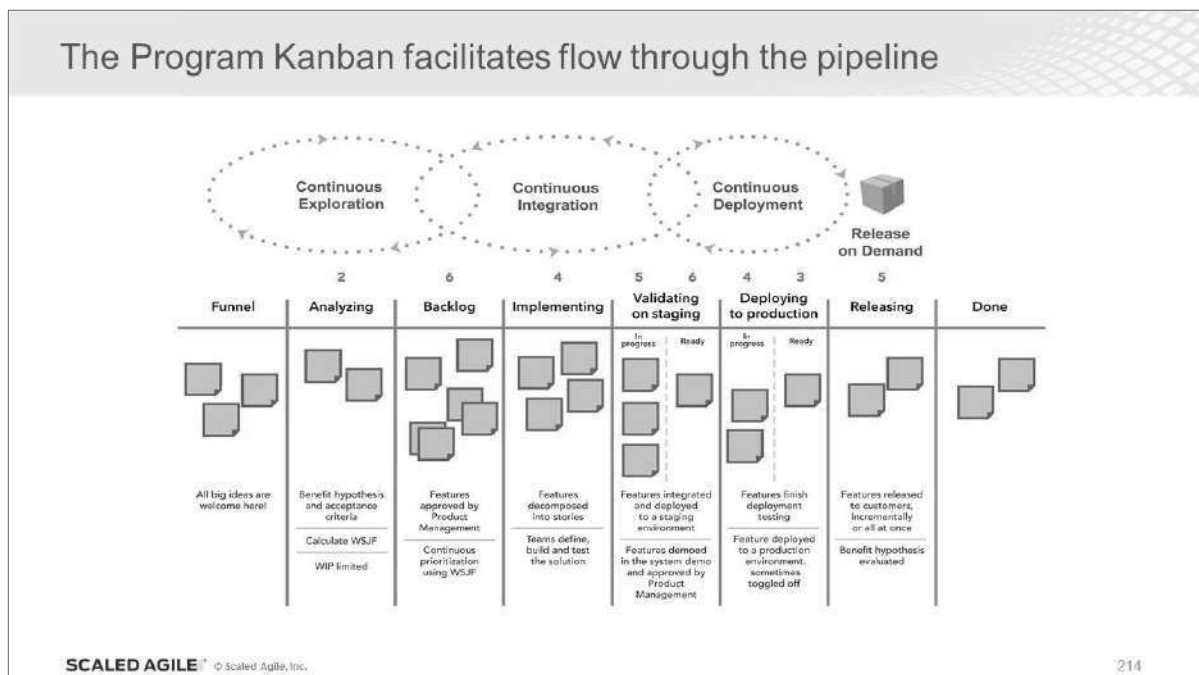
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Notes:


7.1 Visualize development flow using a Program Kanban



Notes:



Notes:



Activity: Customize your Kanban

Prepare
10 min

Share
5 min

Each organization adopting SAFe will have a unique context. In this activity, if possible, pair with a person who is not from your organization.

- ▶ **Step 1:** Using the sample Program Kanban provided in SAFe, design a Kanban system that supports the flow of work in your context and consider the following questions:
 - What columns are needed?
 - Why are these columns needed?
- ▶ **Step 2:** Be prepared to present your thought process.

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Notes:

7.2 Estimate and forecast the backlog

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Notes:

Estimation and forecasting help identify promising ideas

- ▶ Weighted shortest job first (WSJF) helps the business select the most promising ideas and aligns investments with revenue and market rhythms
- ▶ WSJF requires estimates and forecasts of work to facilitate economically driven prioritization
- ▶ The challenge? We need to identify Agile ways to create forecasts without allowing forecasts to turn into project-based funding commitments.

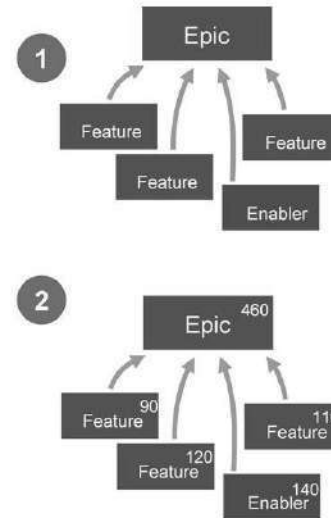
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Notes:

Estimating in SAFe

1. Epics are broken down into potential Features during the Portfolio Kanban analysis stage
2. Potential Features are estimated in Story points
 - Typically performed at the PM-System Architect level, based on history and relative size
 - Individual teams are engaged as necessary
3. Feature estimates are aggregated back into the Epic estimate as part of the lightweight business case

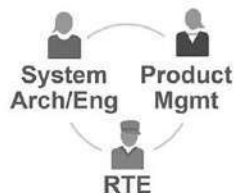


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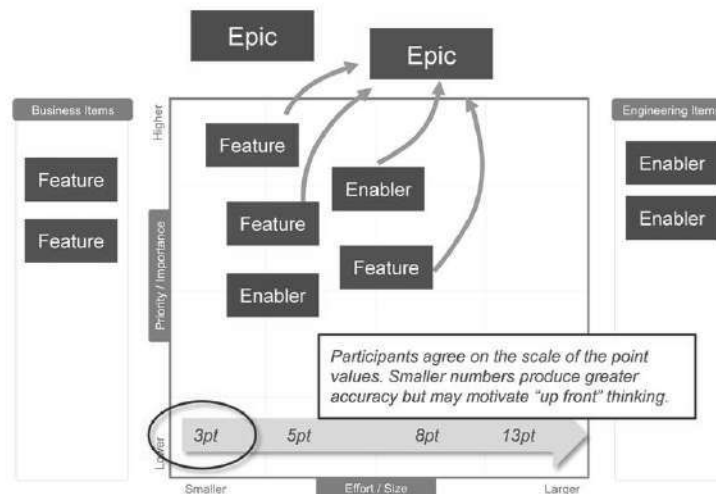
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Notes:

How to estimate collections of Features



Participants collaborate on the placement of items. These aren't commitments, just data that helps in planning.



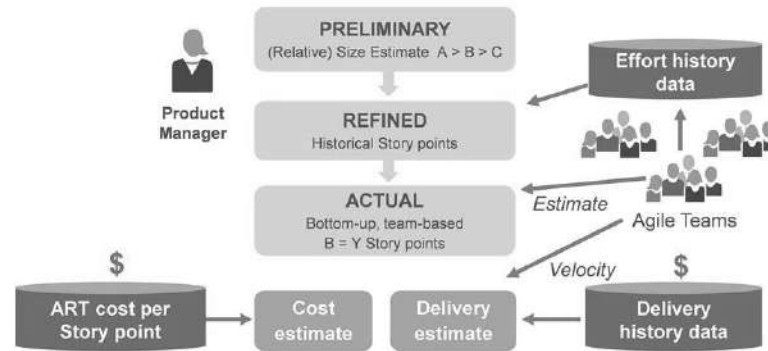
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Notes:

Estimating Feature effort

Estimating the effort needed to implement a Feature typically goes through a series of successive refinements. PMs typically use historical context.



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Notes:

Estimating cost

Once the Feature has been estimated in Story points, a cost estimate can be quickly derived and 'rolled up' to obtain a forecast for the Epic.

- Calculate the burdened cost for a team in an Iteration length
- Divide that by their PI velocity to get average cost per Story point

Example: If a team has an average velocity of **40 points** and their cost is **\$40,000 per Iteration**, then each Story point costs **~\$1,000**



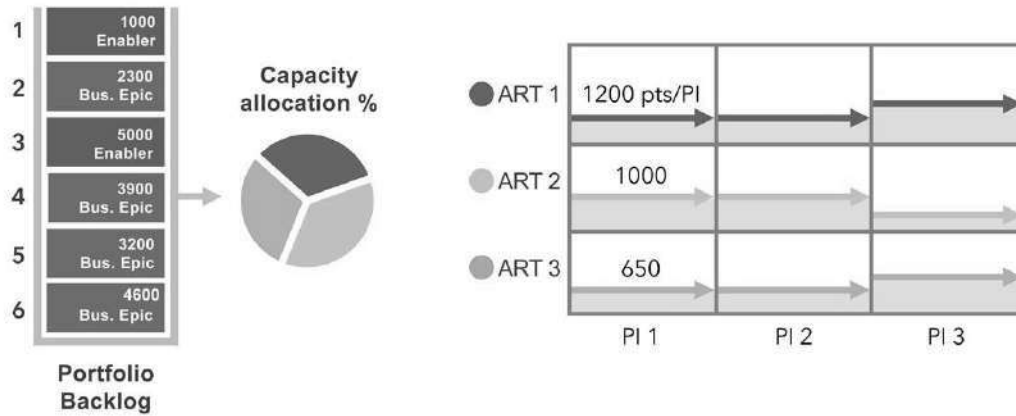
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Notes:

Forecasting from the Portfolio Backlog

Given knowledge of Epic sizes and ART velocities, applying 'what if' capacity allocations informs decisions and forecasting.



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Notes:

7.3 Prioritize the Program Backlog

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Notes:

Prioritization anti-patterns



HiPPo - Highest-paid person makes the decision.

"The Senior VP said we should do this project."



Squeaky Wheel - The person who yells the loudest or makes the biggest promise of revenue.

"Fund my project, and we will make a billion dollars!"



ROI - Making a decision based exclusively on ROI without considering other factors.

"The ROI indicates we will make a 30% profit."

Role

I'm the PM, so I should do it!



Solution/Product
Management

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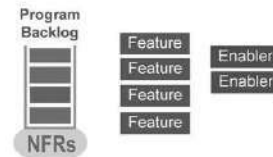
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Notes:

Prioritize Features for optimal ROI

If you only quantify one thing, quantify the Cost of Delay. —Donald G. Reinertsen, Principles of Product Development Flow E3

- ▶ In a flow system, job sequencing is the key to improving economic outcomes
- ▶ To prioritize based on Lean economics, we need to know two things:
 - What is the cost of delay (CoD) in delivering value?
 - What is the cost to implement the valuable thing?



WSJF Done Right with Dean Leffingwell



<https://tinyurl.com/kpmjnuk>

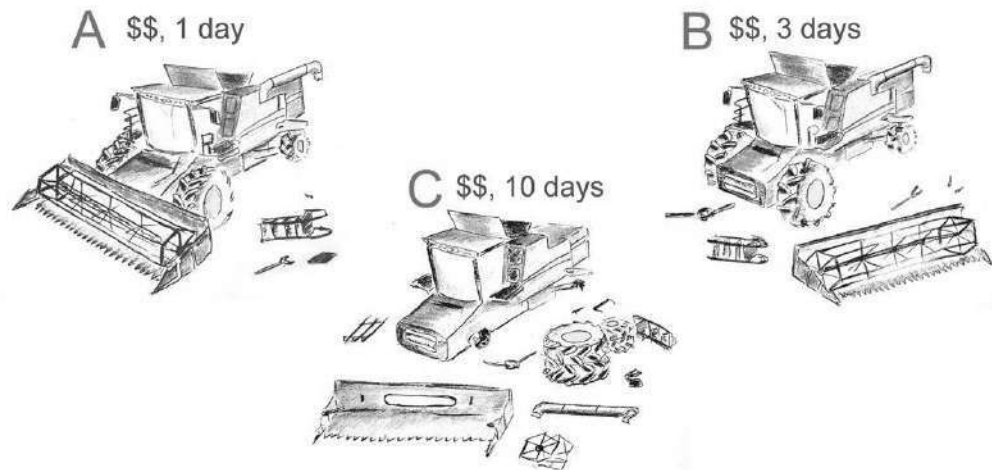
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Notes:

7.3 Prioritize the Program Backlog

Example with equal CoD: Which job first?

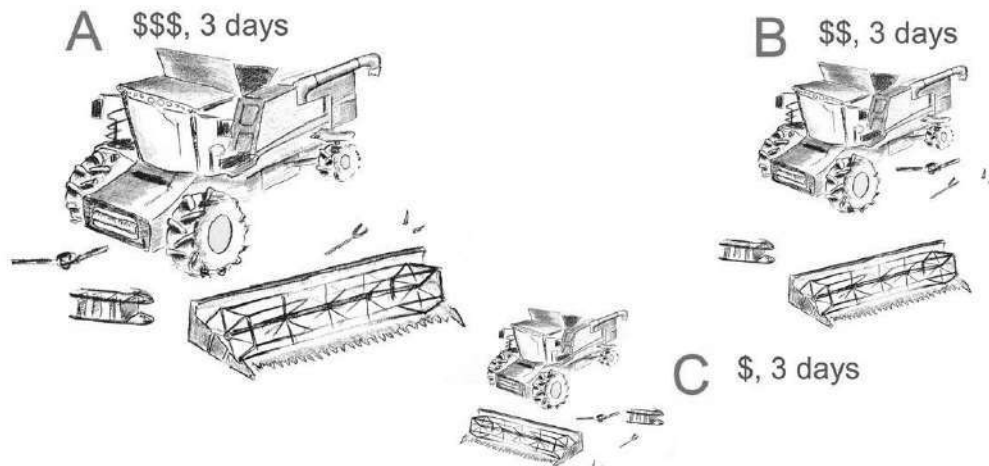


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Notes:

Example with equal duration: Which job first?



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Notes:

7.3 Prioritize the Program Backlog

General case: Any CoD and duration

In the general case, give preference to jobs with shorter duration and higher CoD using weighted shortest job first (WSJF):



Adapted from *The Principles of Product Development Flow*, Donald G. Reinertsen

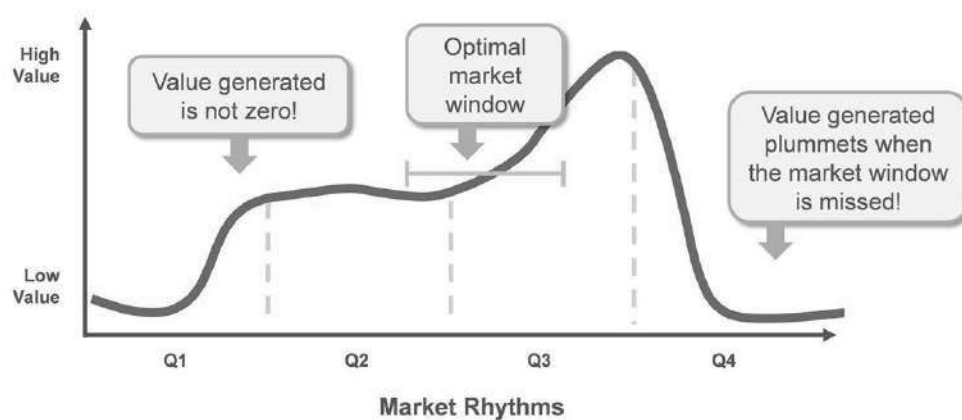
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Notes:

Time is a key component in determining value

Sometimes missing a market window means a Feature is 'worthless'!



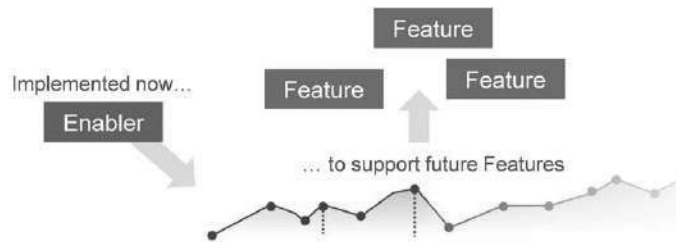
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Notes:

CoD (value generated) is more than simply revenue

- ▶ Architectural Runway refers to the capacity of the system to efficiently and cost-effectively evolve to meet changing business requirements and the delivery of new Features
- ▶ Enablers are backlog items that create Architectural Runway, reducing risk and enabling future opportunities



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Notes:

Components of cost of delay

User and business value



Relative value to the Customer or business

- ▶ What do they prefer?
- ▶ What is the revenue impact?
- ▶ Are there potential penalties or other negative impacts?

Time criticality



How user/business value decays over time

- ▶ Is there a fixed deadline?
- ▶ Will they wait for us or move to another Solution?
- ▶ What is the current effect on Customer satisfaction?

Risk reduction & Opportunity enablement (RR & OE)



What else does this do for our business

- ▶ Reduce the risk of this or future delivery?
- ▶ Is there value in the information we will receive?
- ▶ Will it enable new business opportunities?

