



Table of Contents

Foreword	2
Preface	3
Introduction	
Aligning Innovation with Business Goals	5
Innovation 101	6
Ideas Never Stand Alone	6
Think Who, Not How	7
Technology as a Catalyst	7
Application of Innovation	7
Innovation Program	9
People	10
Methods	12
Tools	13
Vocabulary of Innovation	14
Community Sourced Innovation™ (CSI)	15
Innovation Canvas©	17
Step 1 Before We Begin	18
Establish Safe Spaces	18
Define the Opportunity	19
Start with Why	21
Frame the Opportunity	21
Step 2 What Could We Do?	22
Link and Leverage Assets	22
Empathize to Understand the Problem	23
Ideation	24
Step 3 What Should We Do?	25
Step 4 Reminisce Forward, Work Backward	26
Step 5 What Will We Do?	27
Step 6 Review, Learn, Adjust	28
Step 7 Operationalize our Idea	29
Tracking, Measurement, and Governance	30
From Ideas to Impact: Community Innovation Mentorship Program (CIMP)	
Tools	
Mural	34
Microsoft Teams	35
Technology Enablers	36
The Journey Begins	
References	40

Foreword

Our world is changing rapidly, making efficiency and productivity gains from technology and innovation more attainable than ever before.

- Resources and tools are more readily available, democratizing Al/ML and voice tools via cloud solutions (e.g., AWS and Google Cloud).
- More cloud-based "no code" platforms provide quick and easily accessible solutions with minor configuration and setup (e.g., Notion, Trello, and Slack).
- General acceptance of remote working has dramatically increased technology adoption (e.g., video conferences, asynchronous communication tools, and cloud solutions).
- Toolsets simplify creation, development, and integration processes (e.g., Zapier, WIX, and Canva).

These changes make it an opportune time for innovation that brings consumer benefits, improved productivity, increased competitiveness and more – benefiting not only your customers, but your employees as well.

However, innovation can be elusive to those who operate every day, which sparks the question: How do you identify innovation opportunities for your organization?

DataHouse, in collaboration with TRUE, share this framework that can help identify and vet opportunities for innovation using a Community Sourced Innovation™ method. This approach can foster a culture of innovation and uncover ideas from your most valuable resource – your teams.

There have been countless books written on the subject, and DataHouse Consulting, Inc. has highlighted the best of these, while leveraging over 40 years of experience helping the public, private, and nonprofit sectors advance through innovation, to develop this framework. The framework provides tools and resources to help you along your journey and can be customized to fit your needs.

TRUE's mission is to support Hawaii's residents to thrive by creating tech-enabled jobs. Our collaborative supports local organizations by sharing solutions and frameworks and fostering collaboration. As we continuously help organizations in Hawaii succeed and be sustainable through innovation, we advance our entire community closer toward our collective goal.

Michelle Cheung Director of the TRUE Initiative www.hec.org/true

Preface

Ideas to Impact memorializes the spirit of innovation that has enabled DataHouse to thrive for over four decades in the highly dynamic and constantly changing technology industry. This guide organizes the various aspects of innovation, including principles and values, intuition, industry best practices and methodologies, practical experiences, and lessons learned, into an innovation framework that can be repeated and shared to help future generations.

DataHouse was founded on a singular purpose to advance our community through smart innovation. Accordingly, we are honored and grateful to share Ideas to Impact with the greater community. As described in this guide, we strongly believe in the power of sharing assets and a community-sourced approach to innovation.

This guide was developed for DataHouse's way of working, which may or may not match your organization. Context matters, so if you find any part of this guide useful, we encourage you to adapt and tailor it to match your way of working. We also encourage you to share your experiences and ideas with others. By sharing and discovering assets, we all can work together to advance our communities.

Clyde Shiigi Chief Innovation Officer www.datahouse.com

Introduction

The intent of this guide is to nurture creative thinking and foster an innovative mindset in an organization. Creative thinking and innovation are essential elements of many successful businesses, both internally to introduce new methods and solutions to improve business performance, as well as externally to maximize value to customers and partners.

The need for innovation has never been more compelling. Digital transformation and the rapid pace of new technologies spurred the need to rethink the status quo, with innovation as the tip of the spear.

With the advent of the pandemic, innovation has become part of a necessary conversation as everyone is forced to think of new ways to accomplish old things and explore new opportunities and ways of working.

Many books are written on innovation from a macro, top-down perspective explaining **what** it is and **why** it is important. There are also **how**-to books, mostly centered around a certain theory or methodology. Despite the wealth of literature available, innovation remains a mystical art to many, left to think tanks and executive leadership to consider. Breakthrough innovations have been achieved taking this top-down approach, but imagine the potential of harnessing the collective assets of people inside and outside the organization!

This is possible if we can demystify and explain the process of innovation to everyone, and approach it from topdown and bottom-up. This guide is an attempt to do just that. It draws on DataHouse's decades years of experience and lessons learned, coupled with proven practices and published theories and methods, such as Lean Canvas¹, Strategic Doing², Design Thinking, Jobs Theory³, and Appreciative Inquiry⁴. We distill key concepts and practices from these methodologies and package them into a simple framework and set of tools called an Innovation Canvas that can be used by everyone to incubate ideas and explore new ways of doing things. The intent is not to establish a formal process or rigid methodology, but to promote a creative thought process that can be flexibly adapted to various internal and external use cases.

This guide is analogous to a physical fitness program. Exercise routines are simple movements, but put together into a fitness regimen, they provide an intentional and deliberate way to stay physically fit. This guide is an innovation regimen to keep organizations creatively fit. If they are apathetic and not diligent in exercising their innovation muscles, they may not perform at optimum levels, or worse, risk atrophy and become outdated and irrelevant to employees, partners, and customers.

Aligning Innovation with Business Goals

Organizations should develop their own strategies related to innovation. The important point is to align innovation with business goals. Typical innovation-related goals include:

Sustainability – Innovation is needed to sustain business by constantly improving services and solutions they deliver to clients and ensure they continue to offer value and remain relevant.

Business development – Innovation creates new business opportunities by introducing ideas and innovative solutions to new and existing customers.

Services and solutions – Innovation is a means to develop new services and solutions and improve on existing ones.

Culture – Creativity and innovation are core elements of a healthy culture. A program to nurture creative thinking and innovation will help to reinforce and preserve culture, recruit, and develop talent, and improve the health of the organization.

Innovation is increasingly recognized as an attribute of high-performance

organizations. The Malcolm Baldrige
National Quality Award (MBNQA), a
presidential award to honor organizations
for performance excellence, includes
innovation as a criterion in its Baldridge
Excellence Framework. The framework takes
a holistic, systems perspective to innovation
that involves leaders, all employees, and
processes in coordination.

Advancements in technologies and constantly evolving consumer demands have massively transformed many industries, making the business case for innovation more than just a competitive advantage but a matter of survival. Organizations face constant pressure to continuously innovate and adopt new methods and solutions to remain relevant, meet customer and constituent demand, and stay ahead of their competition. As history has proven, those who embrace innovation as strategic differentiators and enablers for efficiency, scale, and new business opportunities, will ultimately prevail.

