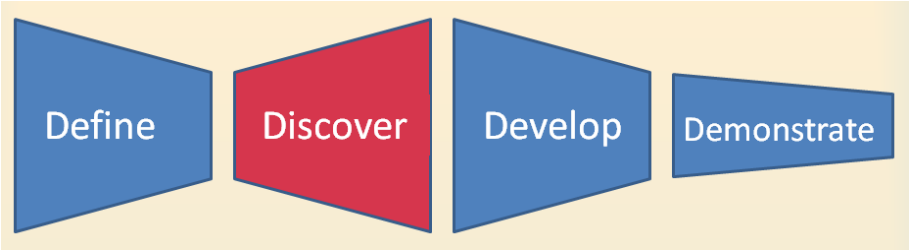
COURSE: BUSINESS MODEL INNOVATIONS

LECTURER DR.KURBANOV SHAMSHIDDIN

Complementary Assets: A Cornerstone of Profiting from Innovation

Discover the Innovation



Capitalizing on an opportunity to fulfill unmet customer expectations in a superior way

Your goal is to generate substantive ideas for closing outcome expectation gaps (or innovation opportunities)

Refine the opportunities

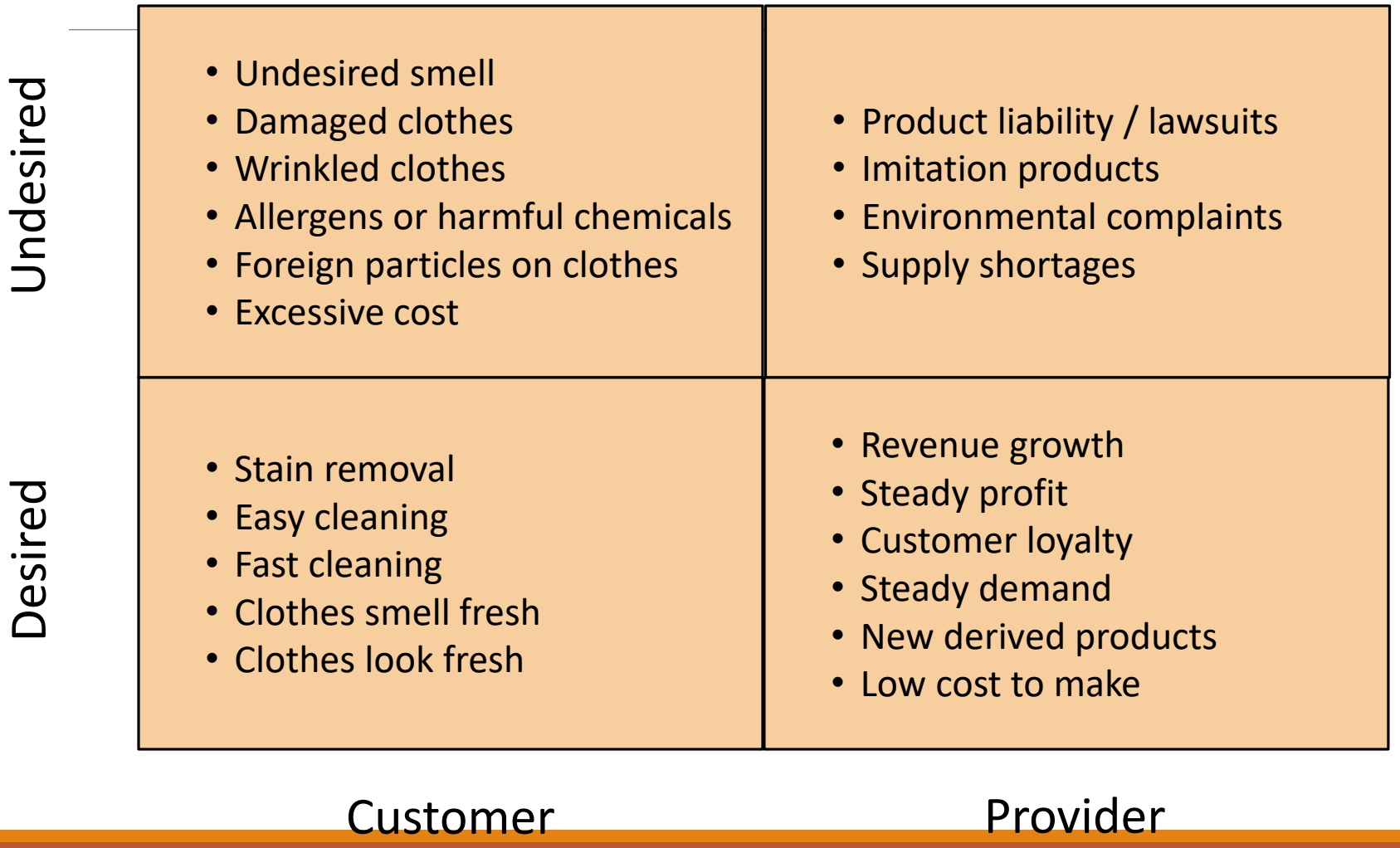
Identify Outcome Expectations

There are 4 Types of Outcome Expectations

1. Desired outcomes customers want to achieve
2. Undesired outcomes customers want to avoid
3. Desired outcomes providers want to achieve
4. Desired outcomes providers want to avoid

