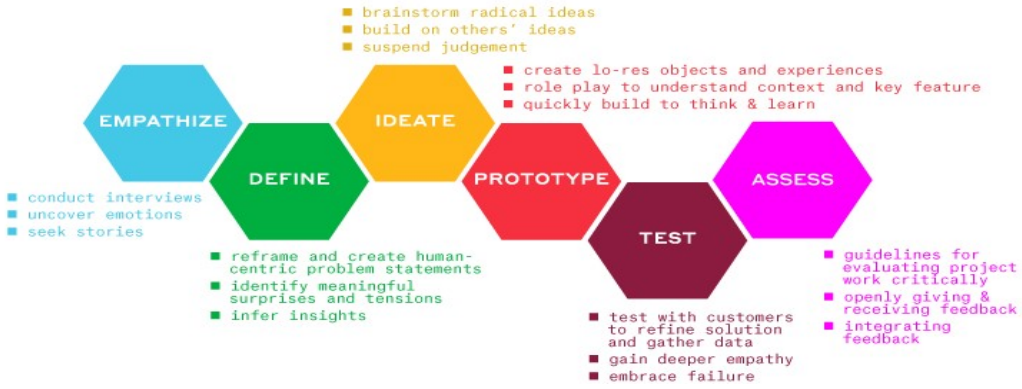


Based on the "Vijay Kumar's- 101 Design Methods"

DESIGN THINKING OVERVIEW AND MOTIVATION

INTRODUCTION

- So what is design thinking, and how can this help us?
- Design thinking is part and parcel of what goes through a designer's mind in every single design project. It is a powerful thinking tool that can drive a brand, business or an individual forward positively. Or example, as more and more people come to cities to look for jobs, these urban areas' consumption of energy, food, water, and other natural resources will steadily increase.
- This naturally places great pressure and stress not just on our environments, but on our daily living and routines (this goes a long way to explain Singapore's traffic jams, long queues, and overcrowded malls).
- Design thinking can help solve problems with overcrowded living spaces, and minimize stress to our infrastructure. It can be used to utilize our resources effectively, and minimize energy consumption.

WHY DO WE NEED DESIGN THINKING?

➢**Three key factors why people need design thinking**:

1. For companies to innovate.

- "with stylish products like the iPhone, MacBook Innovation distinguishes between a leader and a follower." —Steve Jobs, Apple CEO. Companies need to innovate or die. Today's consumers are very aware, are spoiled for choice, and can be very fickle.
- 3M and Apple were companies on the brink of failure—but they proceed to adopt an innovative culture through design thinking to achieve amazing records of success. Today, 3M generated nearly $30 billion revenue selling over 55,000 innovative products, while Apple captivated the consumer electronics with stylish products like the iPhone, MacBook and iPad.
- In a competitive market, companies, big or small, need to innovate to create an advantage over their competitors. Design thinking will allow companies and start-ups to innovate and explore opportunities, based on unmet consumer needs and understanding of the situation.

2. For society to solve human problems

- "Design is directed toward human beings. To design is to solve human problems by identifying them and executing the best solution." —Ivan Chermayeff, Designer & Artist.
- People need design thinking to solve human problems (difficulties we encounter in daily life).
- For example, we face issues like overcrowding at train stations, bad online banking experiences and traffic jams, which can lead to frustration and social problems.
- By applying design thinking principles, we identify the best possible options to streamline and make these experiences go better, faster and smoother.

3. For individuals to compete

- "Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success."—Tim Brown, President & CEO of IDEO.
- Design thinking has already been seen as a competitive advantage for individuals who want to excel in their career or business.
- Many schools, such as the Rotman School of Design and Stanford University's D. School, have offered exclusive courses on Design Thinking to executives and professionals.
- They aim to give students with design backgrounds a stronger business advantage, while offering business-minded people a more creative edge. Thinking like a designer can transform the way organizations develop products and services on the front end.

- It can also improve processes and strategy in the backend. You can apply the principles to a new product or service, but you can also use to tackle a problem that a plagues a city or nation.
- It is a way to think and ideate on a solution to address a problem, or better meet a customer need. It is a process focused on solutions, and not on problems.

WHAT MAKES DESIGN THINKING A UNIQUE WAY OF THINKING?

- In psychology, it is believed that the left brain controls the more logical, analytical functions. whereas the right hemisphere processes the imagination, creativity and emotions. Design thinking is probably one of the few disciplines that utilize both equally.
- Design Thinking is not an exclusive property of designers—all great innovators in literature, art, music, science, engineering, and business have practiced it. So, why call it Design Thinking? What's special about Design Thinking is that designers' work processes can help us systematically extract, teach, learn and apply these human-centered techniques to solve problems in a creative and innovative way – in our designs, in our businesses, in our countries, in our lives.
- Some of the world's leading brands, such as Apple, Google, Samsung and GE, have rapidly adopted the Design Thinking approach, and Design Thinking is being taught at leading universities around the world, including D.school, Stanford, Harvard and MIT.

Principles of Successful Innovation

- PRINCIPLE 1: Build Innovations Around Experiences
- PRINCIPLE 2: Think of Innovations as Systems
- PRINCIPLE 3: Cultivate an Innovation Culture
- PRINCIPLE 4: Adopt a Disciplined Innovation Process

PRINCIPLE 1: Build Innovations Around Experiences

- Experience-focused innovation uses a different approach. Emphasis is not on the product, but on its users. The focus shifts from the things people use, to what they do—their behaviors, activities, needs, and motivations.
- The most successful innovations are built not only on detailed knowledge of a product or technology, but also on what the organization learns from studying peoples' overall experience.
- In studying peoples' experiences, innovators should focus not only on the obvious experience of "using the product," but on the host of activities that surround the context in which it is used including: recognizing a need, discovering a product or service to meet that need, learning about it, using it, and extending its use (e.g., sharing, customizing, servicing, upgrading).