Sustainability

Business development

Services and solutions

Culture









Innovation-related business goals

Innovation 101

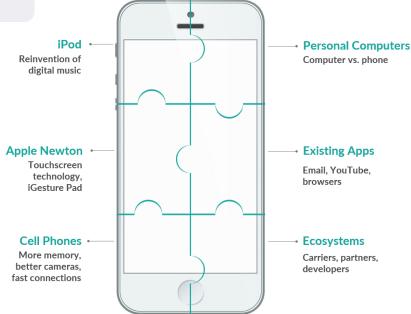
Innovation is simply the act or process of introducing new ideas, devices or methods that result in better ways of doing things. In his book, *The Myths of Innovation*⁵, Scott Berkun dispels the myth that innovation requires an epiphany moment, that discoveries come only from lone inventors, or that there is a scarcity of new ideas. Instead, he describes innovation as a jigsaw puzzle. Fitting the last piece of the puzzle is only possible because of all the other pieces placed before it.

Similarly, Steve Jobs said that "Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while."

The takeaway here is that innovation is not an elusive art form reserved for only geniuses to perform. Everyone has personal experiences and interests to share and draw upon for new ideas. Innovation can be a team sport with each player contributing their assets to empathize, ideate, and create new solutions. Also, innovations come in all shapes and sizes and do not have to be earth-shattering, eureka moments to have merit. New ideas that create incremental value are much easier to come by and more scalable than once-in-a-lifetime, home run epiphanies.

Ideas Never Stand Alone

In *Myths of Innovation*, Scott Berkun cites many examples of innovations that resulted from the combination of things that existed before. A computer keyboard is only possible because of the typewriter, electricity, plastics, and written language that existed before it. Apple's Macintosh relied on the groundbreaking work in graphical user interfaces developed by Xerox PARC in the 1970's, a decade before the first Mac was introduced. As Scott Berkun puts it, "Grand ideas can be divided into an infinite series of smaller, previously known ideas."



Think Who, Not How

The concept of deriving innovations by putting pieces together implies that a key to innovation lies in knowing what pieces already exists. A strategic way of knowing this is through a community approach and thinking who, not how.

Rather than trying to know everything, we can learn from others and collaborate with a community formed through relationships and interconnected networks.

By harnessing the collective assets of the community, we are better able to know what already exists, understand problems, connect dots, and come up with new ideas.

An invaluable source of knowing what already exists is through your network of employees, customers, and partners that have amassed vast experience within their domains. This is a unique value proposition that many organizations possess and very difficult to replicate by its competitors.

Technology as a Catalyst

Innovations are simply newer and better ways of doing things, which may or may not involve technology. However, technology is often a catalyst for innovation. Megatrends like digital transformation and the pace of technology advancements are reasons for this.

Many times, technology is the novelty that draws interest, introduces the art of what is possible, and spurs new ideas and ways of thinking. Without this catalyst, a path forward remains difficult to conceive and opportunities are missed. Building proofs of concept and sharing examples of technology solutions helps everyone understand what is possible and frees the mind to explore new ideas. They also help to keep everyone interested and engaged in the process.

As mentioned, technology is often the spark for innovation, whether it be through product demonstrations, producing a prototype, developing wireframe mockups, or engaging technology partner resources. The igniter of this spark is having the awareness, access, and experience with various technology enablers relevant to an innovation opportunity.

Many businesses have limited access and visibility to technology enablers that may apply to their use case. This highlights the need for a community-sourced innovation approach. Assets exist internally and externally that possess knowledge and experience in various technologies, use cases, and engagements. A community-sourced innovation approach seeks to harness these assets and apply them toward innovation.

Application of Innovation

Innovation and the methods and tools presented in this guide can be applied in many ways.

At a fundamental level, they can be applied to establish a culture of innovation by nurturing an agile, innovative mindset through creativity, curiosity, and risk-taking. At this visceral level, innovation is an intuitive way of thinking that can be infused into all aspects of work and personal lives.

For example, we may encounter work situations where we face resistance to change, technology challenges, wicked problems to solve, or limited time and budget.

Whatever the case, having an innovative mindset while thinking through the basic steps of an innovative process may provide options and guidance for which path to take.

This is similar to our personal lives. We face challenges that require us to consider options and make decisions every day.

Applying an innovative approach that starts with framing the topic, an empathetic understanding of the issues, collaborating

with people and sharing assets, and taking incremental steps toward a solution may lead to an optimal solution or provide alternatives to consider.

Innovation is commonly thought of as an act of invention or the creation of something new. It is applied to an opportunity or need to produce new products, devices, solutions, or ways of doing things. This usually starts because someone says, "I have an idea," or there is dissatisfaction with the status quo, or one is just curious about why things are a certain way.

However, innovation is more than the act of inventing something new. It is a continuous learning and inventing mindset that can be applied to all aspects of our business and personal lives.

Innovation Program

Our innovation program describes the main components of an innovation platform that can be applied to many opportunities and use cases.



People

- Leadership
- Skills
- Agile Mindset
- Curiosity and Lifelong Learning
- Culture
- Organizational Change Management
- People Development and Performance



Methods

- Community Sourced Innovation™
- Innovation Canvas©
- Tracking and Governance



Tools

- Collaboration
- Technology Enablers

In this section, we discuss each component in detail.

People

The main ingredient is simply people, but there is much more to it. The key attributes of the People component include: leadership, skills, agile mindset, curiosity and lifelong learning, culture, organizational change management, and people development and performance.

Skills

Skills and expertise are essential aspects of the People component. In technologyrelated innovations, technical skills are required to transform ideas into tangible prototypes. Communication skills are needed to articulate and communicate throughout the innovative process. Subject matter expertise is needed to understand the problem, ideate, and vet solutions. Leadership and facilitation skills are needed to shepherd the team, and relationship skills are needed to identify assets and connect and grow networks. In a community approach to innovation, one person does not need to possess all these skills. Rather, skills such as these are considered assets that community participants contribute to the innovation process.

Agile Mindset

The proper mindset is also needed for innovation to take place.

The Agile Manifesto outlines values and principles for agile software development. The four overarching values are:

- Individuals and Interactions
- Working Software
- Customer Collaboration
- Responding to Change



The Agile Manifesto is not a prescriptive methodology but a philosophical mindset for software development. We can apply these same values to innovation. Iterative and adaptive, incremental value creation, collaboration, learning and adjusting are all attributes of an Agile mindset conducive to innovation.

Curiosity and Lifelong Learning

Curiosity, tinkering, and lifelong learning are also beneficial traits. According to Harvard Business Review, *Why Curiosity Matters*⁶, most of the discoveries and inventions throughout history result from curiosity. When our interest is triggered, the study found that we think more deeply and rationally about decisions and develop more creative solutions.

Culture

The underlying culture of an organization has a significant impact on the innovation potential of people. A culture that recognizes everyone's contributions regardless of tenure and values sharing, teamwork, collaboration, and respect for each other is needed for innovation to flourish. This type of culture rewards and celebrates achievements, supports experimentation and lifelong learning, and encourages risk-taking without punishing failures.

Organizational Change Management (OCM)

We include OCM in our innovation framework for several reasons. First, it acknowledges innovators and early adopters that have an inclination toward innovation to help lead the way. Second, it helps us scale innovation and operationalize our ideas by cascading our understanding of the innovation process and adopting new ideas throughout the rest of the organization.

A popular innovation adoption model is based on *Diffusion of Innovations*⁷, published by Everett Rogers in 1962. His theory describes categories of adopters that include innovators, early adopters, early majority, late majority, and laggards. Geoffrey Moore expanded this theory to describe a chasm between early adopters and the early majority in his book, *Crossing the Chasm*⁸ (1991, revised 1999 and 2014).