Outcome Expectations

For cleaning clothes at home



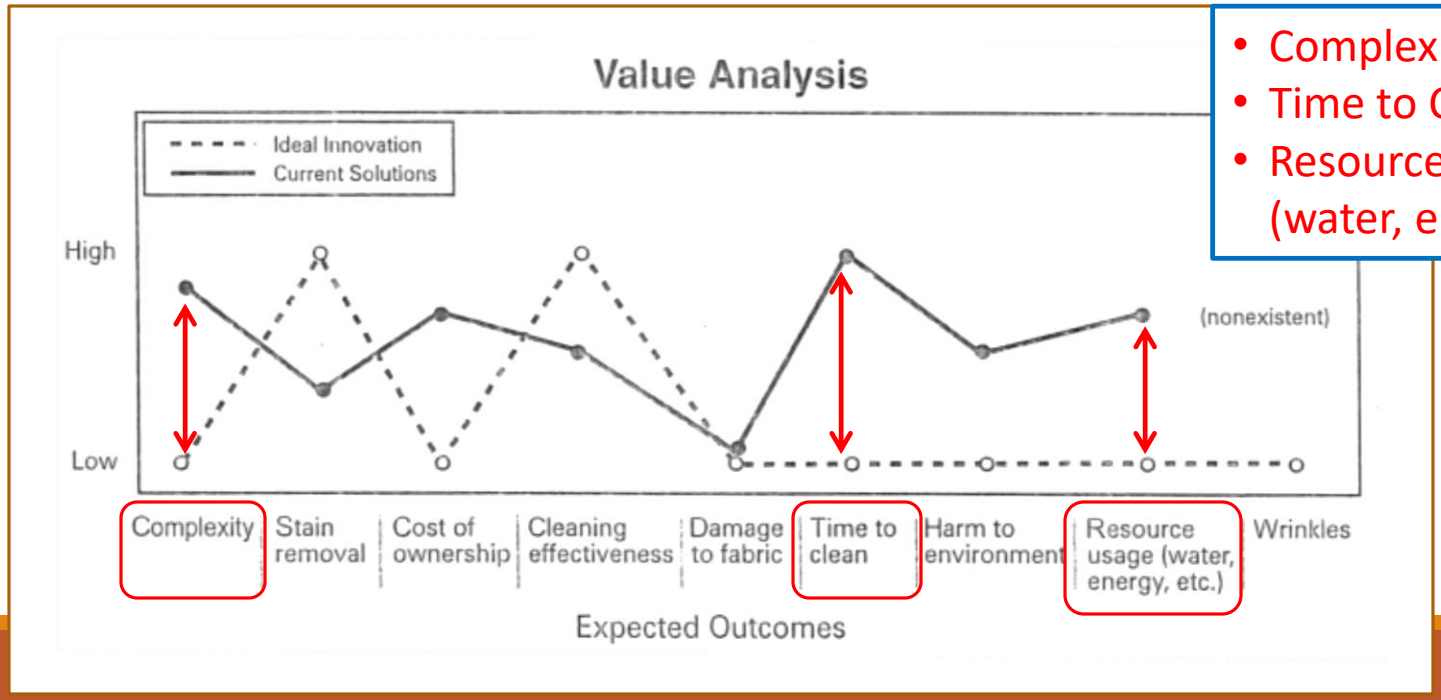
Steps After the Outcome Matrix

1. Identify the Jobs to Be Done
2. List the JTBD Related Outcome Expectations
3. Create Outcome Statements
   - The direction of action
   - The unit of measure – like time, cost, defects, etc.
   - The object of control (what you are influencing)
   - The context (where or under what circumstances)

   Example: Minimize the time it takes to clean clothes
4. Determine Priority Outcome Expectations

Establish the Value Quotient

1. Agree on and document the Job to Be Done
2. Identify the desired and undesired outcomes
3. Plot the ideal innovation
4. Identify Opportunity Value Gaps