- Organizations need to expand their concept of product performance beyond understanding the attributes, functions, and features of an offering, to understanding its users' motivations, needs, and beginning-to-end experience.
- For e.g., Athletic shoe giant Nike maintains a market-leading competitive position not by focusing on creating a better shoe, but by designing a better athletic experience.
- Beyond innovations in materials, aesthetics, and performance, the company has developed innovations that extend the runner's experience. Embedded sensors in shoes enable runners to capture, monitor, and upload data about their running to measure their progress over time.

PRINCIPLE 2: Think of Innovations as Systems

- An offering, whether it is a product, a service, or media/message, naturally belongs to a larger system of offerings, organizations, and markets.
- A "system" can be defined as any set of interacting or interdependent entities that form an integrated whole which is greater than the sum of its parts. Innovators who understand how this larger system works can better create and deliver offerings with high value.
- A traditional approach to designing a healthcare-related product would be to focus on product performance. By placing the product in the context of the overall healthcare system, we can develop a greater understanding of the product's value in relation to all the components of the system, such as the patient, doctor, hospital, home, pharmacy, medical device manufacturer, medical supplier, insurance company, pharmaceutical company, government, and so forth.

- The attributes that define these components can also be described; for example, the patient's health condition, treatment plan, and other information similar to what is found in the patient's electronic health record.
- Further, we can also think about the flows that happen between components, such as a patient's payments to the insurance company or the information that patients and doctors exchange.
- Thinking about your product in relation to the healthcare system not only helps understand system-level implications for the design of the product, but also reveals new opportunities for innovation that otherwise you would not have considered.
- Going even further, organizations can pursue simultaneous innovation in several parts of the system. Offerings based on integrated innovation of multiple parts of a system are likely to have greater value, and tend to confer massive competitive advantage for the company creating them.

PRINCIPLE 3: Cultivate an Innovation Culture

- The story of Apple's successes through design innovation is well known, and not very surprising.
- Apple is a relatively young company, founded and built on the idea of user-centered design of technology.
- Although now an established Fortune 500 firm with 60,000 employees worldwide, it has inherited and maintained much of its organizational culture from its days as a Silicon Valley start-up. Its founder-CEO, Steve Jobs, was a natural innovator and showman who knew that design is one of the company's primary differentiators. In short, a company like Apple has many built-in organizational and cultural advantages that allow it to pursue a design innovation strategy.
- There are many other stories of large, long-established companies that have not historically relied on a design innovation strategy, but find themselves needing to adopt one. Procter & Gamble's transformation of its innovation strategy under the leadership of A.G. Lafley is a prime example.

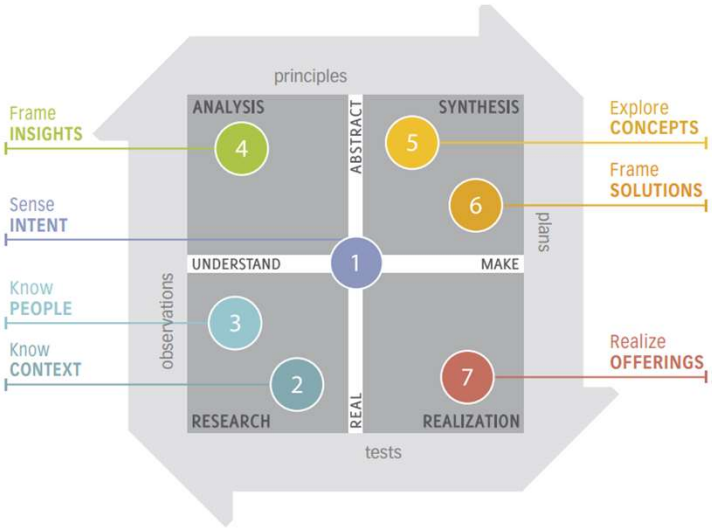
- In 2000, the household products giant's stock was collapsing as it faced alarming declines in growth and threats from a plethora of private-label brands with increasing access to the same production technologies and markets.
- Facing the decision of whether to cut costs to compete head to head with private-label brands or pour additional resources into R&D and marketing to rebuild margins, Lafley boldly chose to do both. One of his key strategies was to inject user-centered design innovation into P&G's organizational "DNA."
- This principle is about cultivating a mindset among people in an organization that everyone is actively engaged in innovation on a daily basis and that everyone's actions can add up to the overall cultural behavior of the organization.

PRINCIPLE 4: Adopt a Disciplined Innovation Process

- To reiterate: "innovation planning" is not an oxymoron. Successful innovation can and should be planned and managed like any other organizational function.
- It is possible to create innovations using well-developed processes and repeatable methods, all in the service of supporting and extending the other three principles of successful innovation—understanding experiences, thinking in terms of systems, and fostering an innovation culture.
- A high degree of discipline is necessary for these processes and methods to work, but when they do, the probability of creating successful innovations can increase dramatically. Simply recognizing and understanding that innovation can and should be planned is the first, critical step.
- It is important to note that the innovation process exists in parallel to many other equally important processes in an organization and needs to integrate well with them. Innovators need to synthesize processes from design, technology, business, and other areas.