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Notes:

7.3 Prioritize the Program Backlog

Calculate WSJF with relative estimating

$$\text{WSJF} = \frac{\text{CoD}}{\text{Job size}} = \frac{\text{User-business value} + \text{Time criticality} + \text{RR | OE value}}{\text{Job size}}$$

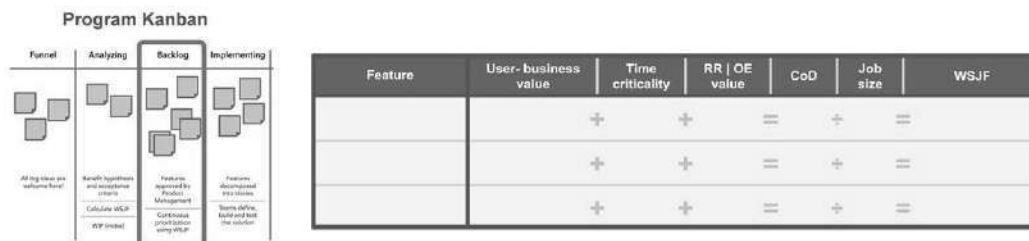
- ▶ To calculate WSJF, teams need to estimate cost of delay and duration.
- ▶ Use job size as a quick proxy for duration.
- ▶ Relative estimating is a quick technique to estimate job size and relative value.
- ▶ WSJF stakeholders are Business Owners, Product Managers, Product Owners, and System Architects.

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Notes:

Calculate WSJF for each item as a set



- ▶ Use relative estimation of job size and value (CoD)
- ▶ Collaborate on values one column at a time: start by picking the smallest item, give it a "1," and define the rest relative to it
- ▶ WSJF stakeholders: Business Owners, Product Managers, Product Owners, and System Architects

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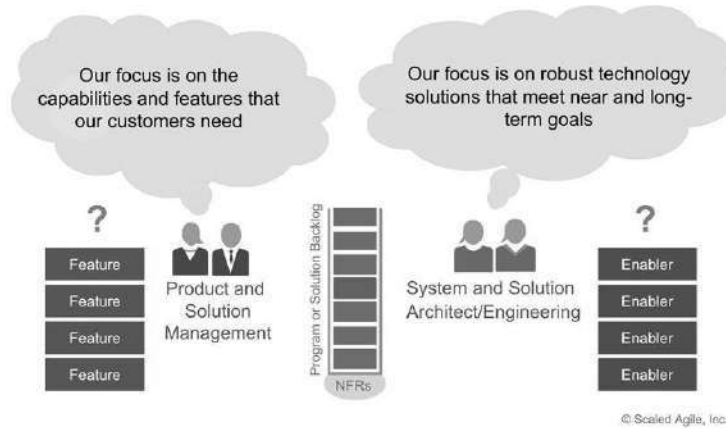
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Notes:

7.3 Prioritize the Program Backlog

Balance architecture and Feature investment

There is a natural tension between developing and consuming Architectural Runway.



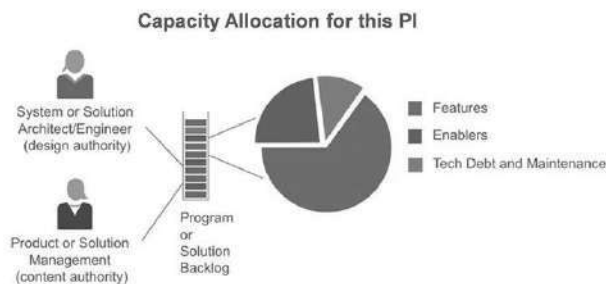
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Notes:

Guardrails promote sustainable prioritization

Classifying backlog items and creating Guardrails that guide investment choices promote sustainability.



Architecture policies


1. We agree on the percentage of resources to be devoted to new Feature development vs architecture at each boundary.
2. We agree that the Architect has design authority and prioritizes the work in that class.
3. We agree that content authority (Product Management) prioritizes work in that class.
4. We agree to jointly prioritize our work based on Lean economics.
5. We agree to collaborate, so we can sequence work in a way that maximizes Customer value.

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Notes:

7.3 Prioritize the Program Backlog



Activity: What's hard about calculating WSJF?

Prepare
5 min

Share
5 min

At your table, consider and discuss these questions:

- ▶ Is job duration (size) always a good substitute for job cost?
- ▶ Your Architect has added an exploration Enabler to the backlog to assess a promising new mobile technology. How can this be prioritized relative to 'revenue generating' Features?
- ▶ You have two Features: F1 and F2. They have equal costs, time criticalities, and RR&OE estimates. F1 increases revenue by \$2.5M USD. F2 reduces costs by \$2.5M USD. WSJF will prioritize them equally. Which should you do first?

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Notes:

7.4 Create alignment with PI Planning

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Notes:

7.4 Create alignment with PI Planning



Video: Schroders PI Planning event kickoff

Duration
4 min

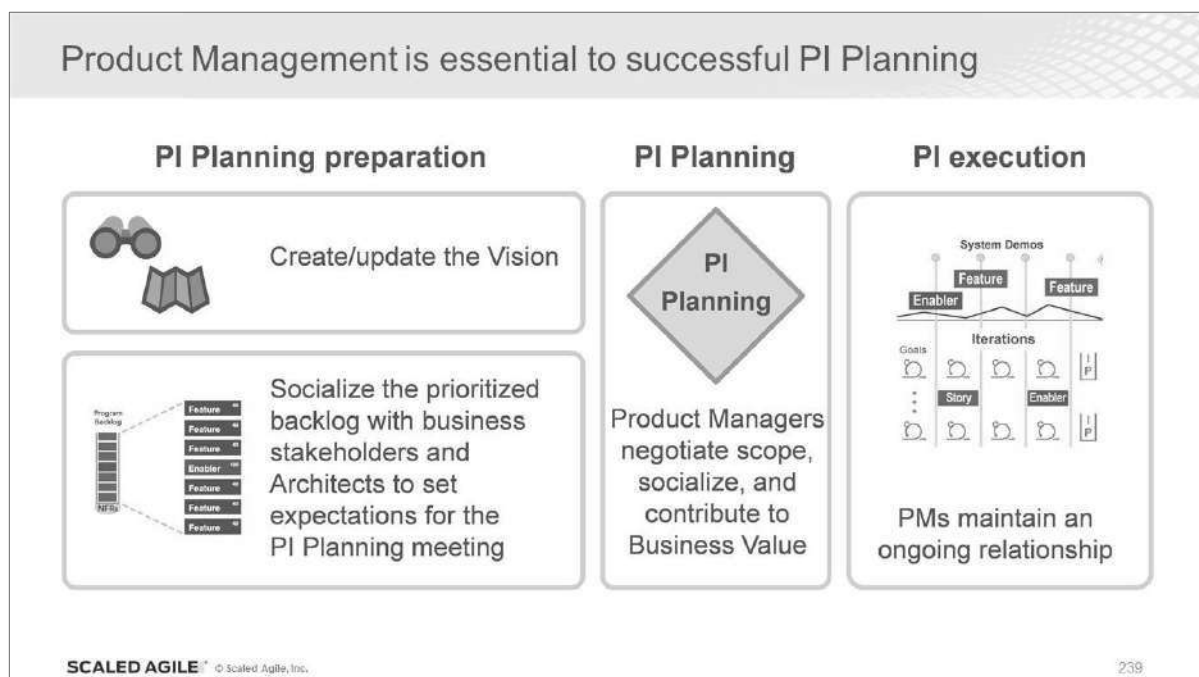


<https://vimeo.com/169066536>

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Notes:



Notes:

Set quality expectations with a scalable definition of done

- Create agreement with teams on complete increments of value
- Expect quality at every level

Team Increment	System Increment	Solution Increment	Release
<ul style="list-style-type: none"> • Stories satisfy acceptance criteria • Acceptance tests passed (automated where practical) • Unit and component tests coded, passed, and included in the BVT • Cumulative unit tests passed • Assets are under version control • Engineering standards followed • NFRs met • No must-fix defects • Stories accepted by Product Owner 	<ul style="list-style-type: none"> • Stories completed by all teams in the ART and integrated • Completed features meet acceptance criteria • NFRs met • No must-fix defects • Verification and validation of key scenarios • Included in build definition and deployment process • Increment demonstrated, feedback achieved • Accepted by Product Management 	<ul style="list-style-type: none"> • Capabilities completed by all teams and meet acceptance criteria • Deployed/installed in the staging environment • NFRs met • System end-to-end integration, verification, and validation done • No must-fix defects • Included in build definition and deployment/transition process • Documentation updated • Solution demonstrated, feedback achieved • Accepted by Solution Management 	<ul style="list-style-type: none"> • All capabilities done and meet acceptance criteria • End-to-end integration and solution V&V done • Regression testing done • NFRs met • No must-fix defects • Release documentation complete • All standards met • Approved by Solution and Release Management

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Notes:

Successful PI Planning outputs

A successful PI Planning event delivers two primary outputs:

1. Committed PI Objectives (SMART)
2. Program board



Objectives for PI 1	BV	ABV
1. Show routing calculations between the 5 most frequent destinations	—	—
2. Navigate autonomously from distribution center to the most frequent destination	—	—
3. Parallel park for a delivery	—	—
4. Return to the distribution center after delivery	—	—
5. Include traffic data in route planning	—	—
6. Recall a delivery that is already in progress	—	—
7. Reduce GPS signal loss by 25%	—	—
Uncommitted Objectives		
8. Demonstrate real-time rerouting to avoid delays (e.g., accident, construction)	—	—

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Notes:

Management review and problem solving

- ▶ At the end of Day 1, Product Management and Business Owners meet to adjust scope and objectives based on the day's planning.
- ▶ Common questions during the managers' review:
 - What did we just learn?
 - Where do we need to adjust Vision? Scope? Resources?
 - Where are the bottlenecks?
 - What Features must be de-scoped?
 - What decisions must we make between now and tomorrow to address these issues?



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Notes:

PI Planning can create options for releasing sooner

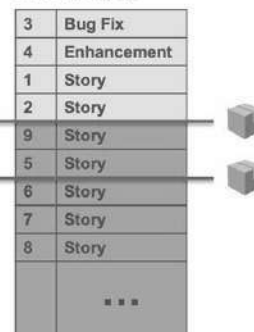
Before PI Planning...



During PI Planning, the ART may suggest a sequence that creates options for releasing value sooner.

The PM can accept this sequencing or ask the ART to retain the original sequencing based on other factors (e.g., a major Customer contract may be waiting on early validation from the first Story).


ART Analysis



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Notes:



Activity: Management review and problem solving

Prepare
5 min

Share
5 min

Think about the management review and problem-solving meeting

- ▶ What activities are required for the PM?
- ▶ Capture ideas and share with the class.

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Notes:

Supporting the team objectives

- ▶ Based on new knowledge (and a good night's sleep), teams work to create their final plans.
- ▶ In the second team breakout, Business Owners circulate and assign business value to PI Objectives from low (1) to high (10)
- ▶ Teams finalize the Program Increment plan
- ▶ Teams also consolidate program risks, impediments, and dependencies
- ▶ Uncommitted objectives provide the capacity and guard band needed to increase cadence-based delivery reliability

Objectives for PI 1	BV	ABV
1. Show routing calculations between the 5 most frequent destinations	10	
2. Navigate autonomously from distribution center to the most frequent destination	8	
3. Parallel park for a delivery	7	
4. Return to the distribution center after delivery	10	
5. Include traffic data in route planning	7	
6. Recall a delivery that is already in progress	7	
7. Reduce GPS signal loss by 25%	5	
Uncommitted Objectives		
8. Demonstrate real-time rerouting to avoid delays (e.g., accident, construction)	5	

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Notes:

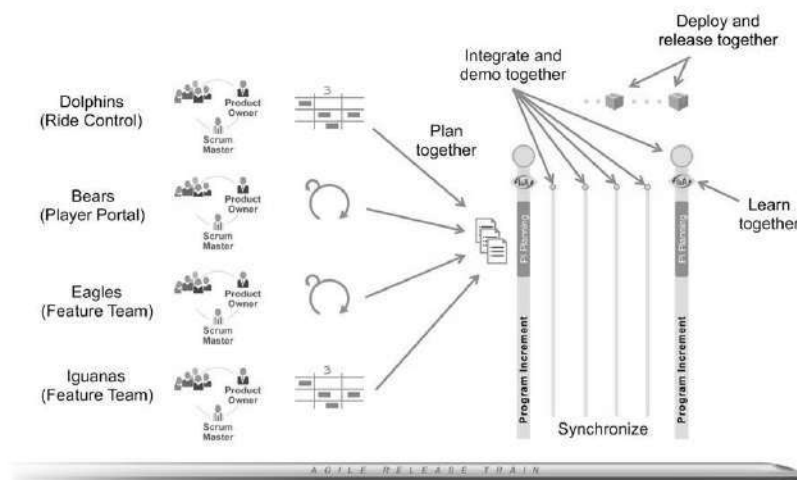
7.5 Execute the PI

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Notes:

Agile Teams are on the train



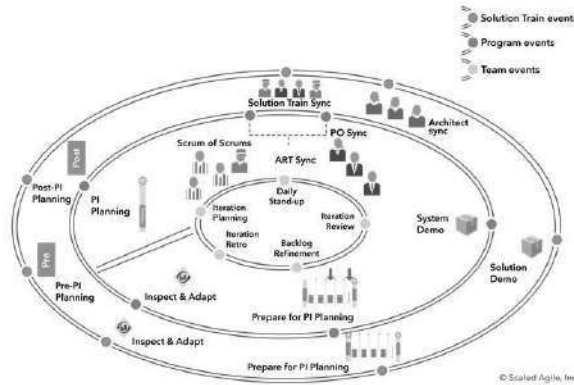
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Notes:

Ensure alignment during PI execution

Program events create a closed loop system to keep the train on the tracks.



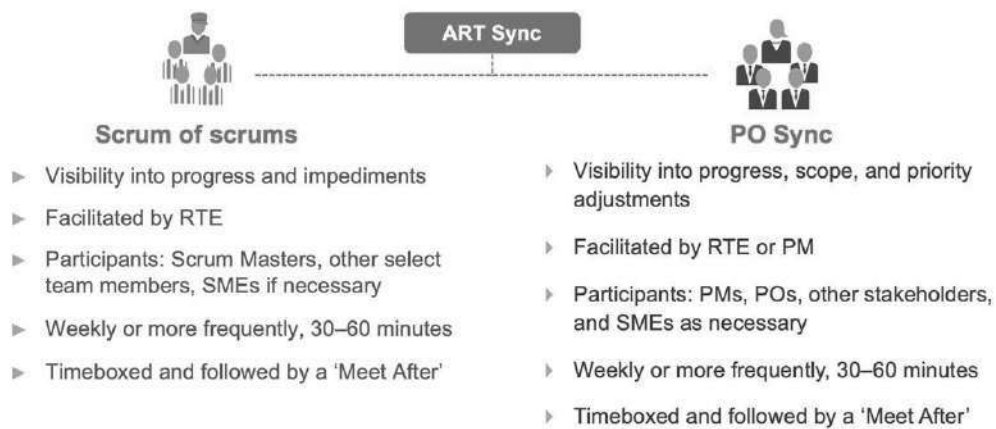
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Notes:

ART sync


Programs coordinate dependencies through sync meetings.



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Notes:



Activity: Discuss the PO sync

Prepare
5 min

Share
5 min

At your table, discuss the Product Manager's role in the PO sync. Be prepared to share your insights with the class. Consider:

- ▶ What questions would he/she ask?
- ▶ What concerns would he/she need to address?
- ▶ What is a successful conclusion to a PO sync?

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Notes:

The PM's role in the Innovation and Planning (IP) Iteration

- ▶ Continue to socialize the Program Backlog, get feedback, and adjust scope.
- ▶ Participate in the I&A. Add improvement items to the backlog.
- ▶ Finalize preparation of the backlog and business context for the PI Planning event.
- ▶ Engage actively in just-in-time backlog refinement and elaboration.
- ▶ Be curious, answer questions, and be involved in the innovation activities.
- ▶ Collaborate with stakeholders, Architects, and Business Owners to ensure alignment.

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Notes:



Action Plan: Delivering value



On the Action Plan page in your workbook, answer the following questions:

- ▶ Have you implemented a balanced capacity allocation policy?
- ▶ Are you tracking forecasted vs. actual estimates?
- ▶ How will you leverage WSJF?
- ▶ What activities do you need to do to prepare for PI Planning and PI execution?