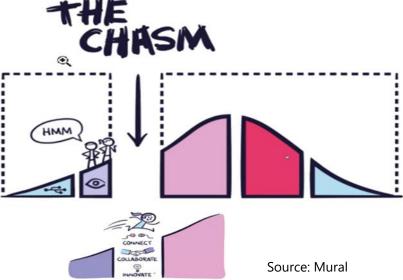
Action Steps

Step 1: Rather than trying to satisfy the majority, it is best to enlist the innovators and early adopters with the proper mindset to help lead an innovation initiative.

Step 2: As the process evolves, ideas and prototypes can be shared with the early and late majority to nurture involvement and adoption.

Step 3: In turn, these members help to cascade innovations throughout the organization by sharing their knowledge and experiences.

One of the benefits of our community approach to innovation is the mitigation of risk for the innovators. Risk is one of the biggest impediments to innovation, particularity for non-early adopters and innovators. By making innovation a team sport, individual members are supported by other members of the team, which reduces the burden of risk.



Our community approach to innovation becomes the bridge over the chasm. By engaging shareholders in a community, we make connections and build ownership that can be leveraged to grow the adoption of new ideas throughout the rest of the organization.

In *Strategic Doing*, Morrison refers to innovators and earlier adopters as Pioneers, early and late majority as Pragmatists, and laggards as Soreheads. These three kinds of people are present in any change effort. He cautions not to "let the soreheads drag us all down" and suggests working with pragmatics who "will go along with change as soon as they see that it is prudent to do so".

People Development and Performance

An interesting aspect of a communitysourced innovation approach is the impact it has on people development and performance. By taking a team approach to innovation and connecting people to solve problems and come up with new and better ways of doing things, we discover hidden jewels in people. When discovered, they are more than willing to share and contribute to the effort. What is typically missing is the opportunity and process to allow them to do so. By following a community-sourced approach, we provide opportunities for people to contribute their assets and share their ideas with others. This not only contributes to the innovation but helps people develop both professionally and personally.

Like projects, people work together on innovations, which adds transparency for everyone to experience and appreciate the contributions of their peers. This provides an organic platform for peer reviews and performance evaluations.



I never lose.
I either win or learn.
NELSON MANDELA



Leadership

Leadership at all levels is needed for innovation to flourish. Leadership from the top is needed to define and communicate the vision and goals for the organization. Top level leadership also plays an important role in shaping a culture that is conducive to innovation and fostering creative mindsets. Leading by example while modeling inquisitiveness and challenging the status quo, encouraging experimentation and risktaking, and not punishing failures are all leadership characteristics that support innovation.

Leadership is also needed within the innovation communities. As explained in the Organizational Change Management section, visionaries and early adopters play an important role in helping to lead others through the innovation process. A community approach to innovation creates many leadership opportunities for people to get involved and take the lead or simply to provide thought leadership. Confidence and new leadership skills can be developed through this organic way of working.

Methods

Methods provide approaches, playbooks, and roadmaps to follow when undertaking innovation opportunities. Although there are no innovation methodologies that can guarantee results, methods are useful for fostering creativity and promoting innovation by providing practical guidance and easy-to-understand best practices for everyone to follow. Methods also help to establish a common vocabulary and keep everyone on the same page.

Innovation, like art, music, and all creative works, is not a science. It can be hit-or-miss or an intellectual gamble. However, rather than leaving it up to chance, we can better the odds by following a method that defines the components, attributes, and practices involved in the innovation process.

An example of methods in music are chord or harmonic progressions like I, IV, V or E, A, B in the key of E. A simple set of rules for sequencing chords has resulted in many generations of hugely successful songs across all genres of music. Likewise, our innovation methods are a set of simple rules for improving the outcome of an innovation endeavor. Methods also provide a common vernacular and serve as a communication tool which is particularly useful in a community-sourced approach to innovation. In music, members of a band playing different instruments can jam together through a common understanding of chord progressions. Similarly, members of a community, each with diverse assets, are better able to communicate and collaborate on new ideas through innovation methods.

The methods that we present in this guide are a composite of past experiences, industry practices and methodologies, common sense, and new ideas. The methods further explained in this guide include:

- Community Sourced Innovation™
- Innovation Canvas©
- Tracking and Governance

We will continue to evolve and enrich these methods with new knowledge and experiences.

Tools

Tools are an essential component of innovation to facilitate collaboration and communications, store and share information, and to prototype and develop solutions.

Tools used in various steps in our methods are listed in our guide. These tools include:

- Collaboration tools
- Technology enablers

Vocabulary of Innovation

What Could We Do?

Brainstorming innovation ideas that result from empathy and journey mapping sessions.

What Should We Do?

Refinement of ideas from What Could We Do through impact/effort analysis, voting, etc.

What Will We Do?

Iterative tasks that will be accomplished to develop and implement the innovation.

Big Easy

Innovation ideas with highest impact and lowest effort.

Reminisce Forward

The desired outcome of the innovation idea before starting to work on them.

Working Backward

Reminisce forward technique used by Amazon to develop a press release describing the innovation before starting to work on it.

Cupcake

Initial version of the innovation – fully baked, just small.

Innovation Canvas©

A seven-step innovation process.

Δςςρτς

Anything that can contribute to the innovation (e.g., people, organizations, partners, resources, funding, solutions, etc.).

Networks

Organizational model for connecting assets.

Community

More than one person involved in innovation, such as a group of people within an

organization or multiple external organizations working together.

Mural

A virtual collaboration tool used to share information and facilitate processes like Innovation Canvas, journey mapping, etc.

Appreciative Topic

An Appreciative Inquiry technique to present the innovation opportunity in a manner that grows positive discussions and promotes new thoughts and idea.

Jobs Theory

A technique to develop ideas based on functional, emotional, and social needs of people.

Design Thinking

An iterative, human-centered design process.

Community Sourced Innovation™

An approach to innovation that involves a community of members each contributing their assets.

30/30

What was accomplished in last 30 days and what will we do in next 30 days.

Use case

Opportunity to apply or model an innovation.

Two-pizza rule

Keep size of team small enough to feed with two pizzas.

MVP, Minimum Viable Product

The smallest work product that is needed to test a hypothesis or validate its usefulness.

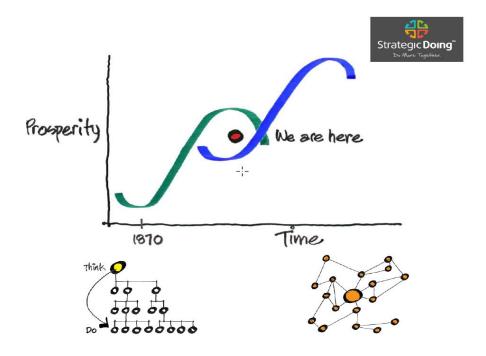
OCM, Organizational Change Management

A process to help people adopt to changes in an organization.

Community Sourced Innovation™ (CSI)

Community Sourced Innovation™ (CSI) is our innovative approach to innovation. Rather than relying on lone inventors, CSI strives to harness the collective assets in a community to solve problems and develop innovative solutions. These assets include people with wisdom, capabilities, experiences, and relationships, as well as other resources such as facilities, software, hardware, cloud services, funding, partners, business models, organizations, etc. Communities are the antithesis of the lone inventor. They are simply two or more parties that share common goals, passions, and interests. This could range from a couple of people brainstorming ideas, to engaging and collaborating with multiple public/private organizations.