- For example, typical technology- and business-driven innovations start with the identification of a business opportunity or a technology possibility followed by concept development and then offering them to users.
- Design-driven innovations start by understanding people, developing concepts, and then conceiving businesses around those concepts. Knowing when and where all these processes touch and interact is key to successful collaboration in organizations.
- Companies need to understand effective and compatible design methods to practice design innovation collaboratively, reliably, and repeatedly. Innovations conceived by carefully integrating design processes with business and technology have a better chance of achieving high user value and economic value, leading to greater adoption and market leadership.

A Model of the Design Innovation Process



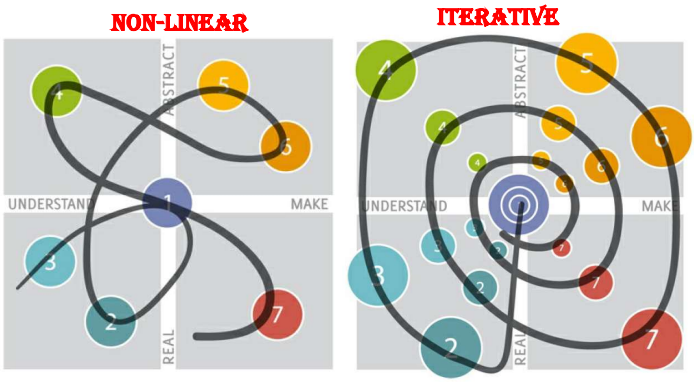
- A 2 X 2 map illustrates the design innovation process. The lower left quadrant represents "research," about knowing reality.
- The upper left quadrant stands for "analysis," since this is where we process the information about reality in abstract terms and try to come up with good mental models to drive innovation.
- The top right quadrant is about "synthesis," during which the abstract models developed during analysis are taken as a basis for generating new concepts.
- And lastly, the lower right quadrant defines the "realization" of our concepts into implementable offerings.
- All these four quadrants—research, analysis, synthesis, and realization—combined together is a well-formalized process model with which to drive innovations in any organization

- Within this framework reside seven distinct modes of activity for design innovation: **Sense Intent**, **Know Context**, **Know People**, **Frame Insights**, **Explore Concepts, Frame Solutions**, and **Realize Offerings**.
- These seven modes, incidentally, form the structure not only of the innovation process, but also of the rest of this book.
- Understanding the outlines of the innovation process can greatly help innovators, by providing a guiding structure and sequence for any given project, and ensuring that the team has the right information and knowledge at the right time

Seven Modes of the Design Innovation Process

- Mode 1: Sense Intent
- Mode 2: Know Context
- Mode 3: Know People
- Mode 4: Frame Insights
- Mode 5: Explore Concepts
- Mode 6: Frame Solutions
- Mode 7: Realize Offerings

Don't think process is linear.. but this process is highly non-linear and iterative



Process is Nonlinear

- Although the idea of a process implies a linear sequence of events, this can be misleading.
- Many projects are actually nonlinear. For example, a project may begin with a sudden brainstorm (Explore Concepts) and then proceed "backwards" to research and analysis to validate and improve the idea, followed by further exploration and iteration.

Process is Iterative

- The process is also iterative, requiring many cycles through the process, and often through one or more modes (cycles within cycles), rather than being a direct sequential push.
- A project might start with an intent and some contextual research; then follow several consecutive rounds of user research and analysis, with initial insights being fed back to users for validation; then several rounds of concept exploration, user feedback through prototype testing, refinement of analysis, and then further exploration, further prototyping, and so forth.

Mode 1: Sense Intent

➢**Gathering the latest**: Searching for the latest happenings, cutting-edge developments, and the latest thinking going on in the field.

➢ **Mapping overviews**: Taking a step back from details and creating high-level views of the changes going on in the topic area

➢**Mapping trends**: Getting high-level overview of relevant trends in business, technology, society, culture, and policy

➢**Reframing problems**: Framing-up challenges differently based on the associated trends and conditions and finding opportunities where the organization could create high-value innovation

➢**Stating initial intent**: Outlining hypotheses of how the organization could take advantage of innovation opportunities

Mode 2: Know Context

➢**Planning for research:** Creating a work plan for understanding the context based on available time, resources, methods, and expected deliverables.

➢**Searching knowledge base:** Searching through large quantities of data from existing sources to find emerging patterns.

➢**Mapping evolution:** Creating overviews of key industry developments, eras, timelines, and likely futures.

➢ **Doing comparisons:** Creating overviews showing organizations in relation to industry networks, competitors, and analogous organizations

➢**Diagnosing conditions:** Gaining perspective on the organization's capabilities, their performance, and industry patterns of innovation.

➢ **Asking experts:** Communicating with experts in the field and understanding their analytics, opinions, and recommendations.

Mode 3: Know People

➢**Planning research:** Deciding on research objectives, target users, fieldwork protocols, budgets, and timeframes.

➢ **Observing people:** Recruiting participants, doing fieldwork, documenting people, their activities, and interactions with objects and environment.

➢**Asking people:** Conducting surveys, discussing findings with users, and gathering feedback and validation.

➢**Engaging people:** Having users participate in activities, conversations, and interactions with researchers.

➢**Organizing finding:** Collecting observations and research data, tagging with keywords, and identifying gaps in research.