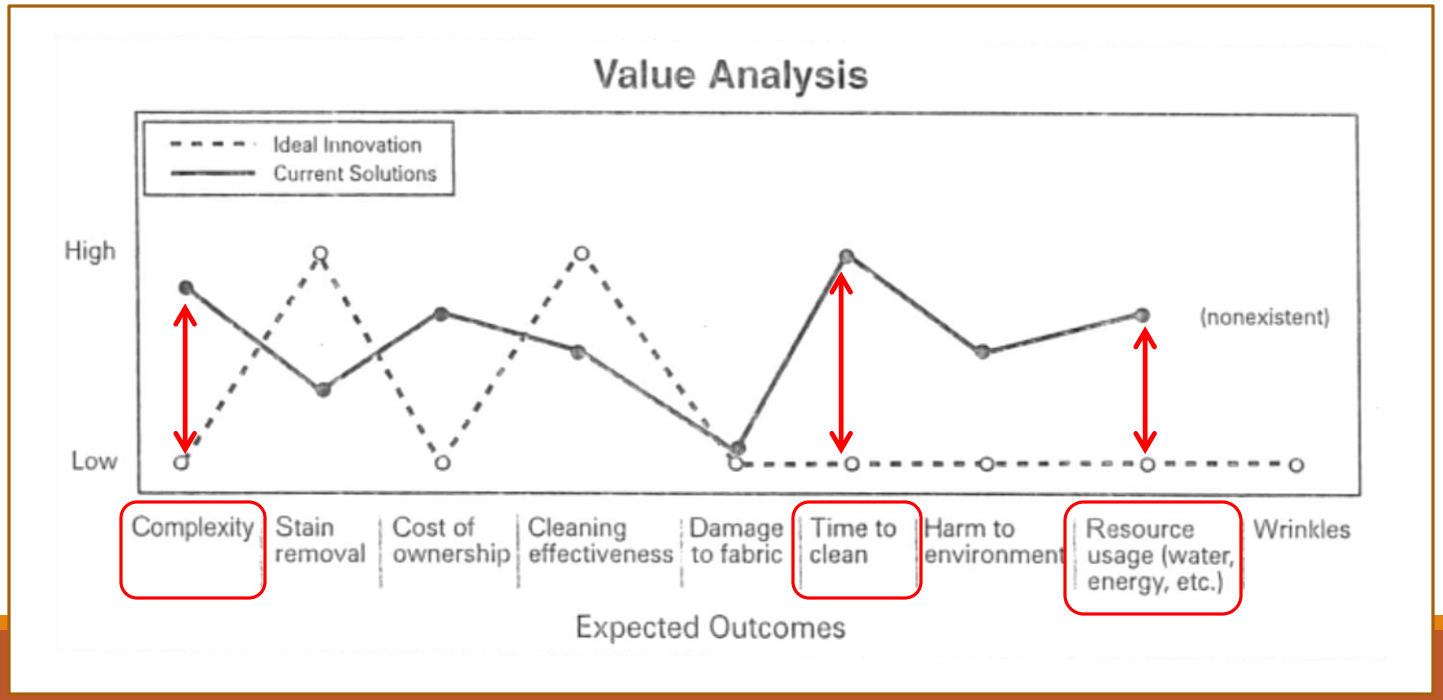


- Complexity
- Time to Clean
- Resource usage (water, energy, etc.)

Establish the Value Quotient

Your innovations should address the identified gaps in value:

- Complexity
- Time to Clean
- Resource usage (water, energy, etc.)



Additional Focus Areas

Heuristic Redefinition

- A Visual approach for focusing and scoping an innovation project at the right level in a system

Ethnography

- A science that describes human social phenomena based on fieldwork and observation

Heuristic Redefinition

Heuristic Ideation Technique (HIT) Matrix

Compare existing solutions to spark new breakthroughs

- Likelihood of solving the problem
- Ease of implementation
- Expected impact on JTBD

Used to compare the characteristics of two seemingly unrelated products or services to develop new ideas

Problem Statement Prioritization Matrix

	Good/High = 3 Average/Medium = 2 Poor/Low = 1 **Problem Statement:** **"How can we ensure that...?"**	Likelihood of solving the problem statement	Ease of Implementation	Expected Impact on JTBD	Total
1					0
2					0
3					0
4					0
5					0
6					0
7					0
8					0
9					0
10					0

Ethnography and Human Centered Design (HCD)

Human-Centered Design (HCD) is a methodology that helps us

Hear the needs of our constituents in new ways,

Create innovative solutions to meet these needs, and

Deliver solutions with financial sustainability in mind.