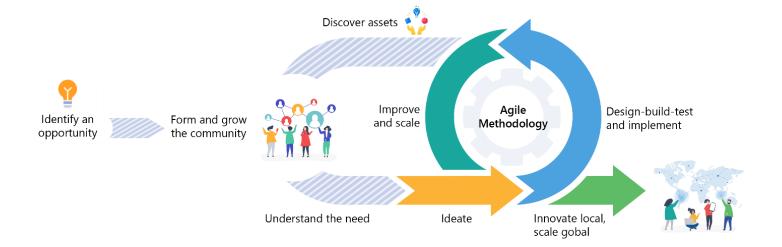
The CSI approach is well aligned to a networked organizational structure. Ed Morrison refers to this in *Strategic Doing* as our "grandchildren's economy." Our "grandfather's economy," or the economy of the past century, relied on hierarchical, command and control organizational structures with the thinking at the top and the doing at the bottom. Our "grandchildren's economy" is organized and driven by interconnected networks. The world has become increasingly interconnected with a vast array of interdependent moving parts. Organizations increasingly rely on a myriad of internal and external resources, all working together to fulfill their mission.



Our CSI approach connects vested parties to form networks of assets to identify opportunities, understand needs, inspire ideas, and take incremental steps to prototype, build, test, implement, and improve innovative solutions.

Beyond facilitating new ideas and innovative solutions, the strategic goal of CSI is to cross pollinate innovation. Since CSI involves communities of people in the innovative process, they become exposed to

the process, methods, and solutions which they in turn share with their teams and cohorts. This makes innovation much more scalable than lone inventors coming up with ideas on their own and helps to nurture creativity and an innovation mindset. As more people get involved and experience the innovation process, we can exponentially scale our methods, foster creative thinking and new ideas in our community, and become a showcase for innovation.



Innovation Canvas©

Our Innovation Canvas© provides a visual playbook of steps in the innovation process. The intent is to provide a flexible framework that can be applied to a variety of innovation opportunities. Many of the steps are intuitive and may be second nature to many, however, having a guide to follow makes the innovative process more intentional, repeatable, and scalable.

The Innovation Canvas is a one-page innovation plan, like Lean Canvas is a one-page business plan. It provides a simple, Agile template with steps and prompts to consider when pursuing an innovation opportunity. Since innovations come in all shapes and sizes, creative efforts may not always follow the same steps. In simple use cases, the steps and prompts in the canvas may be just mental notes to ponder. In larger efforts involving more people, the canvas can be used to facilitate a joint collaborative process.

The steps in the Innovation Canvas are based on *Strategic Doing*, a collaboration method developed by Ed Morrison at Purdue University's Agile Strategy Lab. Through trials and experimentation with actual use cases, we integrated *Strategic Doing* with our CSI approach and added methods and steps to establish an end-to-end innovation process. The Innovation Canvas is a mash-up of published industry methods, best practices, and DataHouse's CSI model.

Enterprise agile and lean frameworks and toolkits such as Disciplined Agile promote Guided Continuous Improvement (CGI) techniques to process improvement to introduce small changes that minimize disruption while constantly making improvements in an effective way. The Innovation Canvas is a CGI to provide guidance throughout the innovation process.



Step 1 Before We Begin

Step 1 sets the stage for fostering an innovative environment and exploring innovation opportunities.

Establish Safe Spaces

Safe spaces provide fertile ground to plant seeds and germinate new ideas.
Establishing these safe spaces begins well ahead of an innovation opportunity. Freely sharing assets and ideas and having deep, focused conversations are more likely to happen in an environment where the participants feel emotionally secure and respected. These safe spaces provide a

forum to reach out, toss around ideas, and have meaningful discussions without fear of judgment and rejection.

At the foundation of these "safe spaces" is a culture that respects everyone's contributions regardless of tenure, and values teamwork, collaboration, hard work, and caring for each other. Internal practices and rituals such as 1:1 check-ins, cohort groups, committees, project teams, internships, and mentorships all provide opportunities to create safe spaces. Safe spaces may also be created externally with customers and partners through trusted, accountable, and caring relationships.

Methods to Building Safe Spaces

There are various leadership and team building methods that are conducive to establishing safe spaces.

- Braving Trust (Brene Brown)
- Two Requirements for Success in Healthy Organizations (Patrick Lencioni)
- The Five Behaviors of a Cohesive Team (Patrick Lencioni)
 - **1. Building Trust:** Team members who trust one another are comfortable being open, even exposed, to one another about their failures, weaknesses and fears.
 - **2. Mastering Conflict:** When trust is present, teams are able to engage in unfiltered ideological debate around ideas, issues and decisions that must be made.
 - **3. Achieving Commitment:** The ability to engage in conflict and provide input enables team members to buy in or commit to decisions.
 - **4. Embracing Accountability:** After commitment is established, team members must be willing to hold one another accountable for their behaviors and remind each other when actions are counterproductive to the team.
 - **5. Focusing on Results:** Collective team results must supersede any departmental or personal objectives or pursuits.

Define the Opportunity

Defining an innovation opportunity helps to understand the use case and validate the merits of investing resources to pursue new methods and ideas. It also helps to focus on the problem and share it with others to get feedback and access to other assets.

Defining an opportunity may be just a simple sentence or concept, such as "Working from home is becoming the new normal and may impact our culture. What should we do about it? "or "We need to make data more understandable."

There is no scarcity of innovation opportunities. Many of us encounter opportunities every day through the course of our business, formal or casual conversations, or simple observations. Formal requirements gathering and process analysis methods such as journey mapping, story boarding, and product visioning sessions are also sources of innovation opportunities. Regardless of the source, each opportunity is worthy of curiosity. Curiosity is cheap and sometimes quick to resolve. Sometimes it even leads to further discovery and significant opportunities to solve problems, improve processes, or create something new.

Catalysts for innovation can be viewed as a series of concentric circles, with the inner most circle being within an organization then branching out externally to customers, partners, suppliers and beyond.

From within – Fertile ground for innovations already exists within the organization from staff and team members that understand the business domain,

working environment, regulatory requirements, and current pain points. Ideas originating from within typically have self-evident value with a high degree of relevance and alignment with business goals. These ideas generally result in incremental improvements that are the least disruptive and offer faster time to value. Small incremental improvements often lead to other ideas and serve to inspire others so do not discount these ideas as being too small or insignificant. Innovation is about putting pieces of a puzzle together, no matter how small the pieces are.

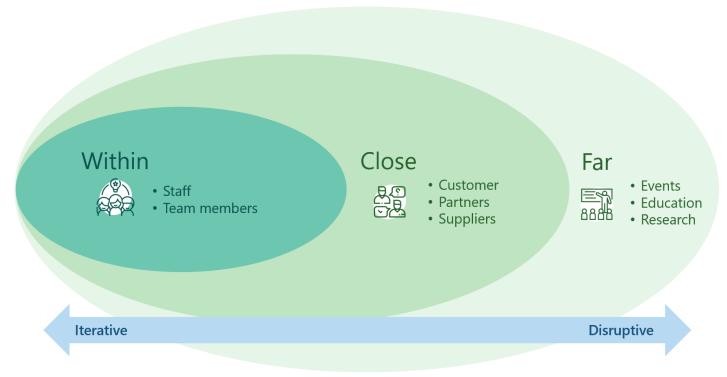
From close – Opportunities for innovation can also be found externally from closely related parties such as customers, partners, and suppliers that are willing to share their needs, feedback, best practices, and complementary products and services. Collaborating with customers and partners on innovation opportunities creates mutual benefits and serves to build and strengthen strategic win-win relationships.