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Notes:

Lesson review

In this lesson you:

- ▶ Explored development flow using a Program Kanban
- ▶ Realized how to estimate and forecast the backlog
- ▶ Examined prioritizing the Program Backlog
- ▶ Reviewed how to create alignment with PI Planning
- ▶ Explored how to execute the PI

Notes:

Lesson 8

Managing Value Stream Economics

Learning Objectives:

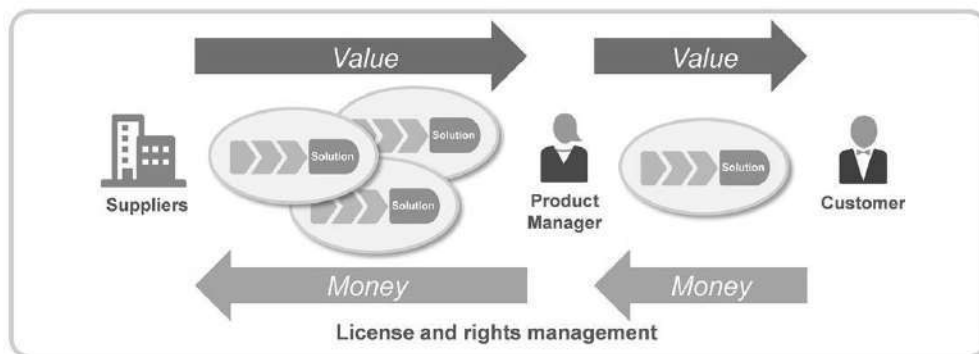
- 8.1 Analyze Customer value
- 8.2 Choose type of value exchange
- 8.3 Establish costing and pricing
- 8.4 Create a sustainable economic model
- 8.5 Interpret in-licensing models
- 8.6 Design out-licensing models
- 8.7 Model financial performance and return on investment (ROI)



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

Value stream economics

Value stream economics models the flow of value and the financial model of the Value Streams and are used to ensure Value Streams are creating viable and sustainable products and Solutions.



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Notes:

8.1 Analyze Customer value

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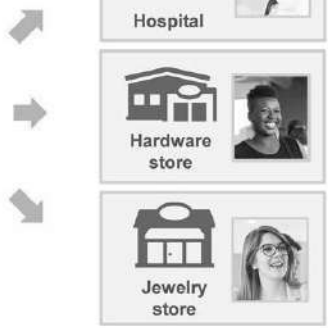

Notes:









Activity: Who gets the value for automated delivery?

Duration
4 min

- **Step 1:** What are some of the ways Terrific Transport will provide value to their Customers?
- **Step 2:** Shout out your answers. The instructor will write them on a flip chart.



 Hospital	
 Hardware store	
 Jewelry store	

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Notes:

Understand how you create value for your Customer

Your Solution helps your Customer *reduce their costs*

- ▶ Is less expensive to purchase
- ▶ Lowers operational costs
- ▶ Streamlines workflows
- ▶ Reduces labor costs
- ▶ Reduces compliance costs

Your Solution helps your Customer *increase their revenue*

- ▶ Accelerates their time-to-market
- ▶ Creates access to new markets
- ▶ Creates opportunities for service revenue

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Notes:

Identify 'hard' value: Value that can be objectively measured

- ▶ Hard value objectively measures cost reductions and revenue increases. Examples:
 - LED lightbulbs are provably cheaper than incandescent bulbs
 - Price optimization software can increase revenue by raising prices
- ▶ Methods include:
 - Laboratory testing that validates claims (e.g., durability, reliability)
 - Surveys that assess the impact of your Solution and infer value
 - Direct observation of operational changes



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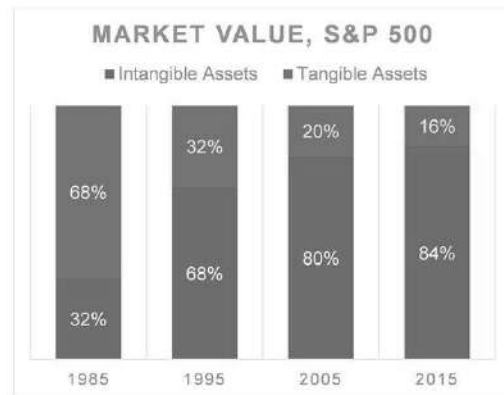
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Notes:

Identify 'soft' or 'intangible' value: Value that is subjective

Some factors that may make a company or product more valuable:

- ▶ **Brand:** Your Customers trust your brand promise—what you will deliver
- ▶ **Convenience:** You make it easy to conduct business
- ▶ **Values:** Your Customers believe in your values and mission
- ▶ **Intellectual Property:** Patents, copyrights, trademarks, unique data



"Intangible Asset Market Value," Ocean Tomo, accessed October 15, 2019
<https://www.oceantomo.com/intangible-asset-market-value-study/>

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Notes:

Uncover and communicate hidden value

- ▶ By its nature, software is hidden. Therefore, it is our job to identify how 'hidden software' is providing value to our Customers:
 - Antilock brakes = Safer vehicles
 - Configuration = Greater comfort
- ▶ Understanding hidden value often impacts your economic model by enabling you to establish premium pricing or increase brand loyalty.



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Notes:

Convert internal Value Streams into external products

- ▶ Sometimes Enterprises identify opportunities to convert an internal Value Stream or development Value Stream into an operational Value Stream
- ▶ Examples:
 - Amazon Web Services and the Google Cloud are both examples of productizing several internal services to create new products
 - WattzOn is an energy management company that commercialized an internal development Value Stream for scanning unstructured utility bills into a structured database into a new product offering called Glynt, a service that can scan and parse arbitrary documents

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Notes:

Capture magnitude of value

	Who is receiving the value?	
Who <i>Who is receiving this value?</i>	Merchant	How might we provide value?
Overview <i>Provide an overview of the value the Solution provides.</i>	Local courier services only operate between 8 A.M. to 6 P.M., which limits the revenue that a merchant can make from using a delivery service. Autonomous delivery allows a merchant to deliver items to Customers at any time of day or night.	How much value could we provide?
Magnitude <i>How can this potential value be measured? Can it be captured as a formula?</i>	Our research suggests that merchants make an average of \$2 per delivered item plus a shipping premium. Revenue = \$2/item + shipping premium	What is the economic impact of the value?
Implementation <i>What changes does the Customer need to make in order to realize this value?</i>	Depends on the current hours of the merchant. If they close at 6 P.M., offering after-hours deliveries would require them to hire more staff. If they already stay open later than 6 P.M., then adding autonomous delivery may not represent a problem.	What demand does our Solution place on our Customers?
Revenue or Cost <i>Is the value creation primarily associated with increasing revenue or reducing costs?</i>	Increasing revenue	Is this cutting costs or increasing revenue?

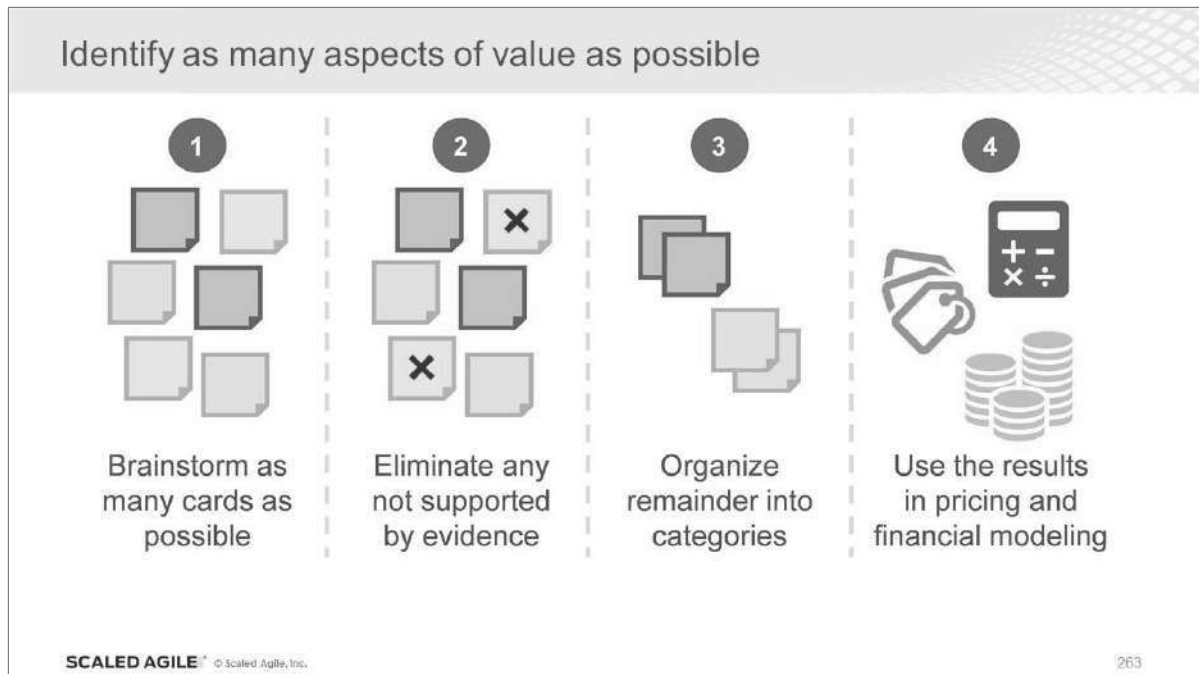
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Notes:

8.1 Analyze Customer value

Who? Who is receiving this value?	
Dimension: How might we provide value?	
Magnitude What is the magnitude without our solution?	
Value What can we provide?	
Sensitivity Analysis How "easy" is it to get the value?	
Revenue (up) Cost (down)	



Notes:



Activity: Identifying TTC Customer value

Prepare
10 min

Share
3 min

Who
Who is receiving this value?

Overview
Provide an overview of the value the Solution provides.

Magnitude
How can this potential value be measured? Can it be captured as a formula?

Implementation
What changes does the Customer need to make in order to realize this value?

Revenue or Cost
Is the value creation primarily associated with increasing revenue or reducing costs?

Working as a group, generate at least five dimension and magnitude of value cards for Terrific Transport Customers.

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Notes:

8.2 Choose type of value exchange

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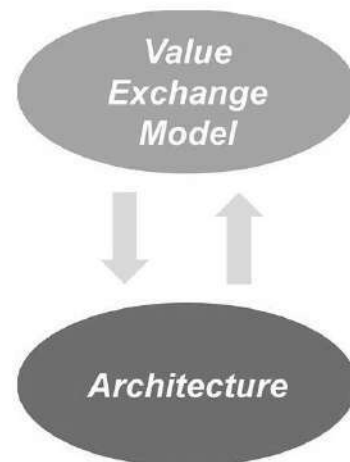
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Notes:

Understand value exchange models

- ▶ A value exchange model captures how you exchange products and Solutions for money, forming the core of your business model
- ▶ Multiple types of value exchange can coexist in the same product or portfolio
- ▶ Each value exchange model creates unique requirements for your technical architecture

Changing your value exchange model often requires commensurate changes to your architecture










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Notes:

8.2 Choose type of value exchange

Explore seven types of value exchange

	1. Time-based access
	2. Transaction
	3. Meter
	4. Hardware
	5. Service
	6. Percentage of revenue gained/costs saved
	7. Data/Digital Goods

These are choices for external products and Solutions.

For internal products and Solutions, these are often determined by the licensing model of your Supplier and will influence how you model overall Value Stream economics.

Notes:

1. Time-based access

Time-based access grants the right to use for a defined period of time (even if you don't actually use the software):

- ▶ Perpetual (like Microsoft Windows 2000)—least useful
- ▶ Annual (like many ERP)
- ▶ Monthly
- ▶ Rental

Monthly and annual terms are often associated with automated subscription billing.

Notes:

Architecture: Time-based access

- ▶ Requirement: Identify when the product or Solution is being used outside of the license agreement term and respond accordingly.
- ▶ Responses must be defined. For example, a hosted service could disallow login or implement a paywall.
- ▶ Ensure appropriate data management and retention policies. For example, you may need to delete data when the license expires in order to comply with GDPR.

Notes:

2. Transaction

- ▶ A transaction is a defined and measurable unit of work
- ▶ The exchange of money is tied to the successful completion of the transaction, but Customer value (and therefore price) is often associated with an attribute of the transaction

Many credit card processors charge a flat fee and a percentage of the total dollar amount on each transaction.

Which has 'more value'?
A \$10 charge or a \$10,000 charge?

2.9% + 30¢
per successful card charge

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Notes:

Architecture: Transaction

- ▶ Ensure the architecture implements the legal definition of the transaction
- ▶ Define and manage the entire transaction lifecycle
- ▶ Define and manage reporting, audit, invoice, and remittance policies
- ▶ Ensure support, sales, and service organizations have the tools required for their job—for example, researching Customer inquiries, correcting and/or adjusting invalid transactions

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Notes:

3. Meter

- ▶ Something that is counted—CPU, storage, users
- ▶ Consuming a well-defined resource:
 - Concurrent (e.g., concurrent user)
 - Absolute value (e.g., you have 100 hours of compute time on the server)
- ▶ Constraining a well-defined, identifiable resource:
 - Named user: Only Amit, Bill, and Weng Li can use the software
 - Hardware: You can only have four CPUs running or only these terminals can access the program

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Notes:

Architecture: Meter

- ▶ Ensure that the architecture can count the item being metered
- ▶ When consumptive, ensure the architecture provides audit processes and can manage the replenishment of the resources
- ▶ When constrained, ensure the architecture prevents improper sharing, for example sharing login or access credentials

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Notes:

4. Hardware

- ▶ The Customer pays for the hardware which derives value from embedded software
- ▶ This can be quite challenging: the software can often be perceived as free in embedded systems
 - Home appliances: Microwave ovens
 - Information appliances: Router/VPN server
 - Consumer electronics



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Notes:

Architecture: Hardware

- ▶ Identify if the hardware should support remote updates
- ▶ Determine if the software needs to identify or prevent tampering—you don't want hackers burning your toast!
- ▶ Identify and support data rights, including compliance with emerging data privacy laws

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Notes:

5. Service

The exchange of money is tied to a service; software is required to provide the service or is intimately related to the service

- ▶ Anti-virus software becomes increasingly less valuable without the service that provides updates to the virus definition files
- ▶ High-end professional service firms use combinations of humans and software to create blended offerings

Notes:

Architecture: Service

- ▶ Ensure the architecture can support any necessary content and/or workflow sharing that may be required between users
- ▶ Consider the impact of roles and access rights
- ▶ Identify the responsibilities of the parties in the delivery of the service

Notes:

6. Revenue obtained/cost saved

- ▶ The value exchanged is based on revenue obtained or costs saved with the actual price often defined as a percentage of the magnitude
 - Vendavo – Retail yield management
 - ServiceSource – Pricing for service companies
- ▶ Similar to transaction but usually associated with an aggregation of transactions and a mix of services

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Notes:

Architecture: Revenue obtained/cost saved

- ▶ Ensure that the way revenue and/or costs are captured and are supported by your technical architecture
- ▶ Identify relevant systems that may or must be integrated
- ▶ Define and manage reporting, audit, invoice, and remittance policies

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Notes:

7. Data/digital goods

- ▶ The software system generates unique data that is typically perishable
- ▶ Attributes often determine the value of data. Consider financial data:
 - Timeliness: Data that is delivered faster is generally more valuable
 - Breadth: Data that includes related data may be more valuable
 - Accuracy: More accurate data is generally more valuable
 - Precision: Data that is more precise is generally more valuable
 - Scarcity: Unique and/or scarce data may be more valuable
- ▶ Examples: Credit scores, stock quotes, patent data, digital goods in video games

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Notes:

Architecture: Data/digital goods

- ▶ Define data management, use, and retention. Examples:
 - Can your Customers repackaging or resell the data you are licensing?
 - Can a digital good be transferred to another entity?
- ▶ Consider automation and distribution
- ▶ Ensure operations can manage scope, complexity, volume, and speed

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Notes:

Type of value exchange influences Customer behavior

- ▶ Can lower Customer's perceived value
 - e.g., per-user metering may reduce usage, lowering both perceived value and revenue
- ▶ Associate the type of value exchanged with the value derived
 - e.g., instead of per-user metering, consider per device under management metering
- ▶ Balance against creative business models that shift the value
 - e.g., converting per-user metering to 'every device is included' to promote use and create lock-in effects that make removing your product harder

Notes:

8.2 Choose type of value exchange




Activity: Exploring value exchange models

Prepare
10 min

Share
5 min

- **Step 1:** Working at your table, choose a potential market segment for Terrific Transport.
- **Step 2:** Using your dimension and magnitude of value cards, explore the pros and cons of one or two exchange models.
- **Step 3:** Be prepared to share your pros and cons.