Why is it called "Human-Centered"?

Starts with people we are designing for

Examine the needs, dreams, and behaviors of the people we want to affect with our solutions

We seek to listen to and understand what they want and expect.

This is known as the ***"Desirability"*** lens. Everything is viewed through this lens throughout the design process

Once we have identified a range of what is Desirable, we move to view our solutions through lens of Feasibility and Viability

Human Centered Design Process

The process of Human-Centered Design starts with a specific Design Challenge and goes through three main phases: **Hear**, **Create**, and **Deliver**.

The process will move:

- Concrete observations about people
- Abstract thinking as we uncover insights and themes
- Back to concrete with tangible solutions

H	**Hear - *(the Desirability Lens)*** **During the Hear phase, we will collect stories and inspiration from people. Then prepare for and conduct field research.**
Step 1	Identify a Design Challenge
Step 2	Recognize Existing Knowledge and Data
Step 3	Identify People to Speak With
Step 4	Choose Appropriate Research Method(s) • Individual Interview • Group Interview • In-Context Immersion • Self-Documentation • Community-Driven Discovery • Expert Interviews • Seek Inspiration in New Places
Step 5	Develop an Interview Approach (as appropriate) • Interview Guide • Sacrificial Concepts • Interview Techniques
Step 6	Develop the Mindset • Beginner's Mind • Observe vs. Interpret

C	**Create – *(The Feasibility Lens)*** **In the Create phase, we will work in a workshop format to translate what we heard from people into frameworks, opportunities, solutions, and prototypes. During this phase we move from concrete to more abstract thinking in identifying themes and opportunities, and then back to the concrete with solutions and prototypes.**
Step 1	Develop Design Approach • Participatory Co-Design • Empathic Design
Step 2	Share Stories
Step 3	Identify Patterns • Extract Key Insights • Find Themes • Create Frameworks
Step 4	Create Opportunity Areas
Step 5	Brainstorm New Solutions
Step 6	Make Ideas Real
Step 7	Gather Feedback

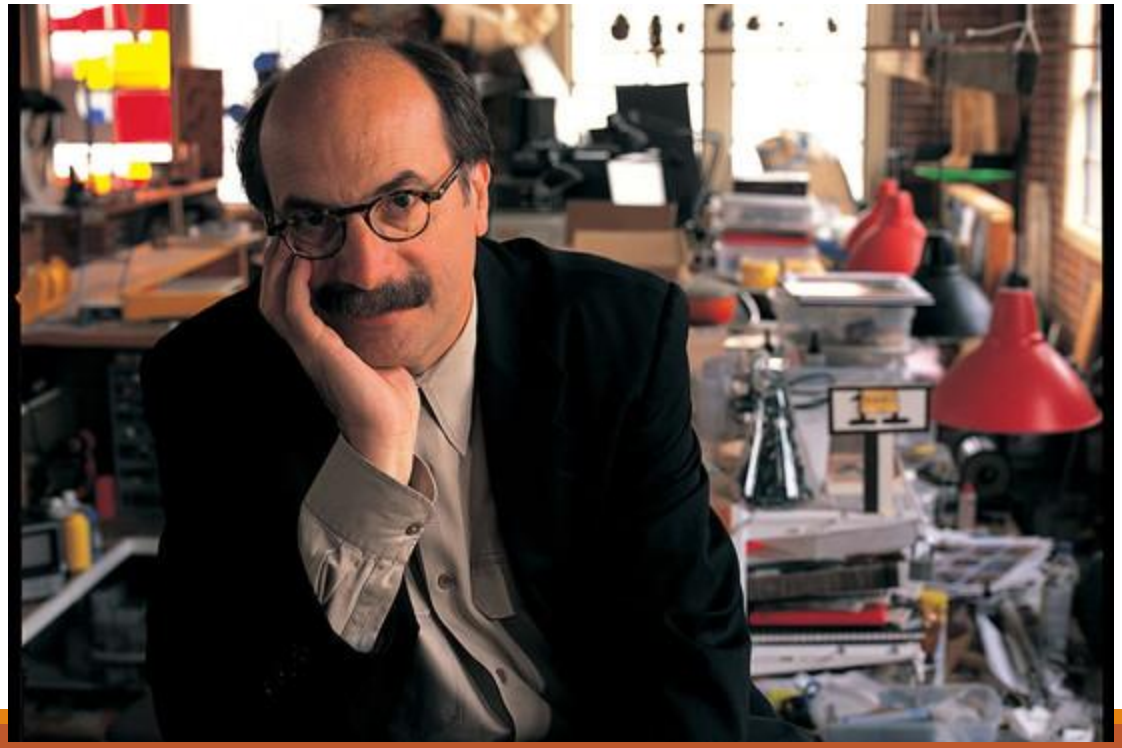
D	**Deliver – *(The Viability Lens)*** **The Deliver phase we begin to realize solutions through rapid revenue and cost modeling, capability assessment, and implementation planning. This will help launch the new solutions.**
Step 1	Develop a Sustainable Revenue Model
Step 2	Identify Capabilities for Delivering Solutions
Step 3	Plan a Pipeline of Solutions
Step 4	Create an Implementation Timeline
Step 5	Plan Mini-Pilots and Iterate
Step 6	Create a Learning Plan • Track Indicators • Evaluate Outcomes