From far – Ideas from far may come from unrelated parties or events such as attending conferences and learning from other's experience, educational opportunities, researching solutions, or just thinking outside of the box. Since these ideas originate from outside your organization, they may require you to connect the dots and see how it may apply in your context. These ideas may also be the most disruptive or outside the norm but may provide the catalyst to find out more and explore possibilities.

Regardless of the source, ideas need to be incubated and nurtured by people with an innovative mindset. There is an abundance of ideas but without these innovation champions, opportunities will be lost, and

the status quo will prevail. Organizations should identify these key people and empower them to lead the way.

Catalysts for Innovation



Start with Why

When considering an innovation opportunity, it's good to ask yourself "why?", since others will ask the same question. Consider how the opportunity aligns to your purpose, vision, strategic goals, and business practices. Connecting these dots helps to validate the opportunity and build support.

Frame the Opportunity

Framing the opportunity adds clarity and further helps to have intensely focused conversations on the use case. Appreciative Inquiry (AI) is a method particularly well suited for framing an opportunity.

Starting with an 1987 article by David Cooperrider and Suresh Srivastva, Al seeks to generate new ideas and models by focusing on what works, or the positive core vs. deficits or problems. The questions we ask focus our attention in a particular direction, so deficit questions like "what's the problem?" or "how do we fix it?" tend to set our thinking toward what's not working. Conversely, Al focuses on positives and sets our thinking in the direction of what is working. It also seeks to grow or appreciate a conversation around the topic.

Here is an example of phrasing an appreciative topic that sets thinking in the right direction. In this example, the innovation opportunity is, "Working from home is becoming the new normal and may

impact our culture. What can we do about it?" An appreciative way to frame this topic is "Connections, engagement, and relationships are all fundamental to the core of our culture. How do we maintain and grow in these areas if we are all working remotely and do not have face-to-face interaction?"



Since there are many other challenges with working from home beyond culture, framing the opportunity this way keeps us on point and sets the tone that we greatly value our culture and want to preserve it. This starts the conversation in the right direction and helps us stay focused on the topic of culture.

Step 2 What Could We Do?

In Step 2, we grow a community around the innovation opportunity through linking and leveraging assets. We also start to understand the problem and come up with ideas on what we could do.

Link and Leverage Assets

Both Steve Jobs and Scott Berkun describe creativity and innovation as the process of connecting ideas, or as the last piece in a puzzle of things that already exist. The concept of linking and leveraging assets follows those same principles. We think about who can contribute to the conversation about the innovation topic based on their assets, which could include knowledge, skills, relationships, experience, capital, etc. This often leads to connecting with more people and discovering assets you never knew existed. This is a very natural, organic process of growing a community of vested participants. Sometimes assets exist in a collective form, such as cohorts, leadership teams or committees. Either individually or in collective form, the same rules apply. Each party is invited to the conversation because of their recognized assets.

Amazon's Jeff Bezos' two-pizza rule is a good rule of thumb for the number of members to engage in deep, focused conversation. Invite up to the number of people that you can feed with two pizzas. The group may grow over time as you discover more assets but having too large a group during initial stages makes collaboration and coordination more

challenging and may impede open discussions and creativity.

In Step 2 of the Innovation Canvas, we can represent our community as a network of connected nodes representing people and their associated assets. People are the critical resources in the community innovation approach, as they are the channel for discovering assets and connecting more people. In Strategic Doing, Ed Morrison describes members of the innovation community as shareholders rather than stakeholders. He argues that stakeholders imply turfs and boundaries, whereas shareholders share common vested interests. Of course, they are not mutually exclusive; however, in our CSI approach, shareholders better reflect the spirit of collaboration, where members freely contribute their assets towards a shared, common goal.



Each member of the community may play different roles, depending on their assets. Subject matter experts may help the team understand the problems, vet ideas, and design solutions. Technologists may help with ideation, solutioning, and developing prototypes. Industry partners may offer prebuilt solutions and experience. One key role throughout the innovation process is

the leader. The leader is passionate about the opportunity and takes ownership of organizing, growing, and steering the community throughout the innovation journey. Without a leader, it is easy for the innovation process to stall and falter and remain satisfied with the status quo.

Empathize to Understand the Problem

Understanding the problem is the key to innovation. One of the tenets of Lean Canvas is to "love the problem, not your solution." Empathy is the first step in Design Thinking, to share and learn how others might be feeling about their problem, circumstance, or situation.

One of the key benefits of a CSI approach is to elicit the community's help to better understand the problem. You may have assets to develop solutions to problems, but those assets may be misdirected or left untapped unless we can clearly understand the problem. We can better understand the

problem or become aware of issues we never knew existed by forming a community and connecting assets that are vested in the innovation opportunity.

These questions may help better understand the problem and spark ideas for innovation:

- What progress is the person trying to achieve?
- What are the circumstances of the struggle?
- What obstacles are getting in the way of the person making that progress?
- Are consumers making do with imperfect solutions through compromising behaviors?
- How do they define what quality means for a better solution, and what tradeoffs are they willing to make?

Jobs Theory

One method to better understand problems and needs is Jobs Theory, pioneered by Harvard Business School professor Clayton Christenson. In his book, *Competing Against Luck*, Christenson presents theories on making innovation more predictable and profitable and less subject to chance. His theory is that customers "hire" products to perform a job in their lives, given certain circumstances and along functional, social, and emotional dimensions. In his classic milkshake example, Christenson theorizes that people may "hire" a milkshake if they are facing a long commute (circumstance) and looking for something easy to drink to reduce boredom (social) or curb their hunger (functional). The same person may "hire" a milkshake if they are with their children (circumstance) and want to feed them (functional) or feel like super dad by giving them a treat (emotional). Identifying jobs to be done and their causal mechanisms deepen our understanding and present a blueprint for innovation by providing a higher specificity of problems and cultivating ideas.

Ideation

Ideation is simply the formation of ideas or concepts. In Design Thinking, ideation is the third step after empathy and defining problem and needs. In our Innovation Canvas, ideation is part of the "what could we do?" step, with everyone contributing their ideas based on the understanding of problems and needs. Like Design Thinking, we are looking for a broad range of ideas and out-of-the-box thinking on what we could do. We are looking for **what** we could do rather than **how** we would do it.

Ideation may occur synchronously or asynchronously, either in person, virtually, or a hybrid of both. There is no time limit on good ideas, so combining live sessions with asynchronous options, where people can submit ideas after the live session, is recommended. Mural is a virtual collaboration tool that is essential for synchronous and asynchronous ideation sessions.

The following are tips for facilitating an ideation session:

Set a time limit – In a synchronous session, time limits should be set depending on the problem's complexity; 15–60 minutes is typical. Asynchronous sessions allow for more time and should have a time limit to enable the group to progress to the next step.

Begin with the appreciative question or topic – Members should approach this sharply defined question, plan, or goal and stay on topic.

Refrain from judgment or criticism – No one should be negative (even via body language) about any idea. Everyone should respect the contributions of all members of the community.

Encourage weird and wacky ideas – Ban killer phrases like "too expensive," keep the floodgates open so everyone feels free to blurt out thoughts (provided they're ontopic).

Aim for quantity – Remember, "quantity breeds quality." The sifting-and-sorting process comes later.

Build on others' ideas – It's a process of association where members expand on others' notions and reach new insights, allowing these ideas to trigger their own. Say "and" rather than discourage with "but"—to get ideas closer to the problem.