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Notes:

8.2 Choose type of value exchange



Activity: Architectural impact of the TTC value exchange model

Prepare
5 min

Share
3 min

At your table, select your most promising TTC value exchange model.

- ▶ What kind of Architectural Runway is needed to support this value exchange model?
- ▶ What would be the architectural impact of changing your value exchange model?

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Notes:

8.3 Establish costing and pricing

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Notes:

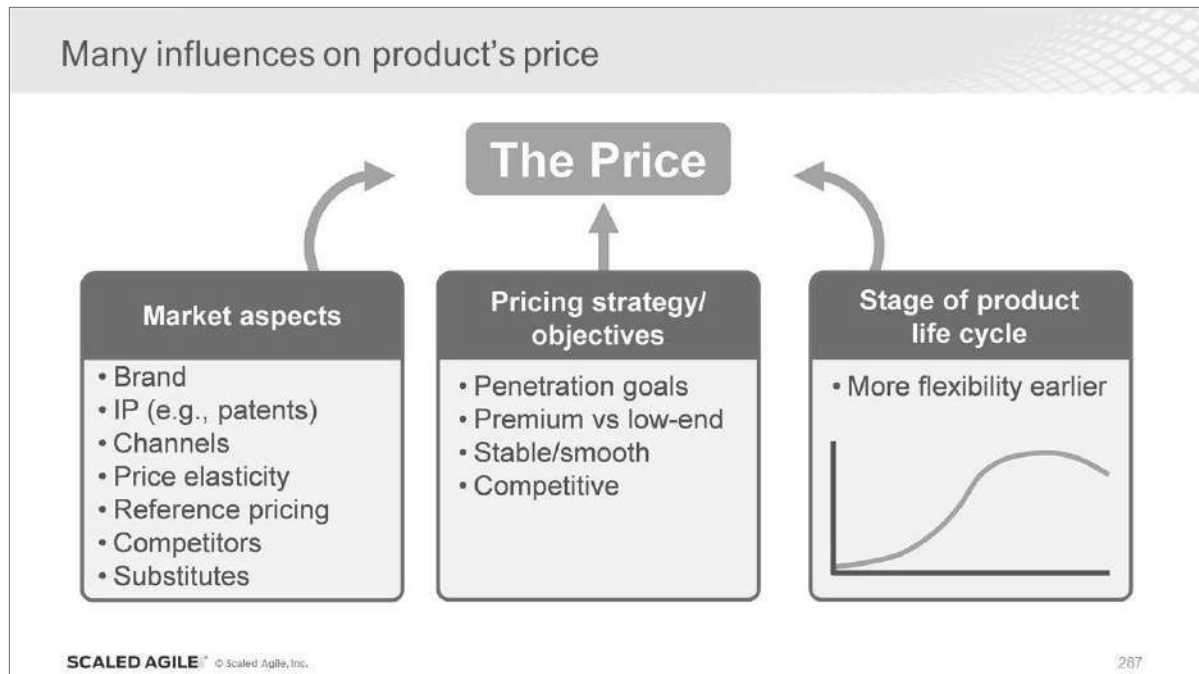
Pricing applies to both internal and external products

- ▶ Pricing concerns for external consumers
 - Designed to create viable and sustainable products and services
 - Based on a complex set of factors described in this lesson
- ▶ Pricing concerns for internal solutions (IT)
 - Typically a chargeback from IT providers to business consumers
 - Based on analysis of costs from Suppliers and internal operations
 - Value exchange often associated with Suppliers' models

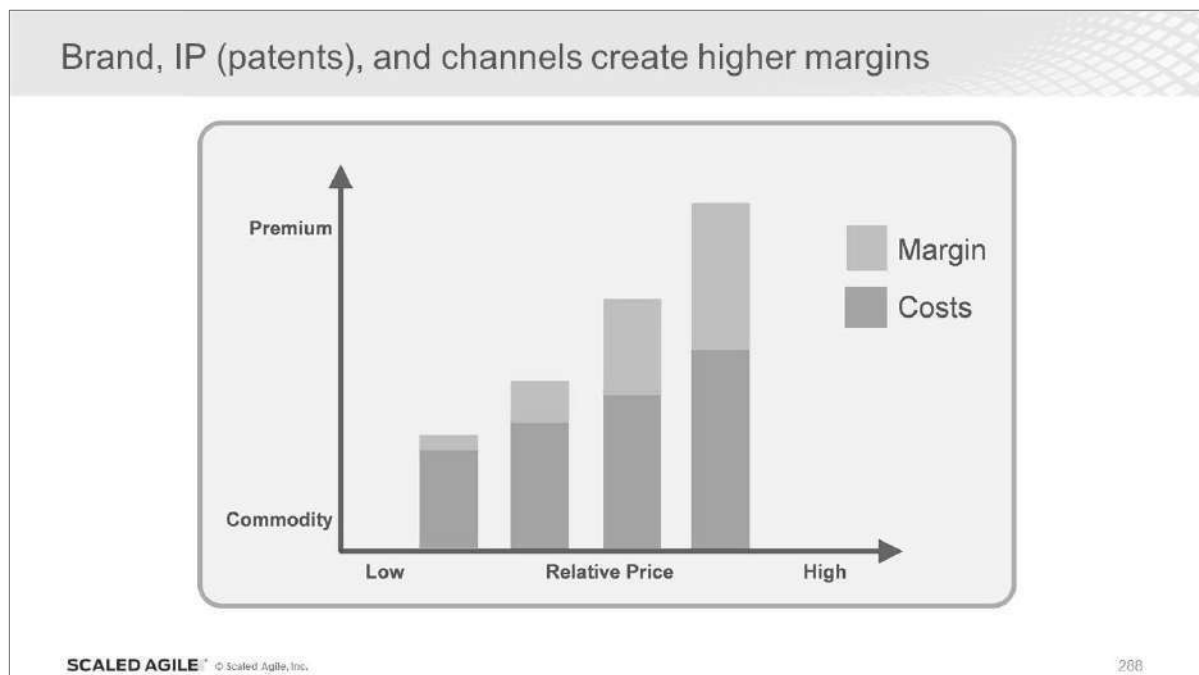
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Notes:



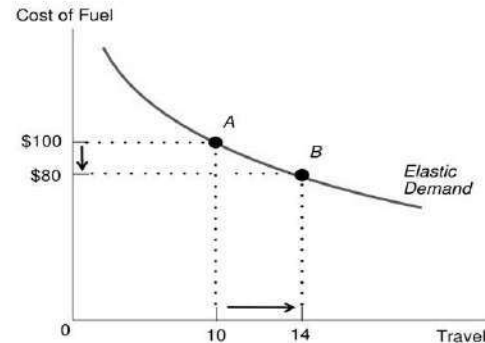
Notes:



Notes:

Changing the price can change the demand

- ▶ Price elasticity of demand (PED) measures the responsiveness of demand after a change in price.
- ▶ Demand is inelastic when changes in price have a relatively small effect on the quantity of the product or service consumed. Demand is elastic when changes in pricing affect consumption.
- ▶ Most of the time it is common sense: lowering the price of a good or service tends to increase consumption.



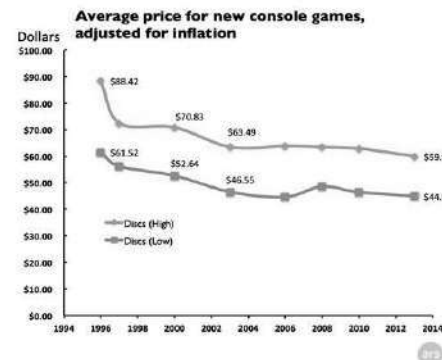
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Notes:

Reference prices can drive pricing decisions

- ▶ Reference prices are Customer expectations on pricing in markets
 - The average price of a console game is \$44.99 to \$59.99
- ▶ Reference points can create 'dead zones' in pricing
 - Very few games sell for \$129
- ▶ Acquire reference price data via secondary research



Mobile Application Analytics and Other Stuff, In Numero Blog, February 15, 2011, <https://innumero.wordpress.com/2011/02/16/distribution-of-price-on-the-apple-application-store/>

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Notes:

8.3 Establish costing and pricing

Use pricing research techniques to understand Customers

You should consider using one or more of these primary research techniques to gain better data for pricing decisions.

Van Westendorp price sensitivity meter

Establishes potential price ranges by asking respondents to rate the perceived value of a product at discrete price points.

Gabor-Granger

What is the willingness of respondents to purchase a given product at a given price.

Conjoint Analysis

How do respondents value different attributes of a product to determine what combination is most influential in decision making.

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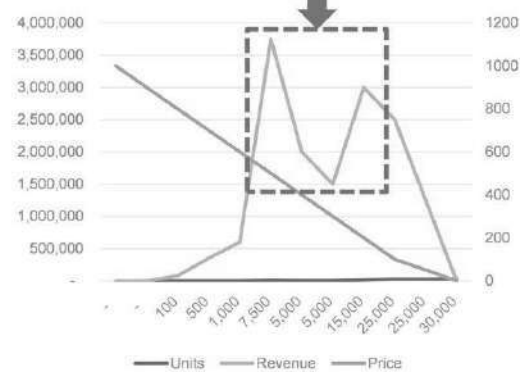
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Notes:

Plot elasticity with demand curves to identify optimal revenue

Watch for pricing 'dead zone': the number of units sold decreases with a price reduction

Sample Pricing Chart



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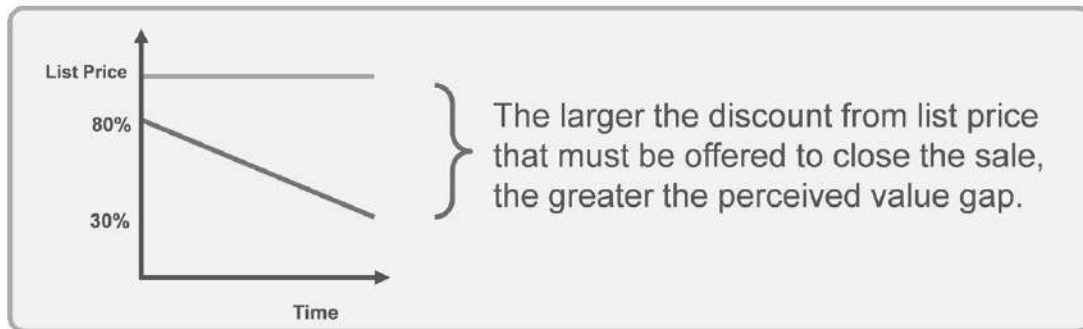
Units	Price	Revenue
-	1000	-
-	900	-
100	800	80,000
500	700	350,000
1,000	600	600,000
7,500	500	3,750,000
5,000	400	2,000,000
5,000	300	1,500,000
15,000	200	3,000,000
25,000	100	2,500,000
25,000	50	1,250,000
30,000	0	-

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Notes:

Leverage discount analysis to determine if your price is too high

Discount analysis is the process of comparing the list or asking price of a product and its actual sale price as Customers will only pay what they feel the product is worth.



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Notes:

Use bundles, levels, and incentives to increase revenue

Products and services come with a myriad of pricing techniques designed to extract maximum value:

- ▶ Discounts for larger volumes or longer-term contracts
- ▶ Bundling multiple products into a single Solution
- ▶ Tiered pricing; per-unit prices are lower in higher-priced tiers

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Notes:

B2B suppliers have unique pricing strategy considerations




Supplier considerations:

- ▶ Easily replaced? *Your margins may be smaller.*
- ▶ Codependent (like the Supplier of a large or complex subsystem)? *Pricing and investment may be jointly established with Customers.*
- ▶ Seeking new IP that can leveraged? *Consider discounts for Customers who participate in the development of the IP, alphas, and betas.*

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Notes:



Activity: Pricing as social policy

Prepare
15 min

Share
5 min

Pricing model choices are designed to influence Customer behavior in ways that are favorable to the vendor. For example, supermarket loyalty programs motivate us to continually shop at the same supermarket.

- ▶ **Step 1:** Working as a team, select one TTC market segment and identify at least two behaviors that you'd like to influence
- ▶ **Step 2:** Discuss how the TTC pricing model can influence this behavior to the advantage of TTC

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Notes:

8.4 Create a sustainable economic model

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Notes:

What is a profit engine?

- ▶ A profit engine is the underlying set of business model choices that are designed to create additional or repeated value exchanges or increase the profit of a value exchange
- ▶ Example:
 - Stripe's value exchange model is transactions (2.9% of the transaction + \$0.30)
 - Stripe wants to increase the number and size of transactions and increase the profit per transaction. Stripe can do such things as:
 - Offer fraud protection and related services as modules
 - Create partnerships to enhance their network
 - Lower internal transaction costs

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Notes:

Some key profit engines

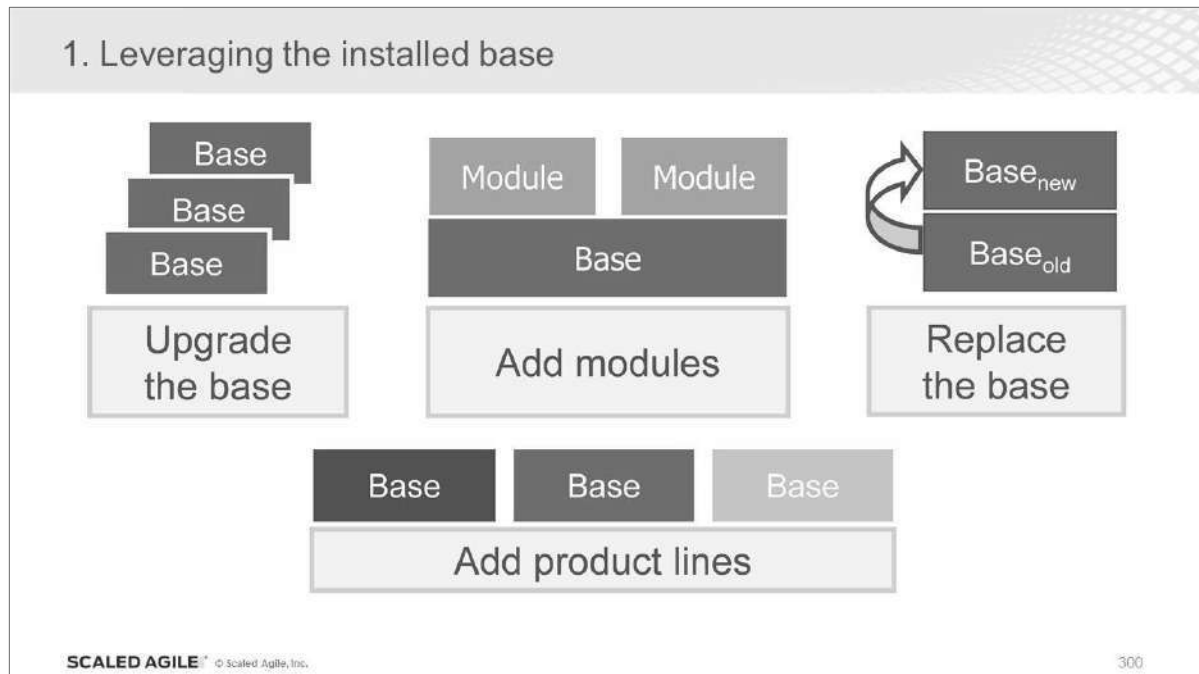
	1.	Leverage the installed base
	2.	Product pyramid
	3.	Platform ecosystem
	4.	Experience curve
	5.	First, fast
	6.	Think offering