IDEO – a Great Resource in Design

"Innovators aren't exceptional as much as they are confident"

David Kelley, founder of the Palo Alto, Calif., design firm IDEO

David Kelley says most of us stop thinking of ourselves as creative somewhere around the fourth grade

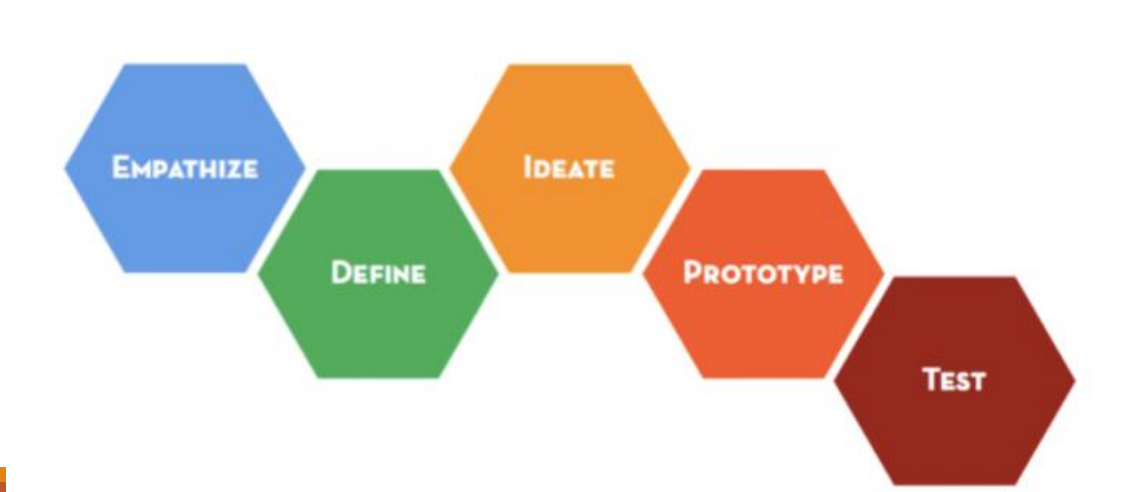


IDEO – Design Workshops

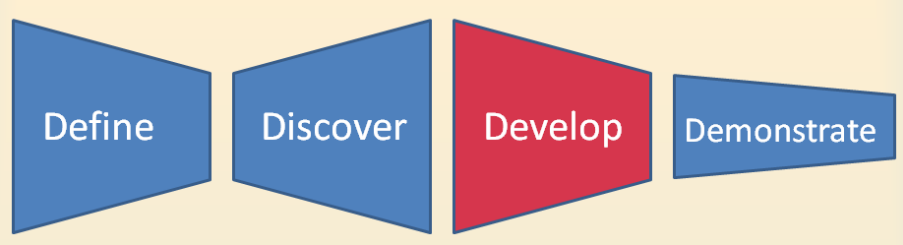
Stanford Design Thinking Virtual Crash Course

https://www.youtube.com/watch?v=-FzFk3E5nxM

"A 90-minute video-led cruise through our methodology"



Develop the Innovation



This phase of innovation transforms your great ideas from the white board into workable models

The questions become:

- What functions will it perform and how do I design it?
- How will I assess how good it is?
- What alternatives do I have?
- Can I make my solution invincible, and manage the risk of trying?