Mode 4: Frame Insights

- **Finding insights:** Identifying patterns in research results about people and the context and looking for insights.
- **Modeling systems:** Diagramming the context as a system showing its components, relationships, attributes, and value flow.
- **Finding clusters:** Sorting data in different ways, finding groupings, and revealing high-level insights.
- **Finding patterns:** Visualizing research findings as diagrams and revealing hot spots, gaps, and overlaps.
- **Making profiles:** Defining attributes of key stakeholders and other parts of the system.
- **Mapping flows:** Visualizing how value flows in networks of producers, consumers, suppliers, and other stakeholders.
- **Mapping experiences:** Diagramming user journeys in space and time, discovering pain points, and showing opportunities.
- **Making frameworks:** Summarizing insights and translating them into frameworks and guidelines to drive concept generation.

Mode 5: Explore Concepts

- **Framing concept space:** Converting insights to design principles, reframe assumptions, and making hypotheses for concept generation.
- **Defining concepts:** Brainstorming concepts within the widest solution space permitted by design principles, gaining inspiration from metaphors, and visualizing concepts.
- **Organizing concepts:** Sorting, recombining, and dividing concepts into logical systems and groups; collecting and archiving concepts for future reference.
- **Communicating concepts:** Sketching, diagramming, prototyping, visualizing, and narrating concepts to understand, validate, and convey their value

Mode 6: Frame Solutions

- **Generating options:** Combining the many point concepts explored in Explore Concepts mode into a set of solution options for further selection.
- **Systematizing concepts:** Clustering and synthesizing concepts into coherent systems, planning lifecycles of offerings, and creating roadmaps.
- **Evaluating concepts:** Scoring, voting, and ranking concepts against design principles, cost/benefit, viability, and feasibility.
- **Communicating solutions:** Refining sketches, diagrams, prototypes, visualizations, and narratives of proposed solutions.
- **Organizing solutions:** Sorting, collecting, and archiving solutions for easy access, including use by other teams and projects.

Mode 7: Realize Offerings

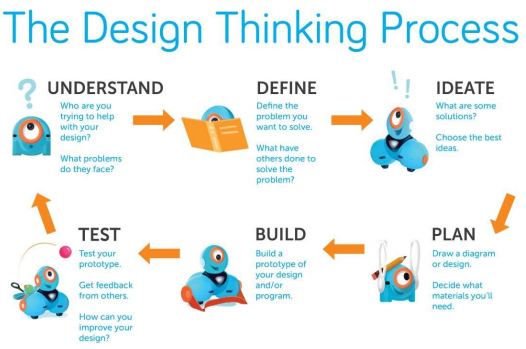
- **Building prototypes:** Developing prototypes to test details, feasibility, viability, and technical specifications.
- **Defining strategies:** Determining market positioning, platforms, partners, and business plans key to the innovation's success.
- **Defining tactics:** Identifying capabilities necessary to achieve strategies and plan development trajectory.
- **Developing initiatives:** Gathering resources, constructing budgets and schedules, hiring teams, and creating plans for pilots and launches.

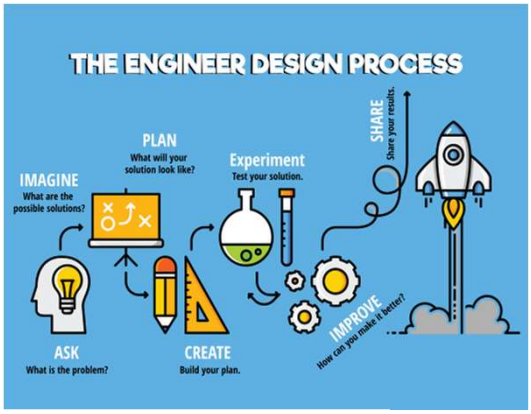
Understanding Methods

Understanding the entire design innovation process and life cycle is an initial requirement to achieving reliable innovation. However, an organization also must understand the specific activities and methods it can deploy at different points throughout the process. This may include things as simple as a 2 X 2 position map.

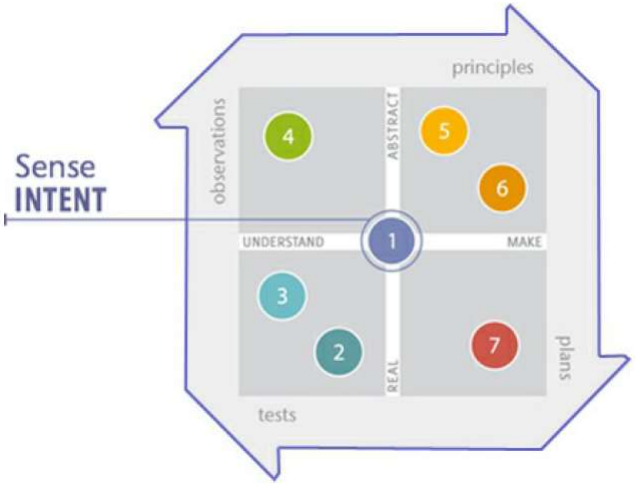
Design Thinking vs Engineering Design

Design Thinking	Engineering Design
1.It focuses on the design of advanced products, service, experiences and systems across the breadth of engineering and design.	1.Series of steps that a engineers follow to come up with a solutions to a problem.
2.The steps of the design thinking process are to: •Define the Problem •Do Background Research •Specify Requirements •Brainstorm Solutions •Choose the Best Solution •Do Development Work •Build a Prototype •Test and Redesign	2. It will enable you to develop a range of fundamental design and engineering skills, with a particular emphasis on creativity, computer-aided engineering tools, optimisation, human factors, design process, and the enterprise skills and industrial experience necessary to launch brand new products to market.