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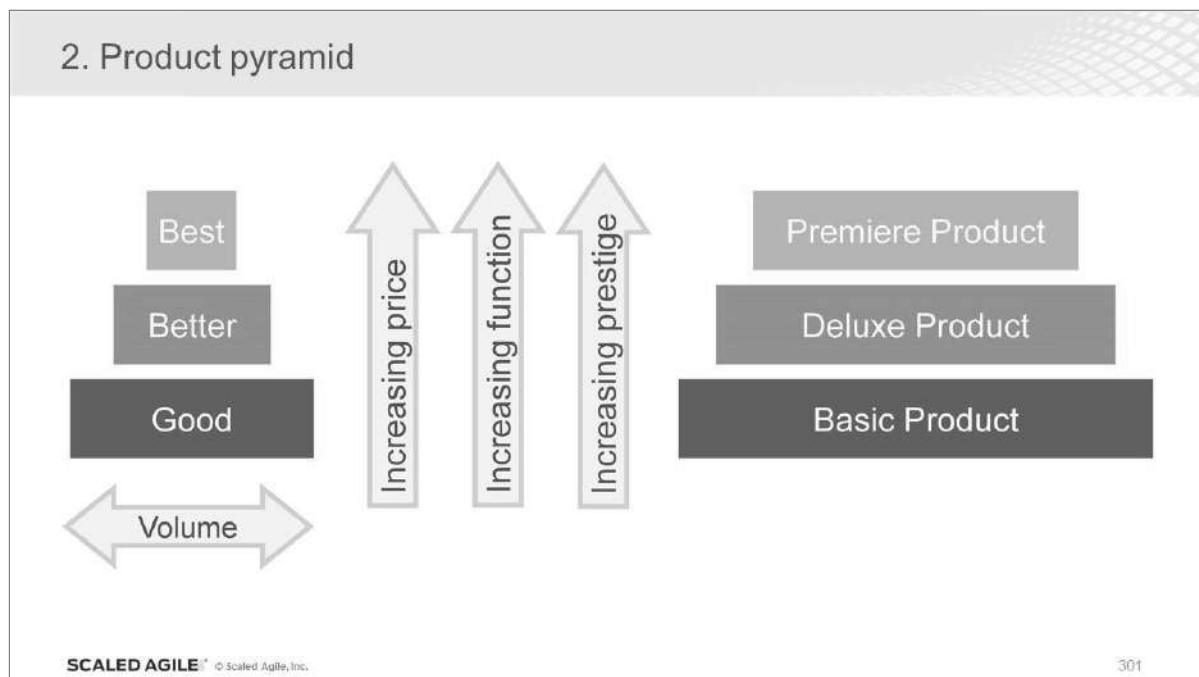
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Notes:

8.4 Create a sustainable economic model



Notes:



Notes:

3. Platform ecosystem

Fundamental component around which an entire ecosystem is created



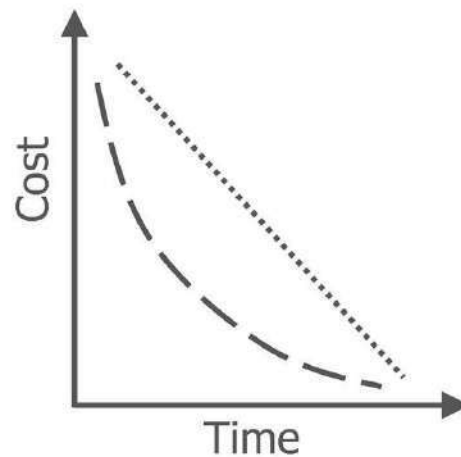
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Notes:

4. Experience curve

- ▶ Price per unit or price per transaction decreases over time
- ▶ Achieve in hardware via manufacturing efficiencies and supplier/material management
- ▶ Achieve in software via built-in quality (test-first, architecture/design), automation (TDD, BDD), DevOps, and elastic computing



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Notes:

5. First, fast

- ▶ Add new Features faster than competitors
- ▶ The profit is in capturing and retaining market share
- ▶ Requires architectures and processes designed for speed (e.g., Agile development, Built-in Quality, DevOps)

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Notes:

6. Think offering


- ▶ **Old model:** Software and services are designed and managed as distinct Value Streams. Revenue is modeled separately.
- ▶ **New model:** Software and services are designed and managed as a single integrated Value Stream. Even if software is licensed separately and Customers may differ in how much they purchase, overall revenue is blended.



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Notes:



Activity: How can TTC increase profit?

Prepare
5 min

Share
5 min

As a group discuss the following:

- ▶ What are TTC's profit engine(s)?
- ▶ What are some ways in which TTC can increase profit?
- ▶ Could any of the profit engines discussed be leveraged?
- ▶ Is there a different profit engine that may produce better results?
- ▶ Do profit engines induce any unique architectural requirements?

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Notes:

8.5 Interpret in-licensing models

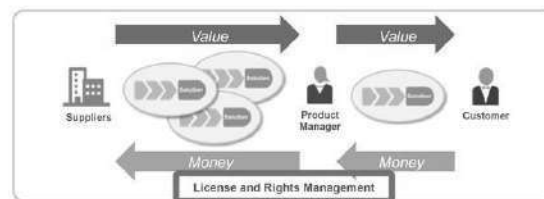
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Notes:

What is a license model?

- ▶ A license model governs the use of intellectual and other property (e.g., software, training materials, hardware, and services)
- ▶ Product Managers must manage both in-licenses and out-licenses:
 - In-license: Licenses negotiated or accepted from Suppliers
 - Out-license: Licenses negotiated or provided 'as is' to Customers
- ▶ Compliance is a cross-cutting concern that often impacts in-licenses, out-licenses, and architecture



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Notes:

Understand Supplier in-licensing impact

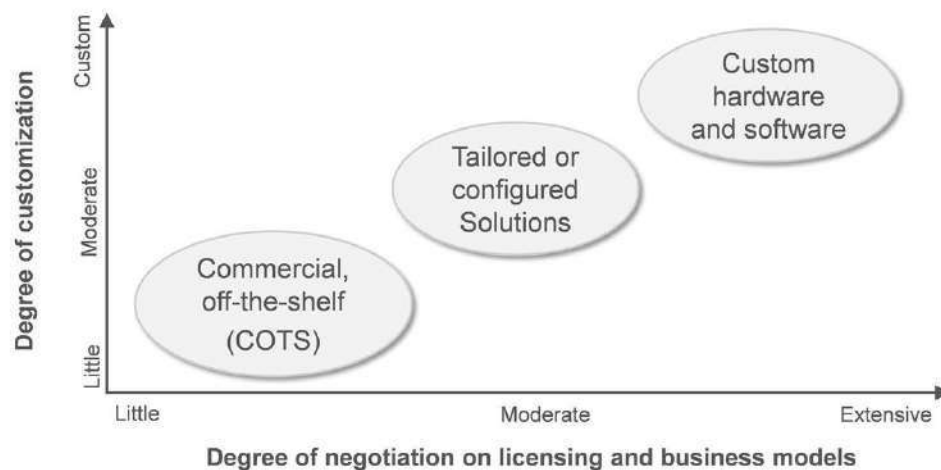
Issue or Concern	Example
In-licenses can limit your value exchange choices	Your Supplier uses transactions; you want to use time-based access
In-licenses can impact your ability to service specific markets	Your Supplier is not GDPR compliant, restricting your ability to serve Europe
In-licenses can create technical demands	Your Supplier requests audit and performance data that you may not want to provide
In-license is open source	Open-source licenses motivate special consideration, as the inappropriate use of an open-source license could put your IP at risk

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Notes:

Supplier relationship determines negotiation freedom



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Notes:

Avoid traditional contracts for custom development

Stifles Supplier innovation		No long-term relationship	
Firm-Fixed-Price	Target Price	Cost-Plus	Time and Materials
<ul style="list-style-type: none"> - Fixed specification - Fixed price and date - Changes with a fee 	<ul style="list-style-type: none"> - Fixed specification - Fixed date - Target price - Negotiated profit for the Supplier above target price 	<ul style="list-style-type: none"> - Target specification - Target date - Customer pays Supplier's cost plus profit margin 	<ul style="list-style-type: none"> - No complete specification - Price based on rate - Ends as specified by Customer
Risk mostly shifted to Supplier	Shared risk, shared economic opportunity	Risk mostly shifted to Customer	Risk mostly shifted to Customer

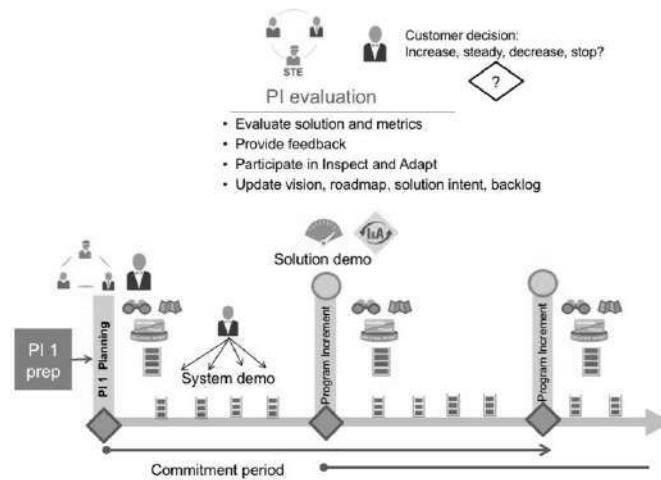
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Notes:

Use Agile contracts

- ▶ Align on Vision, Roadmap, and initial Solution Intent prior to contract
- ▶ Continually commit to a performance period aligned on PI boundaries
- ▶ Reevaluate each increment
- ▶ Governed by continuous Customer involvement



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Notes:

8.6 Design out-licensing models

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Notes:

Design your out-license model

- ▶ Design your out-license model to meet your present and future needs while ensuring compliance with applicable laws
- ▶ Consider your Solution Context when designing your out-license models e.g., iOS apps are constrained to the Apple licensing model
- ▶ Customers will often pay for specific kinds of rights, which influences both negotiations and the configuration of products and services
- ▶ Periodically review your out-license models on major releases and significant architecture changes to ensure your license model is evolving in alignment with your Solution

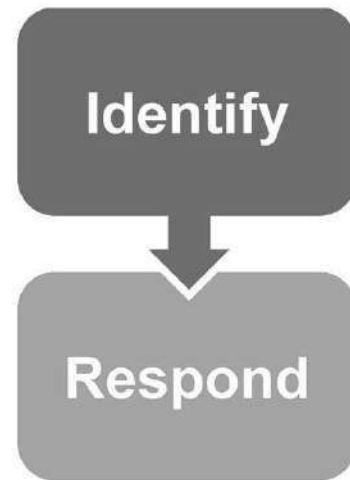
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Notes:

Understand enforcement of rights

- ▶ Enforcing your rights is the process of identifying and responding to violations of your license model
- ▶ Enforcement can improve profitability by:
 - Motivating/requiring additional purchases
 - Preventing losses due to inappropriate use or theft
 - Improving cross-sell/up-sell opportunities
- ▶ Enforcement can improve Customer satisfaction by
 - Only licensing what Customers use (B2B/B2P rarely intentionally steal)
 - Better matching use model with business and pricing models and/or payment mechanics



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Notes:

Identify and enforce out-license rules

- ▶ Determine identification strategy
 - Honor system (contract, audits)
 - License managers for on-premise software
 - Monitoring systems for the cloud
- ▶ Enforce real-time or post-facto
 - **Real-time:** Disabling some or all of the application when one or more terms have been violated, such as rejecting user logins when user counts have been exceeded
 - **Post-facto:** Using product telemetry or usage data to create invoices or bills that recover fees, such as allowing excess logins and billing for subsequent users later (i.e., pay after use)

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Notes:



Activity: TTC rights and restrictions

Prepare
5 min

Share
3 min

TTC delivers merchant products to consumers autonomously. What rights and restrictions might you place on cargo to limit damage to the vehicle and to promote the intended use of autonomous vehicles?

- ▶ What rights and restrictions should TTC consider about the products it will accept from merchants?
- ▶ Should TTC create any similar rights and restrictions for recipients?
- ▶ How could TTC enforce their policy?

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Notes:

8.7 Model financial performance and return on investment (ROI)

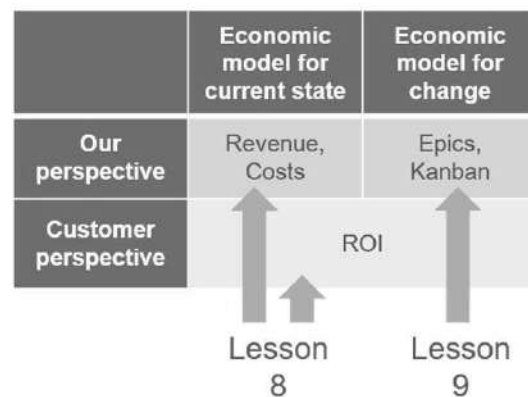
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Notes:

Financial modeling helps ensure viable and sustainable products

- ▶ Financial modeling ensures investment choices that are viable and sustainable for companies and their internal and external Customers
- ▶ Internal financial models integrate many things: actual and forecasted costs, actual and forecasted revenue, etc.
- ▶ Financial models created for Customers help them understand their ROI when they purchase our products



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Notes:

Ensure viable and sustainable commercial products

- ▶ Calculate revenue:
 - Start with target market size and segment assumptions
 - Add pricing choices, showing how value exchange models drive prices
 - Model renewals, losses/defections, and projected impact of your profit engine
- ▶ Calculate costs:
 - ARTs, Suppliers, overhead, marketing, sales, service, etc.
- ▶ Economic impact is the sustainable profit you generate for the business

For commercial products:
Profit = Revenue - Cost

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Notes:

Ensure viable and sustainable internal products

- ▶ For internal products, revenue is the Value Stream's budget allocation
- ▶ Costs are similar to commercial products: ARTs, Suppliers, and overhead
- ▶ Leverage your value analysis to move from 'cost thinking'
- ▶ Understand how Supplier cost models will impact your future budgets
 - If your Supplier charges by use and you're forecasting increased use, you might need to increase your budget

For internal products:
Spend Justification =
Value - Cost

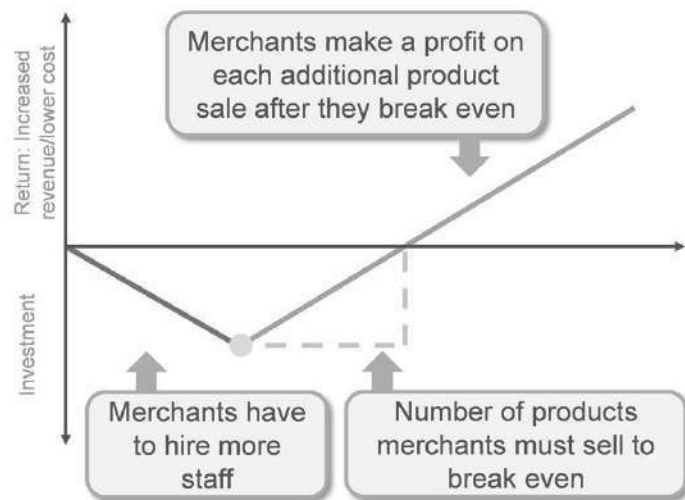
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Notes:

Ensure products create ROI for Customers

- Consider a TTC merchant who wishes to increase sales between 6 P.M.– 9 P.M. but must hire additional staff.
- The investment is the cost of the additional staff each month. The return is based on increased sales.



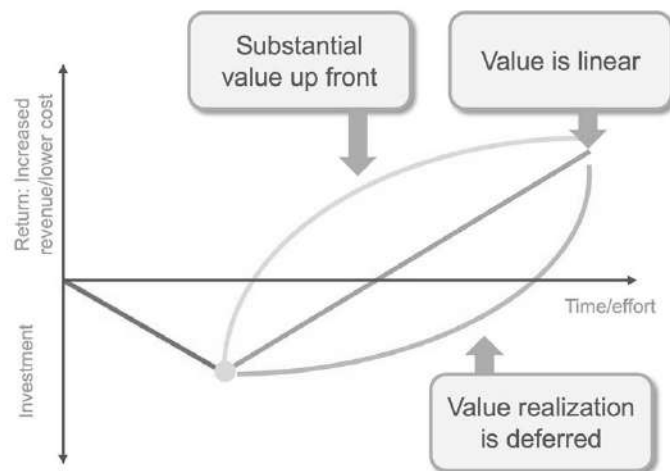
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Notes:

Customer value realization is not always linear

Product Managers can charge more when value realization is front-loaded and may have to use different pricing models when value realization is deferred.