Utilize Process Improvement Tools

Scoping the Project

Stakeholder management

Project charter

Problem and Goal statements

Analyze potential income and operating expense impact

Gather your team resources

Functional Requirements

Gather information and define the problem

Develop functional models

Use various tools to help focus the work

Nine Windows

Helps you examine the innovation opportunity across the dimensions of

- **Time** (past, current, future)

  and

- **Scale** (super-system, system, subsystem)

	Past (Preventive)	Present	Future (Corrective)
Sub-system	Can we change a component to prevent going soggy?	Crust, Cheese, Sauce, Pepperoni, Mushrooms	Can we do anything to a component to re-crisp the pizza?
System	How can we prevent the pizza from going soggy?	Soggy Pizza 	How can we make a soggy pizza fresh and crisp again?
Super-system	Can we prevent wilting by changing the packaging and delivery system?	Pizza, Box, Carrier Pouch, Delivery Car, Driver	Can we use the package and delivery system to re-crisp the pizza?

A Side Note – Zune Pizza

Zune is known for using a fleet of robots in the kitchen to speed up the pizza making process.

But now, the company is outfitting its pizza delivery truck with 56 ovens programmed to make pies in-route to customers.

Each pizza is partially baked for 90 seconds in an 800-degree oven. Bruno the robot is in charge of putting the pies into oven

When the truck is four minutes away from its destination, an oven containing the order will turn on to fully bake the pie.

It takes 3 minutes and 30 seconds to cook, and 30 seconds to cool down.

Some Additional Tools

Heuristic Ideation Technique (HIT) Matrix

- Compare existing solutions to spark new breakthroughs
- Used to compare the characteristics of two seemingly unrelated products or services to develop new ideas

Source: The Innovator's Toolkit, HIT Matrix (Technique 16)

HIT Matrix		Existing Item 1				
		Item 1, Characteristic 1	Item 1, Characteristic 2	Item 1, Characteristic 3	Item 1, Characteristic 4	Item 1, Characteristic 5
Existing Item 2	Item 2, Characteristic 1	Item 1, Characteristic 1 Item 2, Characteristic 1				
	Item 2, Characteristic 2					
	Item 2, Characteristic 3					
	Item 2, Characteristic 4					
	Item 2, Characteristic 5					

BMGI Problem Solved.

SCAMPER Worksheet

8 questions to develop more potential ideas for your opportunity:

Substitute

Combine

Adapt

Modify

Put to other purposes

Eliminate

Reverse

SCAMPER Worksheet		
S	**Substitute**	Think about substituting part of your product/service or process for something else. By looking for something to substitute, you can often come up with new ideas. Typical questions: What can I substitute to make an improvement? What if I swap this for that and see what happens? How can I substitute the place, time, materials or people? **Answer:**
C	**Combine**	Think about combining two or more parts of your problem to create a different product/process or to enhance synergy. Typical questions: What materials, features, processes, people, products or components can I combine? Where can I build synergy? **Answer:**
A	**Adapt**	Think about which parts of the product/service or process could be adapted to remove the problem, or think how you could change the nature of the product/process. Typical questions: What part of the product could I change? And in exchange for what? What if I were to change the characteristics of a component? **Answer:**
M	**Modify**	Think about changing part or all of the current solution to distort it in an unusual way. By forcing yourself to come up with new ways of working, you are often prompted into an alternative product, service or process. Typical questions: What happens if I warp or exaggerate a feature or component? What will happen if I modify the process in some way? **Answer:**
P	**Put to other purposes**	Think of how you might be able to put your current solution to other purposes, or think of what you could reuse from somewhere to solve your innovation problem. You might think of another way of to meet your Job To Be Done or find another market for your product. Typical questions: What other market could I use this product in? Who or what else might be able to use it? **Answer:**
E	**Eliminate**	Think of what might happen if you eliminated various parts of the product/process/problem, and consider what you might do in that situation. This often leads you to consider different ways of tackling the problem. Typical questions: What would happen if I removed a component or part of it? How else would I achieve the solution without the normal way of doing it? **Answer:**
R	**Reverse**	Think of what you would do if part of your problem/product/process worked in reverse or done in a different order. What would you do if you had to do it in reverse? Typical questions: What if I did it the other way round? What if I reverse the order it is done or the way it is used? How would I achieve the opposite effect? **Answer:**

SCAMPER Worksheet

SCAMPER Worksheet		
S	**Substitute**	Think about substituting part of your product/service or process for something else. By looking for something to substitute, you can often come up with new ideas.
		Typical questions: What can I substitute to make an improvement? What if I swap this for that and see what happens? How can I substitute the place, time, materials or people?
		Answer:

C	**Combine**	Think about combining two or more parts of your problem to create a different product/process or to enhance synergy.
		Typical questions: What materials, features, processes, people, products or components can I combine? Where can I build synergy?
		Answer:

Six Thinking Modes

leverages different points of view to help your team evaluate its best ideas

works especially well with controversial ideas

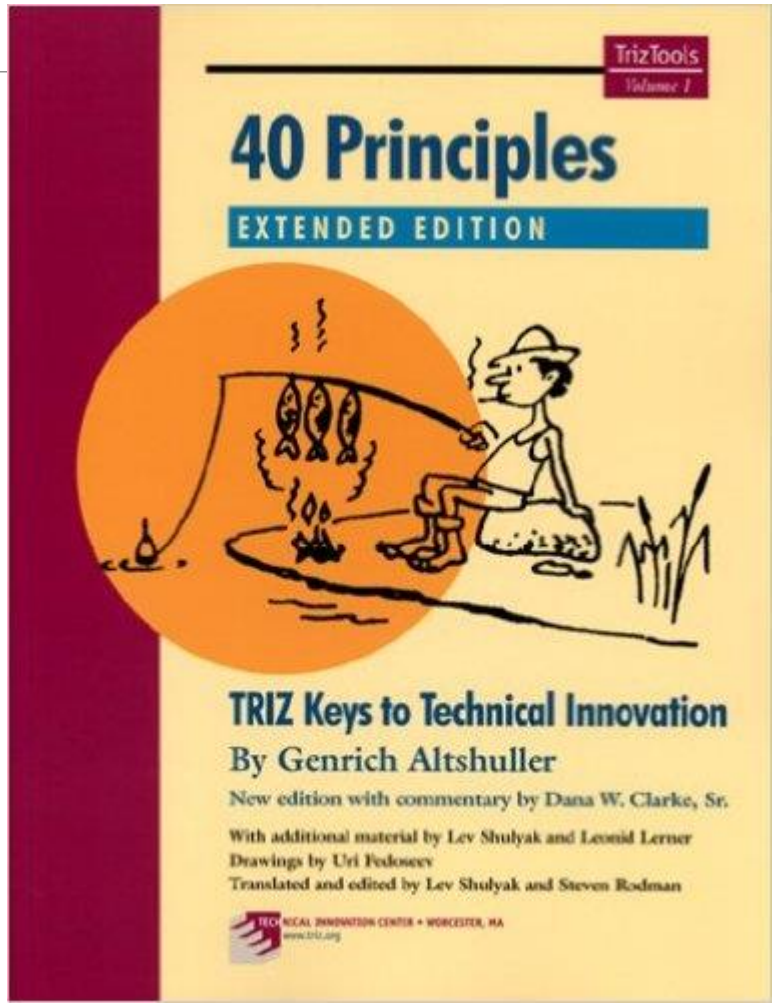
Coloured Hat	Think Of:	Detailed Description
WHITE 	White paper	The white hat is about data and information. It is used to record information that is currently available and to identify further information that may be needed.
RED 	Fire and warmth	The red hat is associated with feelings, intuition, and emotion. The red hat allows people to put forward feelings without justification or prejudice.
YELLOW 	Sunshine	The yellow hat is for a positive view of things. It looks for benefits in a situation. This hat encourages a positive view even in people who are always critical.
BLACK 	A stern judge	The black hat relates to caution. It is used for critical judgement. Sometimes it is easy to overuse the black hat.
GREEN 	Vegetation and rich growth	The green hat is for creative thinking and generating new ideas. This is your creative thinking cap.
BLUE 	The sky and overview	The blue hat is about process control. It is used for thinking about thinking. The blue hat asks for summaries, conclusions and decisions.

Separation Principals

Separation principles help when some physical contradiction stands between you and an innovation

TRIZ (“theory of inventive problem solving”) is very helpful with these issues

A very helpful resource



What are Contradictions in Problem Solving?

Good

A narrow hulled ship is fast but it becomes unstable with a heavy load

Contradiction

The ship needs a wide hull for stability and a narrow hull for speed

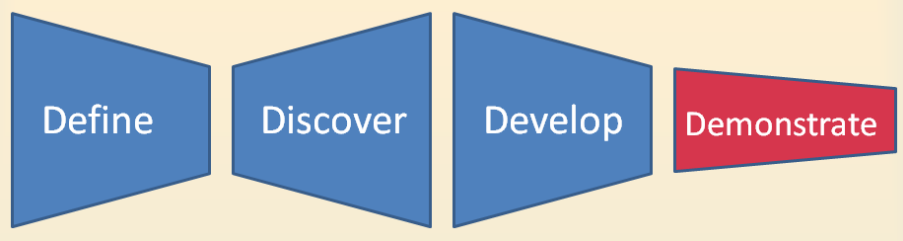
Bad

Another Contradiction

I need a wide assortment of fountain drinks to make my customers happy……but

I need a small assortment of fountain drinks to keep inventory and space to a minimum

Demonstrate the Innovation



This final phase of innovation's front edge is when you create, test, and prove the feasibility of your new solution

Build a working model of your new solution using Prototyping or Piloting techniques.