Mode-1
SENSE INTENT



SENSE INTENT Mindsets

- The Sense Intent mindset is about continuously detecting the latest changes happening in the world today and forming speculations about what new situations may be looming on the horizon.
- It is about recognizing what is new or in flux, and identifying hotspots of potential growth.

Sense Intent Mindsets

- Sensing Changing Conditions
- Seeing Overviews
- Foreseeing Trends
- Reframing Problems
- Forming an Intent

SENSE INTENT

methods

1. Buzz Reports
2. Popular Media Scan
3. Key Facts
4. Innovation Sourcebook
5. Trends Expert Interview
6. Keyword Bibliometrics
7. Ten Types of Innovation Framework
8. Innovation Landscape
9. Trends Matrix
10. Convergence Map
11. From… To Exploration
12. Initial Opportunity Map
13. Offering-Activity-Culture Map
14. Intent Statement

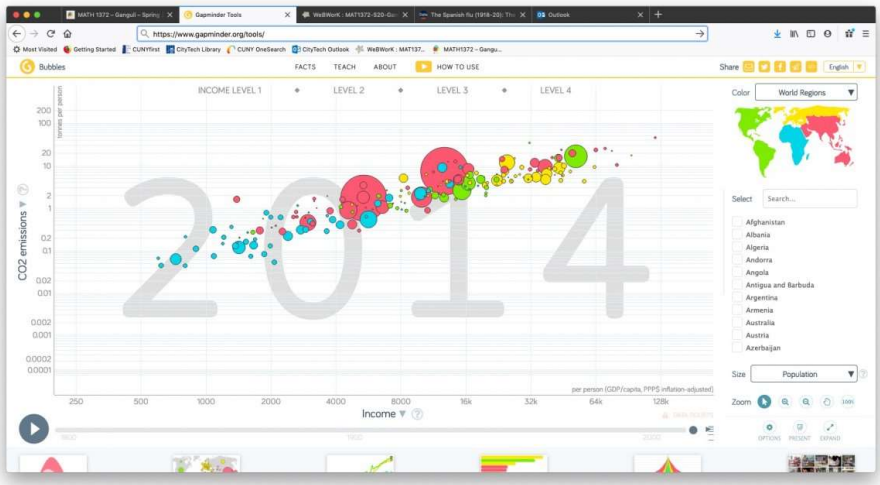
Sense Intent Mindset: Sensing Changing Conditions

- As creators of the new, innovators need to have the mindset of continuously keeping up with the pace of change whether political, economic, social, cultural, scientific, or technological.
- The torrent of news and data can be overwhelming, and one must think about where to gather information, how to categorize it, and how to relate it to the goals and strategies of the organization.
- We should actively monitor various information sources —periodicals, websites, books, broadcasts, podcasts— and opinions of leading experts and thought leaders.

Search engine developers like Google have been sensing change patterns and creating powerful tools to search through millions of sources and produce desirable results in fractions of seconds. Equipped with such tools, it is easier to be in the mindset of continuously sensing changing conditions.

Sense Intent Mindset: Seeing overviews

- ❑ While in an unfamiliar place, observing surroundings and getting information on the ground helps us navigate in that place.
- ❑ Cues in the environment, landmarks, and street signs are all helpful sources of information for guidance. Also valuable are "overviews," like street maps, navigation systems that show GPS location, and radio broadcasts about traffic and weather patterns.
- ❑ Similarly, Innovators searching for opportunities greatly benefit from such overviews as well.
- ❑ Parts, relations, patterns, and dynamics that are visualized as overviews help us better understand the changing context in which we intend to innovate
- ❑ The insights that one gain from close-proximity and ground-level observations about people and context are a good source for incremental innovations.
- ❑ Often radically new and disruptive innovations emerge from our overview mindset, the ability to see big pictures.



Gapminder is a visualization system that shows context overviews as dynamic and interactive diagrams. Data about context are plotted as scatterplots to show their distribution patterns. Through interactive animations, Gapminder shows changing patterns in powerful and easy-to-understand terms.

Sense Intent Mindset: Foreseeing trends

- ❑ We should identify and understand trends early on so that we are in a better position to quickly and positively respond to their impact on the future.
- ❑ Recognizing trends is a skill that can be cultivated by carefully learning to discern patterns of activities taking place around us.
- ❑ Simply being able to recognize which sectors of the economy are growing and which are in decline can help us develop a provisional sense of the economic opportunity.

Amazon's Kindle e-book reading device was the result of foreseeing significant trends in the field and quickly and effectively responding to them. Drastic improvements in digital ink technologies, declines in traditional publishing, environmental concerns about traditional printing, and readers' growing comfort and familiarity with mobile devices all led to the development of Kindle in 2007.

Sense Intent Mindset: Reframing problems

- Being able to recognize and understand the "conventions" that operate in an organization can help us think about how things might be approached differently.
- As conditions change, what was once true may no longer be so. To be truly innovative, new problems and opportunities need to be thought through differently. Challenging conventional wisdom requires an understanding of how it came to be in the first place and thinking about how best to reframe it to be appropriate for a future possibility.
- Moreover, mindsets for reframing problems broaden possibilities and help us arrive at nonobvious solutions.

In 2001, Proctor & Gamble introduced its Crest Whitestrips, a product that reflected P&G's reframing of the idea of oral care. Instead of limiting the meaning of oral care to cavity prevention, it broadened its meaning to include personal care and looking good. Crest Whitestrips took the brand from cavity prevention to whiter smiles and in the process introduced a product line with significantly higher margins than the commodity toothpaste category.