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Notes:

Customers model costs and returns prior to purchase

- ▶ The *total cost of ownership (TCO)* is a financial estimate intended to help Customers determine the direct and indirect costs of a Solution.
- ▶ Failure to account for TCO may partially explain value gaps when conducting a discount analysis (discussed earlier). TCO typically includes:

Ancillary hardware	Installation	Operations
Ancillary software	Training	Transition/integration
Confirmation testing	Maintenance	

Notes:

Product Managers help Customers model ROI

- ▶ Return on investment is a performance measure that is used to evaluate how efficient an investment is or for efficiency comparisons of numerous investments
- ▶ ROI measures how much return you will receive on an investment relative to the cost of the investment
- ▶ Product Managers must often create two ROI models: an internal ROI for managing portfolio investments and a Customer ROI model to help Customers purchase their Solutions

$$\text{Simple ROI} = \frac{\text{Gains} - \text{Investment Costs}}{\text{Investment Costs}}$$

$$40\% = \frac{\$700,000 - \$500,000}{\$500,000}$$

Notes:

Understand ROI components

This part is based on our value analysis. A sound value analysis is a strategic competitive advantage.

Most PMs model internal costs but often struggle in modeling their Customer's total cost of ownership.



$$\text{ROI (\%)} = \frac{\text{Benefits} - \text{Costs}}{\text{Costs}} \times 100$$

Notes:

There are four key ways Customers analyze economic value

ROI Return on Investment	Ratio of the net gain from a proposed project divided by its total costs. An accurate ROI analysis measures both the tangible and intangible paybacks.
NPV Net Present Value	The difference between the present value of an investment's anticipated future savings and its costs. NPV answers the question, "Is it worthwhile to invest funds in 'X' today?"
IRR Internal Rate of Return	The discount rate necessary to drive the NPV to zero. The value another investment would need to generate in order to be equivalent to the cash flows of the investment being considered.
Payback Period	The break-even point or the time it takes for the project to yield a positive cumulative cash flow, illustrating how quickly the investment will begin paying for itself.

Notes:

Create ROI calculators to help Customers justify purchases

ROI calculators help you demonstrate value and sell your products and services faster.

- ▶ Usually take the form of a spreadsheet or website
- ▶ Be prepared to calculate ROI, NPV, IRR, and Payback
- ▶ Translate to terms your Customer can understand:
 - Less helpful: “Our software will save you 20 minutes per delivery day”
 - More helpful: “Our software will help you add one delivery per day”
- ▶ Avoid extrapolating too far into the future
 - An epic that could increase revenue by \$1M USD for year one can sound compelling. Projecting this 5 years into the future and projecting more than \$5M in revenue may sound less believable because so many factors can change.
- ▶ Invest in a professional looking result
- ▶ Make it easy for buyers to use your tool when selling to others

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Notes:

Example: Tubeclear ROI Calculator

Hospital ROI Calculator

QUESTIONS *

How many beds are in your facility?

Of the tubes you place, what percentage clog? ¹

What percentage of the clogged tubes require replacement? ²

What is your estimated cost to declog a tube? (nursing time + supplies costs) ³

What is your estimated cost to replace a tube? (clinician + procedure costs) ⁴


Replacement costs for G and J tubes average \$1098 per tube while NE and NG tubes average \$111 per tube. Please enter one of these (or your own value) above.

<http://www.tubeclear.com/hospital-roi-calculator/>

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Notes:



Activity: Create a financial model for TTC

Prepare
5 min

Share
5 min

Explain TTC's value proposition for merchants.

- ▶ Define a merchant's costs for autonomous delivery. Which are one-time? Which are recurring? Quantify the costs per month and/or per delivery.
- ▶ Define a merchant's revenue created by the autonomous delivery service. Will there be expanded business? Can they charge a convenience premium? Quantify the value created per month and/or per delivery.
- ▶ Can you answer how long it would take a merchant to see a profit?

Profit = Revenue - Cost

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Notes:



Action Plan: Managing Value Stream Economics



On the Action Plan page in your workbook, answer the following questions:

- ▶ Have you conducted a thorough analysis of how your product benefits your Customer?
- ▶ When was the last time you changed your pricing? What would need to change in your product to increase pricing?
- ▶ When was the last time you reviewed your standard terms of service/product contract?



Notes:

Lesson review

In this lesson you:

- ▶ Explored how to analyze Customer value
- ▶ Reviewed how to choose type of value exchange
- ▶ Examined how to establish costing and pricing
- ▶ Explored how to create a sustainable economic model
- ▶ Reviewed in-licensing models
- ▶ Explored how to establish out-licensing models
- ▶ Reviewed how to model financial performance and return on investment (ROI)

Notes:

Lesson 9

Creating Innovation in the Value Stream

Learning Objectives:

- 9.1 Describe Value Stream and product innovation
- 9.2 Use metrics to guide improvements
- 9.3 Manage innovations through Epics
- 9.4 Fund sustainable innovation
- 9.5 Apply rapid experimentation
- 9.6 Evaluate hypothesis outcomes: Pivot, stop, or continue



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

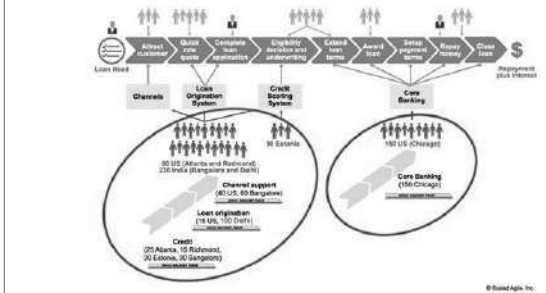
9.1 Describe Value Stream and product innovation

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Notes:

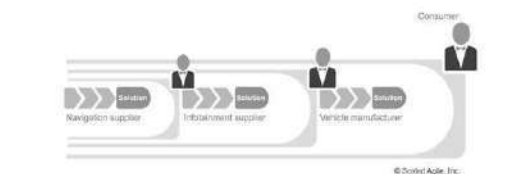
Value Stream innovation

Value Stream innovation refers to the innovations we create in the design and implementation of Value Streams and the Solution Context.



Can we innovate in how a customer completes and submits his loan application?

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Could the Navigation supplier innovate their Solution Context by doing such things as 'moving' the navigation system from the console display directly into the steering wheel or into a heads-up display?

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Notes:

Value Stream innovation focuses on Customers

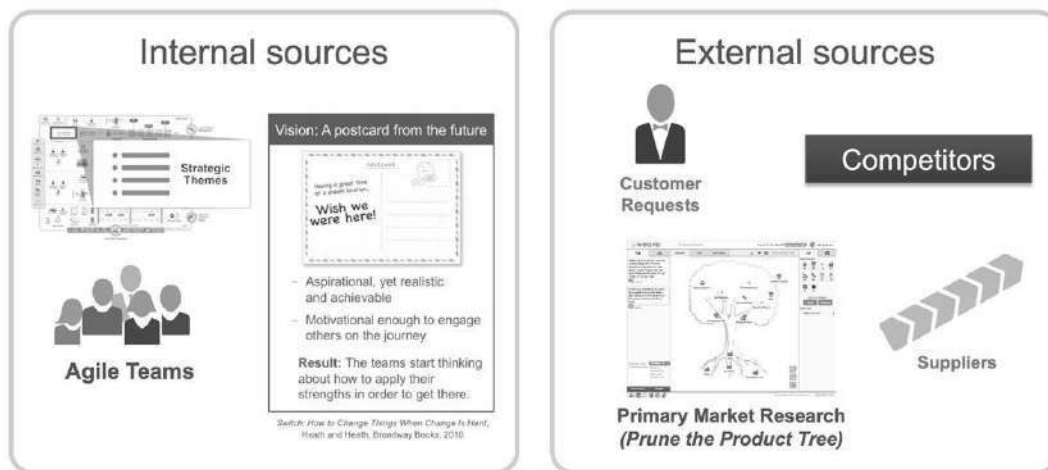
Technology Innovation	Business Model Innovation	Customer Experience Innovation
Maersk deployed blockchain technology for fast and secure access to end-to-end supply chain information from a single source. This created trustworthy cross-organization workflows, lowered admin expenses, and improved risk assessments in global shipments.	HP created instantink.com, a subscription printing service "based on the number of pages you print not the amount of ink you use." Customers have reported increasing levels of satisfaction based on convenience.	When TUI embarked on its digital transformation, it faced a difficult challenge: its back-end systems in were 35 years old. Rather than embark on a complete overhaul, TUI developed a three-year plan that created a series of customer-centric improvements across its Value Stream.

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Notes:

Innovative ideas come from many sources

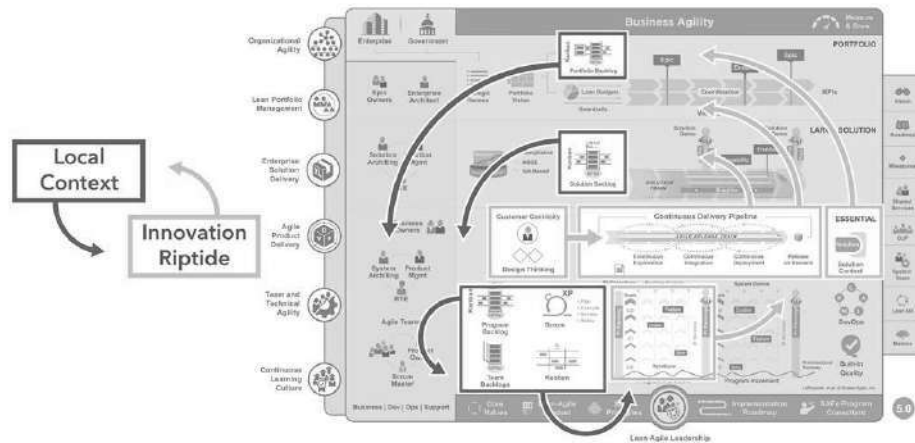


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Notes:

SAFe has many ways to promote and capture innovation



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Notes:

Leverage the Innovation and Planning Iteration

In SAFe, the Innovation and Planning (IP) Iteration occurs every Program Increment (PI) and serves multiple purposes:

- ▶ Is an estimating buffer for meeting PI Objectives
- ▶ Provides *dedicated time for innovation*, continuing education, PI Planning, and Inspect and Adapt (I&A) events

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Notes:

9.2 Use Metrics to guide improvements

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Notes:

Output vs. outcome Metrics

Output Metrics	Measure work: Feature cycle time, bug counts, velocity
Outcome Metrics	Measure results or value: Customer and employee NPS, retention, success
Vanity Metrics (Avoid)	Look great because they simply get bigger without necessarily correlating to sustained success

- ▶ While output measures are important for every Enterprise, Product Managers should focus their attention on outcome Metrics
- ▶ Innovation is often associated with improving outcome Metrics

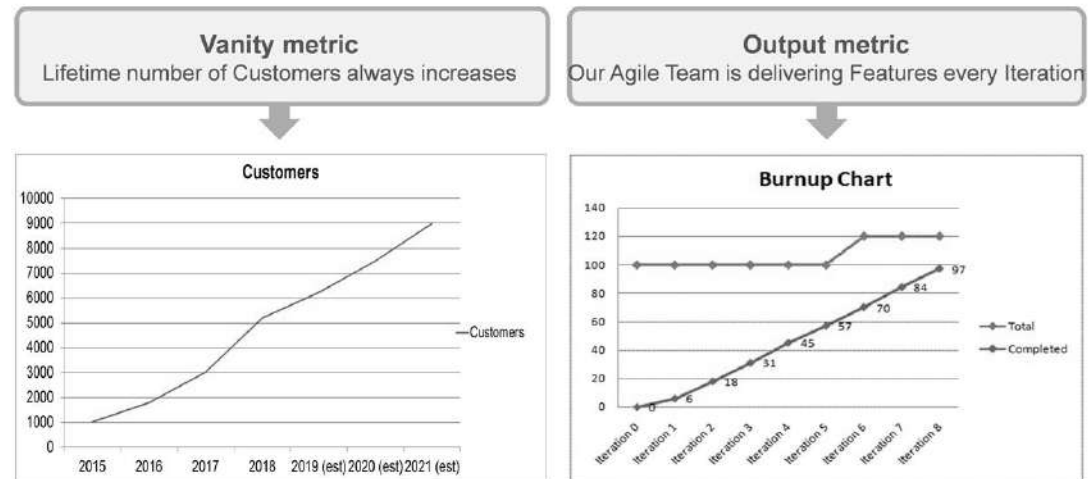
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Notes:

9.2 Use metrics to guide improvements

Example vanity and output metrics



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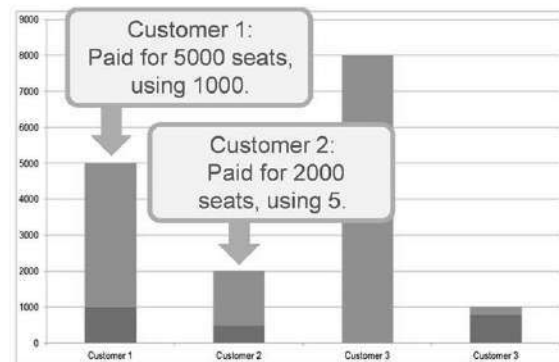


Discussion: How do you measure Enterprise software sold by seats?



In this example, a PM wants to understand how actively key customers are utilizing their software. As a class, discuss:

- ▶ What kind of Metric is this?
- ▶ What decisions could or should this support?
- ▶ How could it be made more useful?

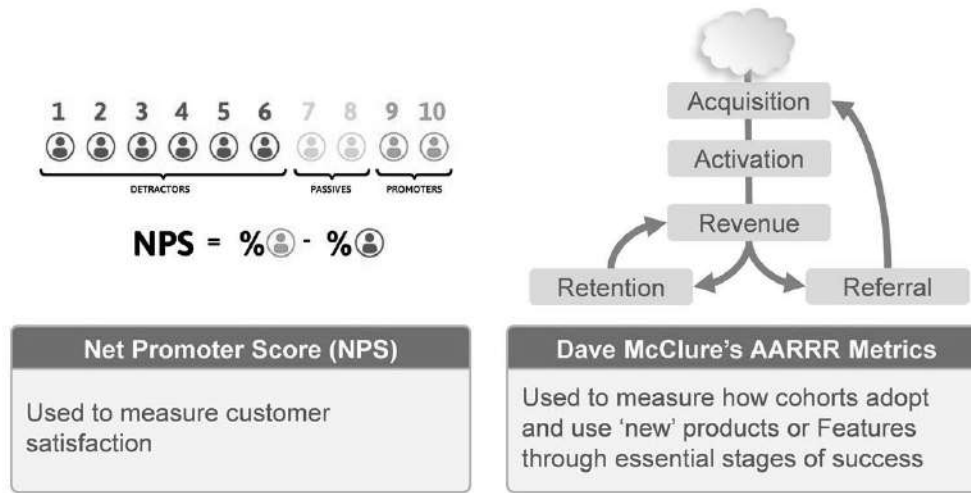


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Notes:

Two approaches to outcome Metrics



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Notes:

Net Promoter Score (NPS)

- ▶ NPS measures Customer perception based on one simple question:
 - *How likely is it that you would recommend [Organization X/Product Y/Service Z] to a friend or colleague?*
- ▶ Respondents give a rating between 0 (not at all likely) and 10 (extremely likely). Depending on their response, Customers fall into one of three categories to establish an NPS score:
 - Promoters respond with a score of 9 or 10 and are typically loyal and enthusiastic Customers.
 - Passives respond with a score of 7 or 8. They are satisfied with your service but not happy enough to be considered promoters.
 - Detractors respond with a score of 0 to 6. These are unhappy Customers who are unlikely to buy from you again and may even discourage others from buying from you.

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Notes:

NPS is easy to calculate and highly reliable if not abused

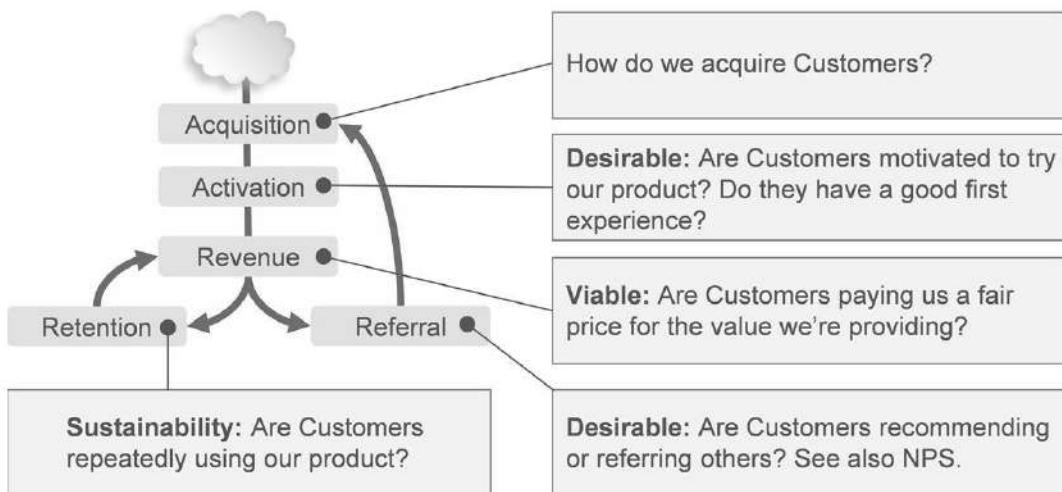
- ▶ It's simple to calculate your NPS score: just subtract the percentage of Detractors from the percentage of Promoters.
 - For example, if 10% of respondents are Detractors, 20% are Passives, and 70% are Promoters, your NPS score would be $70 - 10 = 60$.
- ▶ It is generally not possible to understand the *reasons behind NPS* without acquiring additional qualitative research data.
- ▶ However, NPS provides a reliable means to understand the longitudinal impact of Solution evolution and innovation.