Rapid Prototyping

Fail Fast and Fail Cheap – before what you are doing becomes a financial disaster

You will need the right

- **Culture**
- **People**
- **Mind-Set**
- **Tools**

The team marches to a different beat

Prototype Example

A company wanted to test being able to project an image onto a sidewalk to advertise local businesses

For a Prototype they

- attached a projector to a pole over the sidewalk
- ran an extension cord up to the projector
- projected the image onto the sidewalk

Rapid Prototyping

1. Design Prototype Evaluation
   - It is an iterative process
   - You will likely build more than one full scale, working model
2. Build the Prototype
3. Determine how you will measure the results
4. Evaluate using a Function Audit
5. Evaluate for robustness
6. Consider Additional Evaluations
7. Repeat the Prototype Process

Piloting

This is when you actually put the prototype into use with actual users

1. Plan the Pilot
   - What are the objectives?
   - How will you measure the results?
   - Who will be the customers?
2. Design the Pilot
3. Designate Resources
4. Run the Pilot
5. Analyze the Results

Back to Process Improvement Tools

Build your SIPOC Map

- Create a High-Level Map of the Process
- Identify the Outputs of the Process
- Identify the Customers of the Outputs
- Identify the Inputs Required by the Process
- Identify the Suppliers of the Inputs to the Process

Back to Process Improvement Tools

Build a Process Map

Build a Future State Value Stream Map

Develop a Future State Process Map

Measurement Systems Analysis

Design of Experiments

Conjoint Analysis

- a simplified experimental technique for determining the best combination of attributes to include in a product or service design

Back to Process Improvement Tools

Evaluate under performance or poor performance from experiments

Make incremental Improvements

Develop a Control Plan

Things to Come

Strati - the first 3D-printed electric car that could be built in 24 hours

cost between $18,000 and $30,000, but says the price will drop

The key is simplification. On average, a car contains thousands of parts - the Strati contains just 49

Artificial Intelligence

Diagnosing sepsis –

- Sepsis is a complication that is treatable if caught early, but patients can experience organ failure, or even death
- Artificial Intelligence algorithms that scour data on electronic medical records can help doctors diagnose sepsis a full 24 hours earlier, on average

Search and Rescue –

- Artificial Intelligence permits computer programmers to write basic algorithms that can examine extensive footage and find missing people in less than 2 hours
- In addition, AI algorithms can sift through social media sites, such as Twitter, to learn about missing people and disasters

Artificial Intelligence

Cybersecurity –

Finding flaws and attacks on computer code is a manual process, and it's typically a difficult one

During a DARPA Challenge - Artificial Intelligence entry Xandra discovered a new attack in binary code, figured out how it worked, reached out over a network and breached the defenses of one of its opponents, a system named Jima. And Jima detected that breach, offered a patch, decided to field it and ended the breach.

The entire episode took 15 minutes. "It all happened before any human being knew that flaw existed,"

New Materials

Graphene -

Graphene is basically a substance which is 300 times stronger than steel and made of only a thin layer of pure carbon, making it literally as light as a feather

Each sheet of graphene is only one atom thick, and one square meter weighs just 0.77 milligrams.

The uses of this technology could be revolutionary: Space exploration and the aviation industry would benefit from the extremely light and strong material that could be used in aircraft construction. Graphene could revolutionize electronic devices by enabling lightweight, thin, flexible, yet durable display screens, cellphones, and much more.

Reference and source

Business Model Innovation Strategy: Transformational Concepts and Tools for Entrepreneurial Leaders – Illustrated, October 13, 2020 by Raphael Amit (Author), Christoph Zott (Author)

Innovation Strategy: Seven Keys to Creative Leadership and a Sustainable Business Model by Howard Rasheed Ph.D | May 16, 2012

RESTART Sustainable Business Model Innovation (Palgrave Studies in Sustainable Business In Association with Future Earth) Part of: Palgrave Studies in Sustainable Business In Association with Future Earth (10 Books) | by Sveinung Jørgensen and Lars Jacob Tynes Pedersen | Jul 31, 2018

End-to-End M&A Process Design: Resilient Business Model Innovation by Thorsten Feix | Jul 8, 2020

Business Model Innovation: Concepts, Analysis, and Cases by Allan Afuah | Oct 3, 2018