Sense Intent Mindset: Forming an intent

- After we develop a good understanding of the latest news, developments, trends, and conventions, we switch to a mindset of consciously forming an early intent for innovation.
- By consciously stating the prevailing and emerging conditions, it becomes easier to define the type of innovation that should be conceived.

*In 2006, when **Nintendo introduced the Wii**, the gaming industry's convention was that success of new consoles mainly depended on more "power." Nintendo, instead of following this model to compete with Sony and Microsoft, focused their intent on how many more people they can get to play games. It was on the basis of this intent, supported by a deep understanding of technology trends, that Nintendo innovators were able to simplify the game interface, do away with the multibutton controller, and develop the wireless Wii remote that anyone could use with gestures and spatial movement. Urban condo-dwellers, country ranchers, parents with children, and even grandparents started enjoying the Wii.*

Wireless

With wire

SENSE INTENT

methods

1. Buzz Reports
2. Popular Media Scan
3. Key Facts
4. Innovation Sourcebook
5. Trends Expert Interview
6. Keyword Bibliometrics
7. Ten Types of Innovation Framework
8. Innovation Landscape
9. Trends Matrix
10. Convergence Map
11. From… To Exploration
12. Initial Opportunity Map
13. Offering-Activity-Culture Map
14. Intent Statement

1. Buzz Reports

Collecting and sharing information about the latest "buzz" from a wide array of sources

WHAT IT DOES

- Understanding patterns of change and new developments in our daily life that can drive innovation often comes not only from the core research done for a project, but from tangential, peripheral, or unexpected sources.
- Buzz Reports function like a self-generated news aggregation service. They encourage curiosity about the latest developments and inspire new directions for innovation.

HOW IT WORKS

STEP 1: Allocate regular time to explore the latest in various sources.

Regularly schedule time to seek out the buzz from any possible source. This can include news broadcasts, websites of note, television broadcasts, library searches, technology reviews, lectures posted on sites like Ted.com, book reviews, or anything else that seems new and noteworthy.

STEP 2: Browse through sources of information for the current buzz.

Keep an open mind and browse through a variety of sources of information. Look for buzz directly and indirectly related to the project—anything that covers the dynamics of the world, whether they are technological, cultural, political, or economic.

STEP 3: Aggregate and share findings.

Aggregate findings into a collection of shared documents (Buzz Reports) that is easily accessible to all members of the team. A compelling headline and a brief synopsis of each submission allows for a quick scan of the information.

STEP 4: Have discussions in group sessions.

Have discussions around Buzz Reports among your team members. Share thoughts on how these latest developments would have an impact on your project. Use these discussions for shared understanding and inspiration.

BENEFITS

Captures the latest

Organizes information for easy access

Promotes shared understanding

Inspires possibilities

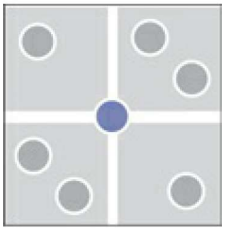
INPUT

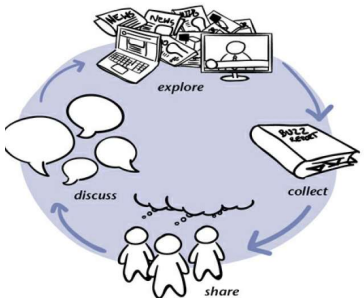
Latest information (news and opinions) from formal and informal sources

OUTPUT

Evolving central repository of latest information

WHEN TO USE





2. Popular Media Scan

Understanding key cultural phenomena through a broad look at what is published and broadcasted in popular media

WHAT IT DOES

Popular media scans act as a kind of cultural barometer registering what is happening or emerging on the cultural landscape. The method scans popular media like broadcast news, magazines, and TV programming to find out anything that seems like a noteworthy cultural activity.

HOW IT WORKS

STEP 1: Identify broad topics related to the project.

Whether stated in a client's design brief or self-determined, conduct a mind mapping session to lay out broad topics related to the project. Use identified topics, and perhaps subtopics, as a guide to further explore.

STEP 2: Seek out information related to the topics.

Look for what is being written about on blogs and websites, and in magazines. Use screen captures, scans, photocopies, or pages to build a library of findings. Scan television programming, advertisements, events, and movies for content that may relate directly or indirectly to the topic. Collect these references as notes or samples that can be placed into the library of findings.

STEP 3: Look for patterns.

Sift through the information accumulated in the collected documents to reveal patterns of activity. These patterns provide a general sense of the current and emerging cultural trends.

STEP 4: Look at adjacent topics as well.

Sometimes emerging trends in a different topic can influence what may happen in your area of primary interest. For example, the evolution of the mobile phone applications market have given rise to a number of health and wellness offerings that enable people to more easily monitor their food consumption, thereby influencing how people eat.

STEP 5: Summarize findings and discuss opportunities.

Add your point of view about what is happening in culture and what is possible. Discuss and articulate how the patterns of cultural currents can point to opportunity areas for innovation and influence the initial statement of intent. Use these discussions to guide your activities for deeper exploration.

BENEFITS

Shows cultural context

Reveals patterns

Provides direction

INPUT

Project's topic

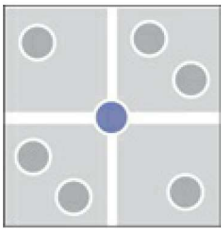
Sources in popular media

OUTPUT

Areas for further research

Opportunity areas for innovation

WHEN TO USE



3. Key Facts

Gathering key information to anchor the rationale for an intent statement

WHAT IT DOES

Key Facts are concise pieces of information from credible sources that indicate the state of a given topic.