Stay visual – Diagrams and sticky notes help bring ideas to life, and others see things in different ways.

Allow one conversation at a time – To arrive at concrete results, it's essential to keep on track this way and show respect for everyone's ideas.

Sometimes ideas are apparent because, as Steve Jobs puts it, "Creativity is just connecting things." Never dismiss your ideas as too simple or obvious. The genius is in making connections, building a network, connecting the dots, and putting the pieces together to come up with the obvious solution.

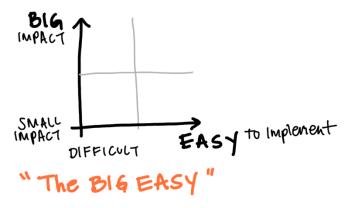
Step 3 What Should We Do?

In Step 3, we consider our "what could we do?" ideas and decide "what should we do?" The goal is not to become overwhelmed with the myriad of great ideas from Step 2 and to just get started so you can incrementally move forward in the innovation process.

A simple way to decide where to get started is to collaborate as a community by having everyone vote on what they feel are the best ideas to try.

Another useful exercise is an Effort vs. Impact Analysis or 2x2 matrix. "What could we do?" ideas are placed on a 2x2 matrix indicating low to high effort on one axis and low to high impact on the other. Ideas that have high impact and low effort are what Ed Morrison refers to as "the big easy" in *Strategic Doing*.

In looking for "the big easy," the Pareto Principle, more commonly known as the 80/20 rule, can be applied. Vilfredo Pareto theorized that 80% of consequences come from 20% of causes. Put into an Effort vs. Impact context, 20% of effort can get you 80% impact so you should consider starting with those ideas.



Another common interpretation of the 80/20 rule is that the idea does not have to be perfect or 100%. Eighty percent, or even less, is good enough. The goal is to make progress, and since perfection is sometimes the enemy of progress, the idea doesn't have to be perfect and fully thought out. Start with something, and through incremental steps, you can continually improve on it. The world would have no innovations if inventors waited for the perfect idea.



A fun way to think of this is to use a cupcake → birthday cake → wedding cake metaphor. A cupcake is a fully baked cake, just smaller. This approach allows for simpler innovations to be tested and vetted quickly, possibly evolving into more robust innovations over time. Rather than becoming hung up on not knowing all the answers, we can try things, experiment, and learn from failing forward. This keeps us moving forward incrementally, rather than tackling large-scale "wedding cake" innovations up front.

The big easy or cupcake metaphor is like a minimum viable product, or MVP, in Lean Canvas. Ash Maurya describes MVP as "the smallest thing you can build that delivers customer value." MVP is also referenced in Enterprise Design Thinking, sometimes as a minimum viable pizza. A minimum viable pizza is a slice. It has all the parts of a round

pizza (toppings, sauce, and bottom and edge crusts), it's just smaller and easier to consume!

Whether its cupcakes, pizza slices, MVP, or the



80/20 rule, the idea is to avoid being overwhelmed by everything that could be done and looking for the perfect idea. Just get started with things that make sense.



Strive for progress, not perfection.



Step 4 Reminisce Forward, Work Backward

In Step 4, we try to anticipate the outcomes we will achieve with our ideas. We do this for several reasons. First, starting with an outcome helps us stay focused on the goal, and serves to measure success. Amazon uses a working backward approach when developing new products and services.

They start with a press release that describes and touts their product before they start building it. They work backward from the customer with a simple description of what they will produce without the technical details of how they will do it. This helps them stay focused on delivering results for their customers.

The second reason for anticipating our outcomes is emotional. Prospection and reminiscing forward conjure up feelings and create emotional attachment. By imagining how our ideas will help our community, save lives, or make life better, we add an emotional appeal to our thoughts, both personally and for all stakeholders involved. This stimulates excitement, desire, and the commitment to continue driving forward.

In *Strategic Doing*, Ed Morrison suggests asking three questions to reminisce forward.

- 1. If we are successful, what will we see?
- 2. What will we feel?
- 3. Whose lives will be different, and how?

Step 5 What Will We Do?

Step 5 is where we get down to business and start turning our ideas into working solutions. Using an Agile development process, we plan and work in sprints to incrementally design, build, test, and refine our solution. We usually start with a proof of concept or prototype to design our ideas and share with others to validate their efficacy.

It is essential to get the ideas and thoughts out of your head and put them into the world. From there, they can be shared, critiqued, and evolved. Producing tangible, visual artifacts helps others understand your idea and contribute to refining it. You may start with a low-fidelity prototype like simple sketches or wireframes in a collaboration session to brainstorm ideas.

Prototypes do not have to be limited to whiteboard or paper. Be creative and contribute your passion and talent!











We evolve our solution through an iterative design, build, and test cycle, keeping in mind the outcome that we reminisced forward in Step 4. We share our progress and get feedback from the community throughout the process.





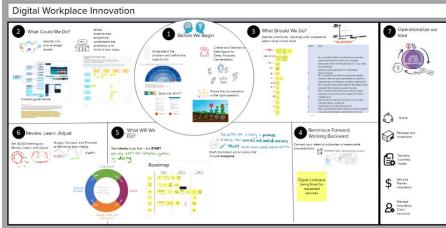


Step 6 Review, Learn, Adjust

As we continue the cycle of design, building, and testing, we eventually arrive at a point of retrospection. This allows us to review what we produced and determine how it stacks up to the outcome we defined, what worked, what didn't work, and what adjustments are needed.

The Innovation Canvas is a useful artifact for retrospection since it recaps the steps that were followed and contains content that was produced and gathered along the innovation journey. This serves as the celestial navigation map and keeps the team aligned and on course.

Another helpful tip for retrospection is to develop an illustration of a timeline that recaps the steps and presents the artifacts that were developed and gathered along the innovation journey. The retrospective is an excellent time to celebrate and thank the team for their contributions. The timeline helps to remind the team of everything they accomplished.



Just as crucial as the retrospective steps to review progress are the forward steps to continue along the innovation journey. This is referred to as 30/30 in *Strategic Doing*. It is the past 30 days' accomplishments and what will be done in the next 30 days. The double-edged sword of innovation is that it is novel and exciting, but not operational, and easily forgotten unless someone intentionally nudges it along. 30/30 reminds us to keep encouraging, connecting, and promoting our innovation.



Step 7 Operationalize our Idea

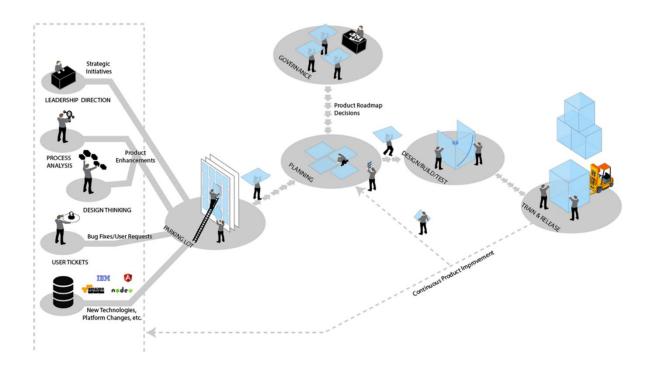
Step 7 is when we operationalize our ideas. Operationalizing an idea an essential step to realizing its value, which is the ultimate goal of any innovation. This is not to say that innovation has no value unless it reaches the operational stage. Tremendous value can be accrued during the innovation process in the form of relationship building, sharing knowledge, community goodwill, and fostering a culture of innovation.