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Notes:

AARRR metrics defined



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Notes:

Practical pirate Metrics

Pirate Metrics provide a powerful set of tools but can be overwhelming

- ▶ Define key behaviors relevant to your Solution and business model:
What does activation mean? Creating an account?
- ▶ Ensure you have the systems to capture the data.
- ▶ Start measuring the performance. Be prepared to be disappointed: most teams start measuring areas they intuitively know they need to improve!
- ▶ Use Continuous Exploration and Design Thinking to identify ways to improve performance.

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Notes:

Example AARRR-inspired outcome Metrics

		Outcome Metric Number of customers who renew each month by cohort									
Conversion month	New customers	# of retained customers in month									
		Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19
Jan-19	80	78	75	72	70	69	67	66	66	65	64
Feb-19	88		88	86	82	78	77	76	73	72	70
Mar-19	105			103	103	98	94	92	90	86	82
Apr-19	110				107	106	102	99	97	92	90
May-19	115					114	112	105	98	97	96
Jun-19	128						128	122	119	115	110
Jul-19	137							136	129	122	118
Aug-19	151								149	145	135
Sep-19	161									158	154
Oct-19	168										167
		78	163	261	362	465	580	696	821	952	1,086


- 1) In March we had 105 potential leads. 103 converted to paying customers (month 1, for them).
 - 2) In July 92 were still paying!
 - 3) The total number of customers as of July was 696—this is the vanity metric!
- Note: The cohort, once established, doesn't change in size or membership.

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Notes:

9.2 Use metrics to guide improvements



Activity: Developing AARRR Metrics

Prepare
15 min

Share
3 min

Metric	How we might define/capture
Acquisition	How do entities within this segment learn about TTC?
Activation	What motivates them to try TTC? Do they have a good first experience?
Revenue	How do we ensure initial revenue? How might we increase revenue?
Retention	How frequently do our Customers use TTC?
Referral	Would our Customers refer us? How do we grow our business?

As a new product offering, TTC is a very good candidate for AARRR Metrics. Working as a team, select a target market segment and explore how you might define and capture the following Metrics.

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Notes:

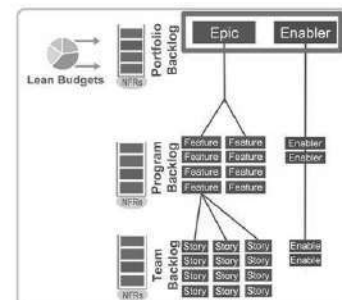
9.3 Manage innovations through Epics

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Notes:

Epics are the mechanism for implementing large changes

- ▶ An Epic is a large initiative that requires analysis, the definition of a minimum viable product (MVP), and financial approval before implementation
- ▶ An Epic requires an Epic Owner to guide them through the Portfolio Kanban and collaboratively create a Lean business case
- ▶ There are two types of Epics:
 - Business Epics are customer-facing
 - Enabler Epics advance Architectural Runway



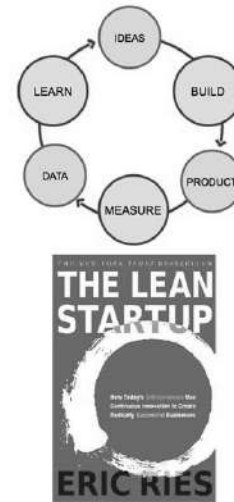
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Notes:

Epics are motivated by the Lean Startup

- ▶ The Lean Startup promotes building new products, services, and companies through a combination of business-hypothesis-driven experimentation, iterative product releases, and validated learning.
- ▶ Customer feedback during the development of products or services is integral to the Lean startup process and ensures that the company does not invest time designing Features or services that consumers do not want.



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Notes:

Epics are described with the Epic hypothesis statement

- ▶ Captures, organizes, and communicates critical information about an Epic
- ▶ Contains four major fields:
 - The value statement
 - Business outcomes hypothesis
 - Leading indicators
 - Nonfunctional requirements (NFRs)

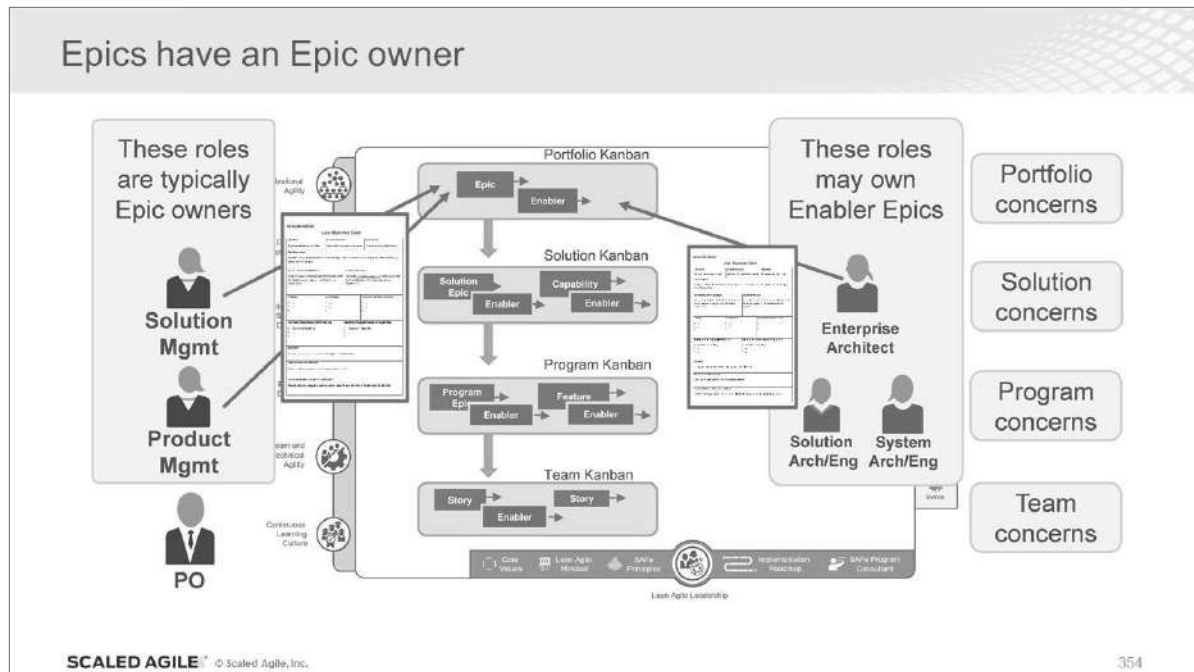
Epic Hypothesis Statement Template

Epic Hypothesis Statement	
For	<customers>
who	<do something>
the	<solution>
is a	<something – the "how">
that	<provides this value>
Unlike	<competitor, current solution, or non-existing solution>
our solution	<does something better – the "why">
Business Outcome Hypothesis	•
Leading Indicators	• (early innovation accounting measures)
NFRs	•

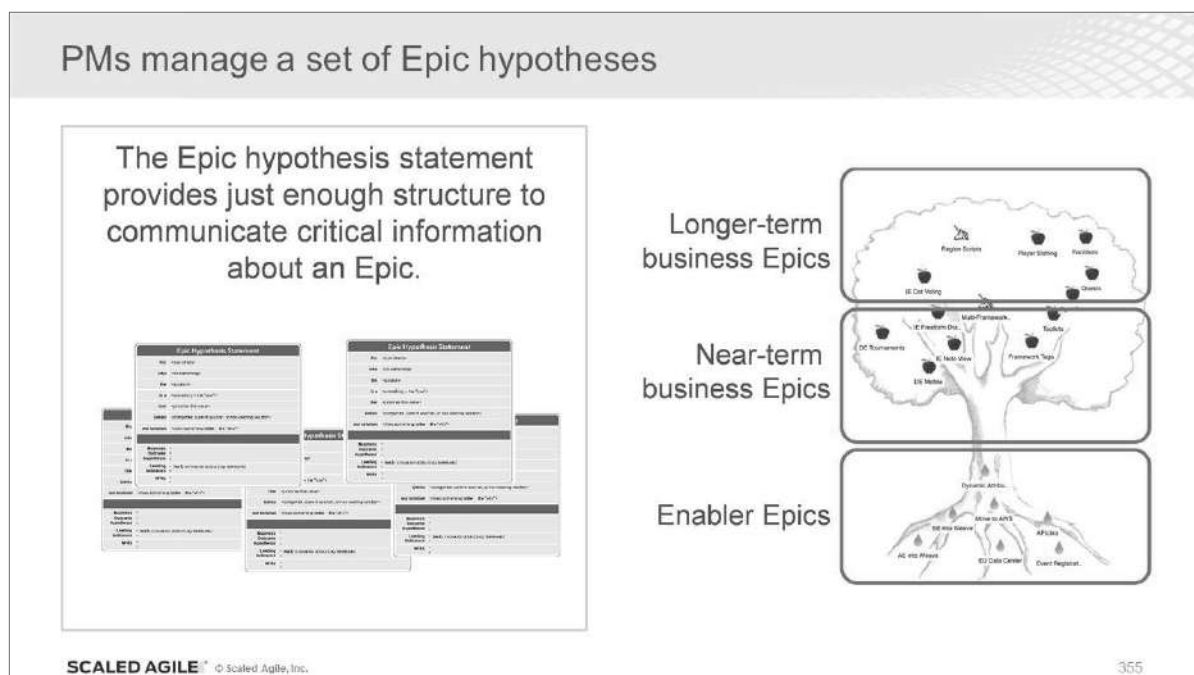
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Notes:



Notes:



Notes:

9.4 Fund sustainable innovation

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Notes:

Epics are analyzed and approved using the Lean business case

- ▶ The potentially significant investment required by an Epic motivates critical thinking that we capture through the Lean business case.
- ▶ Which Epic is likely to create the best business outcome?
- ▶ What is the most effective way to prove or disprove our hypothesis?
- ▶ What aspects of our business might change if this Epic is engaged?
- ▶ What might be the total investment?

Lean business case template

[illegible]

Download the Lean business case at:

www.scaledagileframework.com/?ddownload=35395

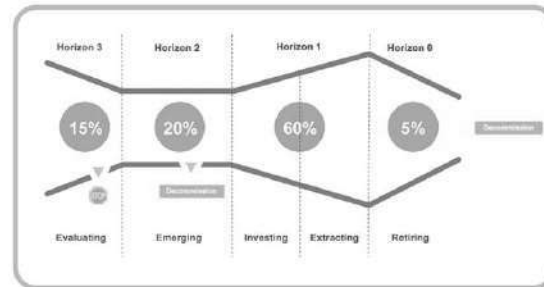
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Notes:

Balance spending with investment horizons

- ▶ Horizon 3 (Evaluating): Investment for new potential Solutions
- ▶ Horizon 2 (Emerging): Solutions that have emerged from horizon three
- ▶ Horizon 1: Desired state where Solutions deliver more value than their cost:
 - Investing: Solutions that require significant ongoing investment
 - Extracting: Stable Solutions that deliver great value with minimal new investment
- ▶ Horizon 0 (Retiring): Investment to decommission Solutions



Partially based on:
Bansi Nagai and Tuff, Geoff, Managing Your Innovation Portfolio, Harvard Business Review, accessed October 17, 2019, <https://hbr.org/2012/05/managing-your-innovation-portfolio>

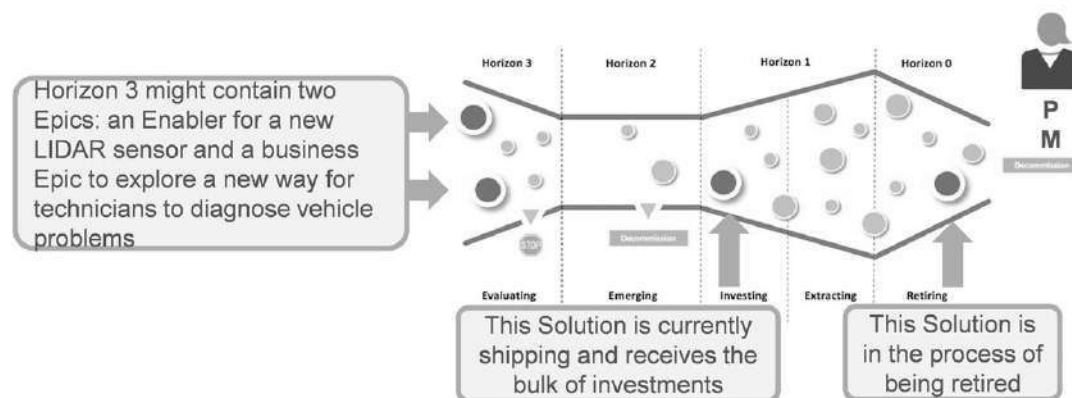
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Notes:

PMs may simultaneously manage Solutions in different horizons


Consider a PM who is managing the computer system that goes in the TTC vehicle control system.




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Notes:




Activity: Capturing Epics through the Lean business case

Prepare


Share


- ▶ Serving a new market or market segment will almost always mean either (a) making some change to existing products or (b) introducing new products—either of which would likely be Epics.
- ▶ Let's assume that TTC has found success in the retail and print delivery markets. Working at your tables, identify the aspects of the Lean business case that might be most useful in helping you decide if TTC should pursue the food delivery market segment.



Lean business case

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Notes:

Lean Business Case

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Epic Name: (Short name for the Epic)	Funnel Entry Date: (Date the Epic entered the funnel)	Epic Owner: (The name of the Epic Owner)
Epic Description: (Consider using the Epic Hypothesis Statement in the Epic article as a starting point for a description of the epic.)		
Business Outcome Hypothesis: (Describe how the success of the Epic will be measured: for example, 50% increase in shoppers under 25; Availability increases from 97% to 99.7%, etc.)		Leading Indicators: (Establish innovation accounting metrics to provide leading indicators of the outcomes hypothesis: for example, a measurable change in purchaser demographics within 30 days of feature release)
In Scope: <ul style="list-style-type: none"> 	Out of Scope: <ul style="list-style-type: none"> 	Nonfunctional Requirements: <ul style="list-style-type: none">
Minimum Viable Product (MVP) Features <ul style="list-style-type: none"> (Feature or Capability) 		Additional Potential Features <ul style="list-style-type: none"> (Feature or Capability)
Sponsors: (List key business sponsors who will be supporting the initiative)		
Users and Markets Affected: (Describe the user community and any markets affected)		
Impact on Products, Programs and Services: (Identify products, programs, services, teams, departments, etc. that will be impacted by this Epic)		

Lean Business Case

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Impact on Sales, Distribution, Deployment: (Describe any impact on how the product is sold, distributed, or deployed)		
Analysis Summary: (Brief summary of the analysis that has been formed to create the business case.		Go / No-Go: (Go, or No-Go recommendation)
Estimated Story Points (MVP): (Estimated story points for the MVP of the epic)	Estimated Monetary Cost (MVP): (Example: Estimated story points * cost per story point for MVP features)	
Type of Return: (Market share, increased revenue, improved productivity, new markets served, etc.)	Anticipated Business impact: (Revenue, ROI, or other applicable financial metrics)	
In-house or Outsourced Development: (Provide recommendations for where the Epic should be developed)		
Estimated Development Timeline	Start Date: (Estimated start date)	Completion date: (Estimated MVP evaluation date or estimated number of PIs)
Incremental Implementation Strategy: (Epics are defined as a single whole, but each epic undergoes incremental implementation. Click here for details on potential strategies. Many parts of this guidance can also be applied to enabler epics)		
Sequencing and Dependencies: (Describe any constraints for sequencing the epic and identify any potential dependencies with other Epics)		
Milestones or Checkpoints: (Identify potential milestones or checkpoints for reevaluation of the Epic)		
Attachments: (Other supporting documentation, links to other data, feasibility or trade studies, models, market analysis, etc., that were used in the creation of the business case)		
Other Notes and Comments: (Any additional miscellaneous Information)		

9.5 Apply rapid experimentation

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Notes:

Rapid experiments

- ▶ The goal of the MVP is to acquire data that proves or disproves the Epic hypothesis as quickly and cheaply as possible
- ▶ Lower cost creates more opportunities for experimentation
- ▶ Faster testing provides data that increases decision-making velocity

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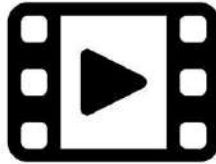
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Notes:

Techniques for rapid experimentation



Paper Prototyping



Explainer Videos

Perform some or all of the steps of your Solution manually until Customers confirm it is correct—then build it!