HOW IT WORKS

STEP 1: Define the general topic.

This may come from a client brief or it can be self-determined. Establish boundaries within which most important aspects of the topic reside. However, be flexible to extend these boundaries as new research findings emerge.

STEP 2: Identify sources of credible information about the topic.

As you begin your search for information, identify domain experts, research organizations, government and private agencies that collect and compile statistical data, and other places where relevant information may be found.

STEP 3: Cast a wide net and conduct research.

Conduct research as if it is detective work to gather reliable information on the topic. Library searches and online searches are effective ways to get an initial sense of pertinent information on a topic. Articulate what makes them Key Facts, how they are relevant, related, or tangential to the topic.

STEP 4: Organize information by type.

Once Key Facts are sorted as relevant, related, or tangential, they can be further categorized by type, such as statistic, opinion, or summary. Facilitate team members to place their individual Key Facts into a single organizing structure. This helps build a shared understanding of the topic.

STEP 5: Summarize the Key Facts into a coherent rationale.

Use this as a starting point for molding the primary objective for innovation. Let the Key Facts also point to additional research needed.

BENEFITS

Builds credible foundation

Facilitates quick and early discovery

Supports intent definition

INPUT

Project's topic

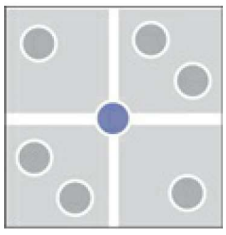
Reliable sources of factual information

OUTPUT

List of Key Facts relevant to project

Areas for further research

WHEN TO USE



4. Innovation Sourcebook

Finding inspiration from studying innovative offerings, companies, and people

WHAT IT DOES

The Innovation Sourcebook is a structured approach to assembling best practices embodied in a wide range of innovation successes. The method helps find and organize successful examples of offerings (products and services), organizations, and people.

HOW IT WORKS

STEP 1: Establish an agreed-upon definition of innovation.

Discuss and reach a team alignment about what they consider as innovation. For example, the team might consider the definition *something new made real in a marketplace that provides both customer value and provider value.* Ensure that there is alignment and a good shared understanding.

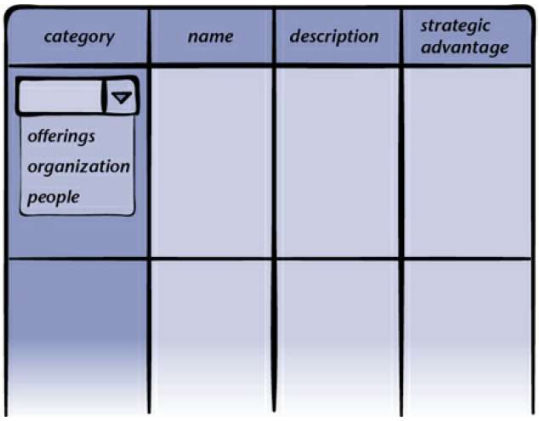
STEP 2: Search for examples of successful innovations.

Scan the popular media and other sources for examples of noteworthy new offerings (products, services, experiences, etc.) organizations, and people. In general, examples should follow the agreed-upon definition of innovations. Feel free to look for examples not just from the present, but also from the near past.

STEP 3: Create an Innovation Sourcebook table.

Each example innovation is entered as a row under one of the categories—

Offerings, Organizations, and People. The three columns in the table have titles for the name of the innovation, description of the innovation, and strategic advantage created by the innovation. Fill in the table cells for each innovation example.



STEP 4: Review the many examples in the Sourcebook table.

Compare innovations to one another. What do the examples have in common? How do they compare in terms of strategic advantage? Look for common innovation strategies that cut across many examples.

STEP 5: Use the Sourcebook for inspiration.

Think of how the common strategies found in the examples could be adopted. Refer to the Innovation Sourcebook throughout the design process to gain inspiration for innovation opportunities.

BENEFITS

Shows best practices

Organizes information for easy access

Facilitates comparison

Inspires possibilities

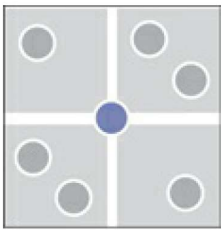
INPUT

Defined scope of innovations to study

OUTPUT

Evolving interactive central database of innovations

WHEN TO USE



5. Trends Expert Interview

Talking with trends experts to learn about latest developments and possible futures

WHAT IT DOES

A Trends Expert Interview helps one quickly learn about trends related to a topic. Speaking with experts like futurists, economists, professors, authors, and researchers, who stay on top of what is happening in a specific topic area, can very quickly reveal valuable insights

HOW IT WORKS

STEP 1: Determine the topics to be understood.

The prompts for this often come from the project brief. However, review the topics and types of trends that you are interested in learning more about. Which topics should we focus on—technology, business, people, culture, policy, or other project-specific topics?

STEP 2: Identify experts.

Through a combination of Internet searches, conversations with colleagues, literature searches, or other means, pull together a list of people who are recognized experts in the identified topics. Ask people working in those topics for their recommendations of experts. Look to conduct interviews with more than one expert in each topic.

STEP 3: Make preparations for the interview.