Since innovations come in all shapes and sizes, operationalizing them may take various forms. Innovations such as developing a product or new business line may be more challenging to operationalize; however, smaller innovations like improving how we collaborate remotely, refreshing an

Intranet, or improving product and services are easier to put into operation.

In some cases, operationalizing may be formally presenting and sharing the solution, putting it into practice, integrating it into the business, packaging and implementing it, securing a contract, or creating a product or new line of business. The common theme is that we bring closure to this leg of our journey and derive some form of value from the innovation.

If the innovation results in a new product or solution, a fully operational state would implement the innovation into a product management framework which allows for continuous value creation.



Tracking, Measurement, and Governance

This section covers various approaches to tracking the progress of innovation activities, measuring results, and ensuring that activities are in alignment with organizational goals and strategy.

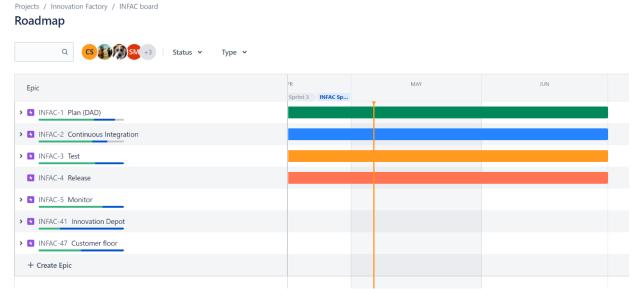
As mentioned in this guide, innovations may take many different shapes and sizes and evolve through an organic process of identifying opportunities, connecting assets, brainstorming ideas, developing, and refining prototypes, and final operationalization. Throughout this organic process, the Innovation Canvas serves as a platform to track the activities and capture relevant content along the journey.

Implementing the Innovation Canvas in a virtual collaboration tool, such as Mural, is highly recommended since multimedia content such as document, videos, websites, email, graphics, can be embedded in the canvas at various steps in the process. This provides breadcrumbs to trace back to artifacts, discussions. and decisions made in

prior steps and helps everyone know where they are in the process.

For larger innovation efforts that may involve multiple innovation activities. using an agile scrum product approach and management tools such as Jira may be useful. This approach is most useful in Step 5 What Will We Do of the Innovation Canvas since a large innovation effort may breakout into various teams working on different component.

The entire innovation effort may also be managed as a project using Agile Scrum project or product management approaches. For example, the overall innovation effort could be represented as a product with a backlog and overall roadmap. Various innovation activities could be worked on in sprints and scheduled in releases. Jira helps to track activities by maintaining a backlog, assignment work items to sprints, and defining and overall roadmap.



Measurement of innovation outcomes provides valuable insights into the results of innovation efforts and whether it achieved what was envisioned in Step 4. Measuring innovation results also helps to identify continuous improvement opportunities and new opportunity spaces. Many organizations consider innovation as part of an overall performance management program that includes measurement and analysis of innovation initiatives.

Many measurement frameworks can be applied to innovation. One method is the Goal Question Metric (GQM) approach. GQM starts with defining the goals of the innovation, then it traces those goals to the data that are intended to define those goals operationally, and finally provides a framework for interpreting the data with respect to the stated goals.

When thinking of goals, it's good to think beyond the innovation itself. Innovation goals may not be limited to efficiencies or productivity of the innovation but could also consider the people and cultural aspects. In many cases, the innovation journey is more valuable than the innovation itself. Engaging people in the process of innovation may lead to new ideas, cross pollination of knowledge, a more satisfied and engaged workforce, and a culture of collaboration and innovation.



The innovation journey may be more important than the innovation itself.



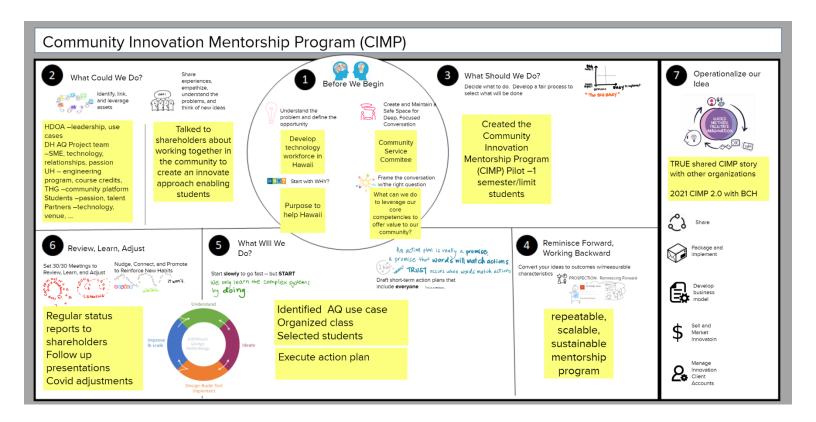
Governance of innovation is an interesting topic. Too much governance oversight can quickly stifle innovation yet how do you ensure that ideas being worked on align with the organization's goals and strategy. Having clear business goals that are well understood by everyone in the organization is the start point and helps to establish the Why. Having playbooks such as this guide to innovation helps to introduce guidance, consistency, and intentionality in the process. Since innovation may take many shapes and sizes, many of them may be self-governed by the team based on their understanding of organization's goals and strategies. For larger innovation efforts that impact the organization and require investment, executive leadership should be involved as part of the community. In reality, executive leadership is often involved because of their assets in having a leadership position in the organization and also their wealth of experience and insight that can contribute to the innovation process.

From Ideas to Impact: Community Innovation Mentorship Program (CIMP)



CIMP started with the curiosity of a community service committee member asking what DataHouse could do to help our community in a way that is related to our business (Step 1). After connecting assets in the community, empathizing, and brainstorming ideas (Step 2), the team decided to pursue a community-based mentorship program that involved the University of Hawaii (UH) College of Engineering, UHCoE students, Transform Hawaii, TRUE, Department of Agriculture Animal Quarantine, and DataHouse (Step 3). We reminisced forward about a scalable program that could be replicated by others in our community to offer more significant opportunities for students than what we alone could provide (Step 4). Our "cupcake" pilot program started in the Spring 2020 semester and, despite learning and adjustments due to the pandemic, resulted in a successful

experience for all participant shareholders (Steps 5-6). With TRUE's assistance, our idea that started with a curious question has become operationalized (Step 7). Our vision for a scalable program that other firms can improve on was realized in the Spring 2021 semester. Belt Collins Hawaii, a local civil engineering firm, is teaming with DataHouse to create a multi-disciplined CIMP. Computer and civil engineering students will work together to develop AI-based solutions to help plan and manage Hawaii's critical public works infrastructure.



Learn more about CIMP 2.0

https://www.hec.org/true-resource/ community-innovation-mentorship-program-2-0/

Tools

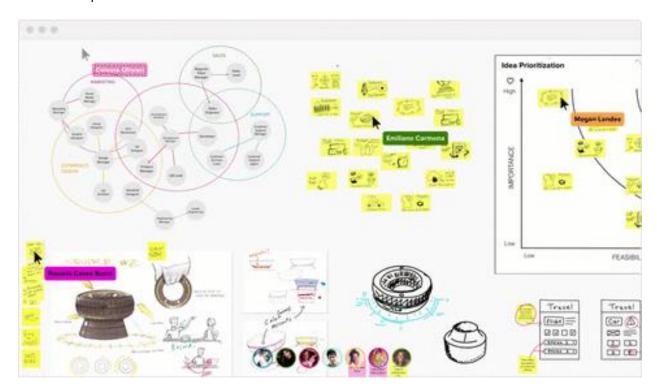
Tooling is an essential element of our innovation framework. It facilitates and supports the innovation process and provides enablers for the innovation itself.