Concierge or “Wizard of Oz”

Notes:

9.6 Evaluate hypothesis outcomes: Pivot, stop, or continue

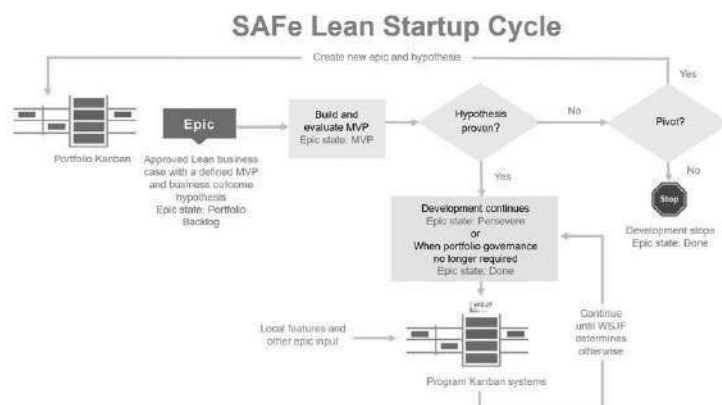
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Notes:

The completion of the MVP triggers evaluation of the Epic

- ▶ Once the Epic's anticipated outcome hypothesis has been evaluated, it's considered done
- ▶ If the benefit hypothesis has been proven true, the Value Streams continue the work
- ▶ If the hypothesis is proven false, then a decision is made to either pivot with a new hypothesis or to stop work on the Epic

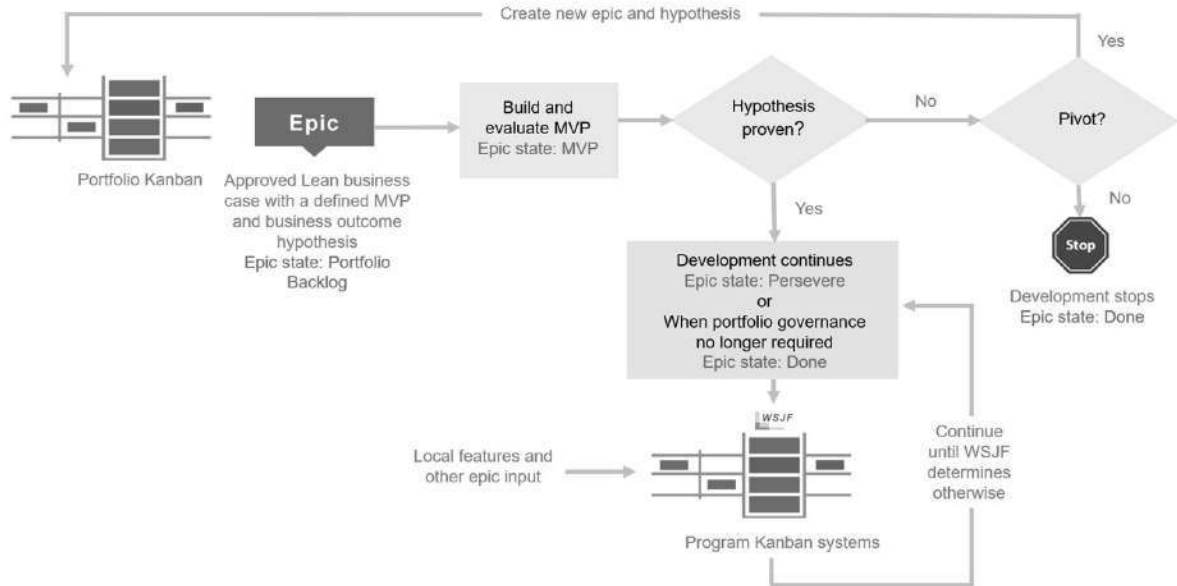


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Notes:

SAFe Lean Startup Cycle



Pivots are substantial changes

- ▶ A *pivot* is a significant change to a business model, product offering, or other course of action based on Customer or market feedback
- ▶ A business Epic pivot is suitable when the team has evidence that:
 - The problem Customers/the market is facing still exists
 - The problem can be still be solved in a profitable manner
- ▶ An Enabler Epic pivot is suitable when the team has evidence that:
 - The need for Architectural Runway still exists
 - There is a potentially suitable technology

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Notes:

Example business Epic pivots

- ▶ A **value exchange model pivot** occurs when Customers provide feedback that the *way they want to pay* is different than your hypothesis (e.g., feedback suggests Customers would rather pay a transaction-fee instead of a monthly subscription)
- ▶ A **Customer segment pivot** occurs when prior learning suggests that the same product may resonate with a different type of Customer
- ▶ A **Customer problem pivot** occurs when you realize that your Customer is facing a different problem than you hypothesized
- ▶ A **Feature pivot** occurs when the Solution is re-oriented around one specific Feature (e.g., Flickr began as a role-play game and pivoted to a photo-sharing site)

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Notes:

Use the Lean business case to assess a potential pivot

- ▶ Product managers can succumb to the *sunk cost fallacy* when they continue to work on a problem even when the data suggests they should stop
- ▶ The investment made in the MVP is an accepted part of the economic framework of the Lean Enterprise
- ▶ Product managers should return to the Lean business case to help them focus on *the future decisions and potential economic outcomes* motivated by the pivot and compare this with other Epics
- ▶ The most economically attractive Epics should be pursued

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Notes:



Action Plan: Creating innovation in the Value Stream



On the Action Plan page in your workbook, answer the following questions:

- ▶ What are some opportunities you may have to foster the innovation riptide in your organization?
- ▶ Metrics can provide excitement and inspiration when they reflect positive growth and outcomes and can de-motivate teams when growth is less than expected. How can you frame the use of Metrics using SAFe Principles?

Notes:

Lesson review

In this lesson you:

- ▶ Explored Value Stream and product innovation
- ▶ Examined how to use Metrics to guide improvements
- ▶ Realized how to manage innovations through Epics
- ▶ Reviewed how to fund innovation through Lean business cases and investment horizons
- ▶ Applied rapid experimentation
- ▶ Examined how to evaluate hypothesis outcomes

Notes:

Lesson 10

Becoming a SAFe Agile Product Manager

Learning Objectives:

10.1 Becoming a Certified SAFe Professional



SAFe® Course: Attending this course gives students access to the Agile Product Manager exam and related preparation materials.

Make the most of your learning



Access the SAFe Community Platform

Manage your member profile, continue your learning with toolkits and videos, and access communities of practice and the member directory



Prepare Yourself

Extend your SAFe knowledge and prepare for certification with your learning plan, course workbook, study materials, and practice test before your exam



Become a Certified SAFe Professional

Demonstrate your validated knowledge, skills, and mindset to participate in SAFe methods



Showcase Your SAFe Credentials

Use your digital badge to view global insights, track market labor data, and see where your skills are in demand

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Notes:



Video: Become a Certified SAFe Professional



Continue to build on the foundation of SAFe learning you began in class by studying and taking the certification exam.

Earning this certification demonstrates and establishes your new knowledge.

Certification details at:

<https://www.scaledagile.com/certification/about-safe-certification/>



<https://vimeo.com/307578726>

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Notes:



Video: Welcome to the SAFe Community Platform

Duration
5 min

Want to learn more about the next steps on your SAFe Journey?

Access the SAFe Community Platform and discover all the SAFe resources available for your use!



<https://vimeo.com/201877314>

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Notes:

Appendices

Recommended Reading

Overview of Lean

Implementing Lean Software Development: From Concept to Cash by Mary and Tom Poppendieck. This book can help product managers understand how Lean principles apply to the software development process.

The Lean Product Development Guidebook: Everything Your Design Team Needs to Improve Efficiency and Slash Time to Market by Ronald Mascitelli. This book contains many examples of Lean techniques for product design.

Overview of Product Management

The Product Manager's Desk Reference by Steven Haines. This book provides practical advice for approaching product management tasks.

Lean-Agile Foundations

Agile Software Requirements: Lean Requirements Practices for Teams, Programs, and the Enterprise by Dean Leffingwell. This book has robust information on Agile software requirements, but is also an excellent reference on scaling Agile in large enterprises.

Lean, Rapid, and Profitable New Product Development by Robert G. Cooper and Scott J. Edgett. An excellent book on Lean Product Management.

Collaboration Explained: Facilitation Skills for Software Project Leaders by Jean Tabaka. This book has some great techniques for running productive meetings.

Lesson 1

Product and Solution Management article on the Scaled Agile Framework site. v5.scaledagileframework.com/product-and-solution-management/

Lesson 2

Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers by Geoffrey A. Moore. This book explains the vast chasm between early adopters and the early majority in the technology adoption life cycle.

Dealing with Darwin: How Great Companies Innovate at Every Phase of Their

Evolution by Geoffrey A. Moore. In this book, Moore shows businesses how to meet today's Darwinian challenges, whether they're producing commodity products or customized services.

Escape Velocity: Free Your Company's Future from the Pull of the Past by Geoffrey A. Moore. This book explains how twenty-first-century enterprises can overcome the pull of the past and reorient their organizations to meet a new era of competition.

Lesson 3

Competing Against Luck: The Story of Innovation and Customer Choice by Clayton M. Christensen, Taddy Hall, Karen Dillon, and David S. Duncan. This book provides a great explanation and examples of Jobs to Be Done.

What Customers Want: Using Outcome-Driven Innovation to Create Breakthrough Products and Services by Anthony W. Ulwick. In this book, Ulwick (CEO of Strategyn, Inc.) explains how to use the Jobs to Be Done technique to find opportunities for differentiation and innovation.

Lesson 5

Playing to Win: How Strategy Really Works by A.G. Lafley and Roger L. Martin. This book describes a strategy model that works in every department, at every level of an organization.

Running Lean: Iterate from Plan A to a Plan that Works (Lean Series) by Ash Maurya. This book describes how to apply the Lean Canvas, the Scaled Agile Framework's preferred method for lightweight, dynamic business cases.

The New Positioning: The Latest on the World's #1 Business Strategy by Jack Trout. This book squares off against critical marketing challenges such as how to make sure your message gets through in an era of information overload.

Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers by Alexander Osterwalder and Yves Pigneur. This book describes business model patterns and provides ways to improve your own business model.

Lessons 6 and 7

Beyond Software Architecture: Creating and Sustaining Winning Solutions by Luke Hohmann. This book provides guidance on business (product management) and software development interaction and decision-making.

Lesson 8

Pricing with Confidence: 10 Ways to Stop Leaving Money on the Table by Reed

Holden and Mark Burton. This book provides information practical pricing.

The Strategy and Tactics of Pricing: New International Edition by Thomas T. Nagle, John E. Hogan, and Joseph Zale. This book is a comprehensive and practical, step-by-step guide to pricing analysis and strategy development.

Action Plan



Agile Product Management Action Plan

Lesson 1: Analyzing Your Role as a PM in the Lean Enterprise

Take some time to review the questions on the sticky notes below. You might have asked yourself these questions already, and maybe some of them are challenging you right now!

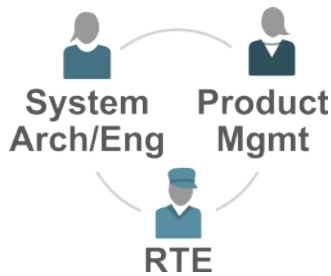
1. Circle the questions that are most relevant to you right now.
2. Place a star by the questions that you will need to answer at some point.
3. Based on your own business context, write in some of your own 'big questions' and 'small questions' on the next page.
 - Which questions will you ask only once?
 - Which questions will you ask repeatedly?





Agile Product Management Action Plan

Lesson 1: Analyzing Your Role as a PM in the Lean Enterprise



Write some 'big' and 'small' questions of your own that will need to be answered. Which questions will you ask only once? Which questions will you ask repeatedly?

Lesson 2: Continuously Exploring Markets and Users



Agile development often emphasizes user research. How can you make certain you're including enough market research?

To what degree can you instrument your product to capture data that can help you understand your customers?

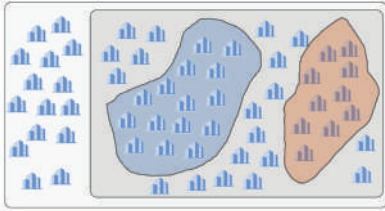
What are the three most important questions you can ask about your product? What actions would you take based on the answers to these questions?



Agile Product Management Action Plan

Lesson 3:

Driving Strategy with Market Segmentation



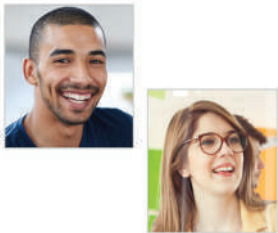
Is your market characterized by a small number of large and influential customers (B2B/large systems) or by many small or common customers (consumers, retail merchants)?

Are you selling directly or through a channel? If selling through a channel, do you need to conduct research on your customer's customer?

What segmentation attributes can help you see old/existing customers in new ways?

Lesson 4:

Using Empathy to Drive Design



Sometimes organizations create personas but fail to leverage them. What are some techniques you can employ to ensure your personas are understood throughout the organization?

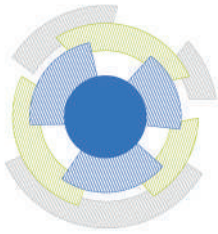
What role can your stakeholders play in developing your personas and empathy to create a better customer experience?

To what degree would your product benefit from a buyer persona?



Agile Product Management Action Plan

Lesson 5: Defining Product Strategy and Vision



What is your Golden Circle? If you don't have one, do you foresee anything that would prevent you from creating one?

What method do you use to articulate your Vision?

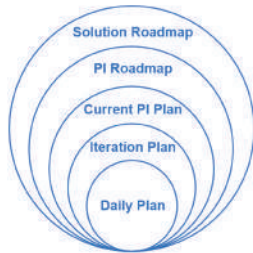
Have you defined your whole product? Have you connected your whole product with your Solution Context?

Have you defined your platform, API, and data strategy?



Agile Product Management Action Plan

Lesson 6: Creating Roadmaps to Build Solutions



Consider the different kinds of Roadmaps presented in this lesson. Which ones are most relevant to your product? Why?

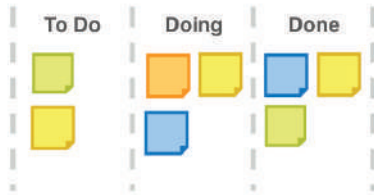
Review the requirements artifacts. Which ones are used and why? Which ones aren't used and why?

What are your Road mapping best practices? What can be improved?



Agile Product Management Action Plan

Lesson 7: Delivering Value



Have you implemented a balanced capacity allocation policy?

Are you tracking forecasted vs. actual estimates?

How will you leverage WSJF?

What activities do you need to do to prepare for PI Planning and PI execution?



Agile Product Management Action Plan

Lesson 8: Managing Value Stream Economics



Have you conducted a thorough analysis of how your product benefits your customer?

When was the last time you changed your pricing? What would need to change in your product to increase pricing?

When was the last time you reviewed your standard terms of service/ product contract?

Lesson 9: Creating Innovation in the Value Stream



What are some opportunities you may have to foster the innovation riptide in your organization?

Metrics can provide excitement and inspiration when they reflect positive growth and outcomes and can de-motivate teams when growth is less than expected. How can you frame the use of metrics using SAFe Principles?

Glossary



SAFe Glossary:

Visit the Scaled Agile Framework site (v5.scaledagileframework.com/glossary) to download glossaries translated into other languages