Mural

Mural is a digital workspace for visual collaboration and an essential tool for a community sourced innovation approach. It allows for members to visually collaborate synchronously and asynchronously and serves as a context-sensitive content repository for artifacts created during the innovation process.

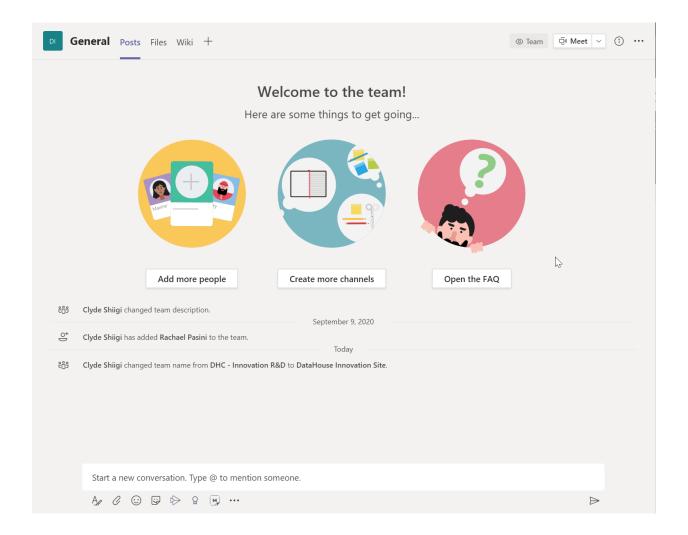
The Innovation Canvas can be made available as a template in Mural to make it easy for anyone to start the innovation process with a prefilled roadmap of the steps to consider.

Mural can also be used as a generalpurpose virtual collaboration space. There are prebuilt templates available for Lean Canvas, Journey Mapping, Empathy Maps, Design Thinking, Impact vs. Effort, etc. You can also start with a blank mural and use it as a virtual whiteboard.



Microsoft Teams

Microsoft Teams is a useful tool to organize and store content and conduct video conferences and threaded discussions. Applications can be added, providing additional functionality such as surveys, forms, reports, etc. Microsoft Teams sites can serve as a central repository for all innovation initiatives. Channels can be added to the site for each innovation project. You can create links to documents in Teams from Mural so all documents are in one place.



Technology Enablers

Technology enablers are the various technologies, tools, platforms, services, and applications used to transform an idea into a solution. These enablers are vital to the innovation process because they produce tangible representations of a solution that shareholders can see and touch. Seeing a solution come to fruition from an idea is an exciting moment and helps keep everyone engaged and inspired to refine the solution further.

Technology partners are often valuable members of an innovation community. Their assets include technology solutions, experience, and enablement, which apply to an innovation opportunity. Cloud technologies are especially well-suited for innovation because its vast catalog of cloud services can be leveraged to prototype solutions without the upfront investments. Many cloud services offer no cost trials to try out the solution before purchasing. Most of the major cloud provides such as AWS, Microsoft, and Google offer free tiers for low volume use in their pricing model which are ideal for prototyping or developing "cupcake" applications for limited production use. Some cloud providers provide a catalog or marketplace for predeveloped applications or templates. You can search these catalogs to find solutions that match your use case to get ideas or ready to use applications.

Here are example of prototype solutions to various use cases that were developed quicky by leveraging cloud based technology enablers.

Use Case:

Assess conditions of stormwater infrastructure.

Technology Enablers:

Google StreetView and digital camera to capture images of stormwater assets.

Amazon AWS Rekognition to detect faults such as cracks, exposed rebar, and obstructions using computer vision and machine learning technologies.



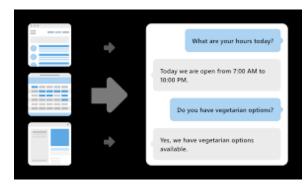
Result	;	
Box #	Labels	Confidence
3	large_concrete_missing True positive	99.8%
0	exposed_rebar False positive	85.1%
1	exposed_rebar False positive	49.5%
2	exposed_rebar False negative	0.4%

Use Case:

Provide answers to employee's commonly asked questions.

Technology Enablers:

Microsoft QNA Maker, Google DialogFlow, and IBM Watson Assistant to create prototype chatbot applications to answer top 10 most common questions that employees ask.

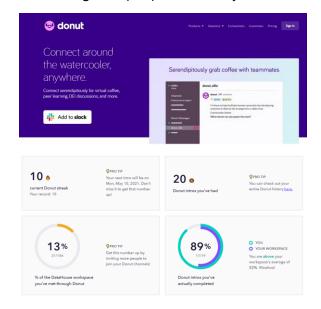


Use Case:

Maintain culture through personal interactions with people even when more people are working from home

Technology Enabler:

Donut and Slack to match and suggest connecting with people on weekly basis.



Use Case:

Make information more accessible and understandable.

Technology Enablers:

Amazon Quicksight and Microsoft Power BI to aggregate source data and produce dashboards and data visualizations using data storytelling techniques.



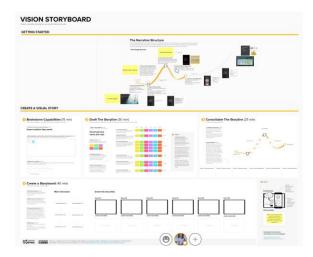


Use Case:

Enable virtual collaboration with people in different locations and time zones:

Technology Enabler:

Mural as a virtual collaboration whiteboard to enable synchronous and asynchronous collaboration.



Other rich sources of technology enablers include technology research advisory services such Gartner Research and Forrester Research.

Local organizations such as the Hawaii Executive Collaborative, or TRUE offer valuable information about technology enablers being used in your local community. You can learn about various use cases and technology solutions through TRUE sponsored webinars and network with other innovators in the community.



- Community Innovation Mentorship Program
- · Al for Call Centers
- Adaptation of Electronic Forms & Records
- Blockchain for Vehicle Title Management
- Cloud-based Solutions for Travel Approval
- Cloud-based Solutions for Field Service Management
- Infrastructure: Repository of Foundational Solutions
- Data Mining to Identify Target Japanese Customers
- Al for HR Recruitment

The Journey Begins

We hope you find this guide useful in fostering creativity and innovation in your organization. We encourage you to adapt and tailor it to match your business strategies and way of working.

As you embark on your innovation journeys, the following key success factors may be helpful to keep in mind:



Connect the dots

Align innovation with business goals and strategy.



Leadership at all levels

Lead by example, find innovation guides to help lead the way, early adopters help others cross the domain.



Who, not how

Connect and discover assets, create networks, not hierarchies.



Top Down and Bottom Up

Set the vision, enable the process, make innovation a team sport with real use cases.



Cupcake, birthday cake, wedding cake

Take an iterative, agile approach.



Show, don't tell

Leverage technology enablers, create prototypes.

Happy Innovating!! We hope you to share your innovation experiences and ideas with others in the community. By connecting and discovering the great assets our communities, we can all work together for a better world.

For more information, contact info@datahouse.com.

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Global Headquarters

711 Kapiolani Blvd, Suite 500 Honolulu, HI 96813

P: 808.942.8108

F: 808.948.9595

Email: info@datahouse.com

https://www.datahouse.com

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