Read articles, books, or anything the expert might have authored to understand his or her point of view. Prepare a set of questions to help guide the interview session. For example, you might use a "plant" metaphor as a way to ask questions during the interview and structure the conversation: (1) Seeds—What are the early, emerging trends and innovations? (2) Soil—How are the fundamentals affecting growth? (3) Atmosphere—How are the surrounding conditions affecting growth? (4) Plant—How do innovations grow to become robust? (5) Water—How are the catalysts affecting growth?

STEP 4: Conduct the interview.

Carefully thought-through interviews make the most of limited time available with the expert. Use prepared questions to guide the conversation and perhaps not ask them directly. From references during the conversation remember to list resources that you can tap into for additional interviews.

STEP 5: Listen, capture, and follow up.

Interviewing requires active listening. If allowed, use a recording device to capture the conversation. As the conversation unfolds take copious notes and keep track of clarifying questions you may want to ask later.

STEP 6: Transcribe and summarize.

Have the recorded conversation transcribed so that key phrases or interesting insights can be extracted. Summarize the findings and add them to documents to be shared with the rest of the team.

BENEFITS

Facilitates quick and early discovery

Brings in new perspectives

Captures knowledge

INPUT

Project's topic

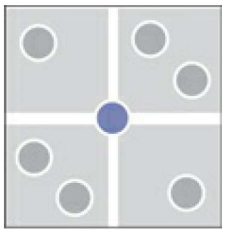
Pool of trend experts

OUTPUT

Understanding of trends and growth factors

Areas for further research

WHEN TO USE



6. Keyword Bibliometrics

Using keywords for researching spread of ideas among publications and databases

WHAT IT DOES

Keyword Bibliometrics is a method adapted from library and information sciences used in researching the spread of ideas among publications and databases in fields such as science, medicine, economics, and technology. Keyword Bibliometrics operate like search engines.

HOW IT WORKS

STEP 1: Determine keywords that will be searched.

These words should be as context-specific as possible. Broad terms will return undifferentiated information, but context-specific defined words will return results likely to be more valuable for your area of interest.

STEP 2: Consider the time period that will be searched.

A survey of writings from the last 50 years may help in constructing a historic era analysis, but one that looks at publications from the last 24 months will be more pertinent for understanding what thought leaders are concerned about today.

STEP 3: Combine keywords to find overlaps.

It is valuable to combine words using "and, or, not" logic to find out if ideas happening in one area have influences on others or not. For example, combining keywords "nanotechnology" and "biomedical engineering" might return articles about how nanotechnology is being used in biomedical engineering.

STEP 4: Review returned results and reiterate if needed.

Look for publication patterns. Trace the influence of an idea. What is the article in which it first appeared? In what publications has it been referenced since then? How have the ideas transformed as it is incorporated into other publications? Moreover, be prepared to reiterate searches if needed. If the publications in the search result appear to be either too general or not directly related, then modify your keywords and search again.

STEP 5: Summarize findings.

Share the summaries with team members and engage in conversations to find insights about the topic. Visualizing the results from bibliometrics based on the occurrences of keywords using diagrams can reveal patterns to better understand what is being written about in the topic.

BENEFITS

Processes large sets of data

Reveals patterns

Encourages comprehensiveness

INPUT

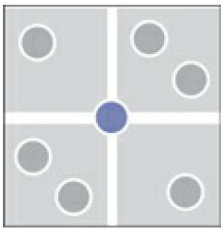
Set of keywords related to specific topics

Identified specialized database

OUTPUT

Insights and patterns revealed by the search on specific topics

WHEN TO USE



7. Ten Types of Innovation Framework

Understanding the nature of different types of innovations in industries

WHAT IT DOES

The Ten Types of Innovation Framework, developed by Doblin, is a method for surveying an industry (or sometimes an economic sector or an individual organization) to understand and plot different types of innovations. The method also helps us with what to look at more closely, where the innovation trends are in the industry, and where to direct forthcoming research efforts.

HOW IT WORKS

Step 1: Gather information about the industry.

Conduct library and/or database searches, review published reports, and contact industry experts to get a sense of the key players in the industry and the business landscape.

Step 2: Search for innovations in the industry and organize them.

Document the industry's innovations according to the ten types of innovations organized under four categories—finance, process, offering, and delivery.

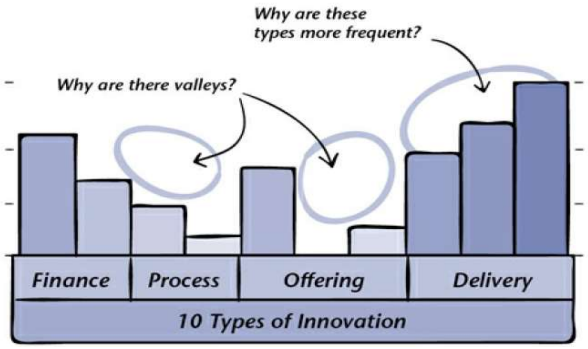
1. *Finance:* How do the most successful organizations generate revenue through *business model* innovations? How are they effectively *networking* with partners?
2. *Process:* What are the successful *core processes* for making offerings with competitive advantage? How do companies innovate in *enabling processes* that provide support for employees and operations?
3. *Offering*: What are the innovations in *product performance* that offer distinctiveness? How do companies successfully link their offerings as *product systems*? What are the *service* innovations that provide assistance to prospects and customers?
4. *Delivery:* What are the industry's innovations in managing *channels* of distribution and getting offerings into the hands of end users? What are the industry's notable *brand* innovations? What are the most distinctive *customer experiences* in the industry?

Step 3: Make a visual diagram of innovations.

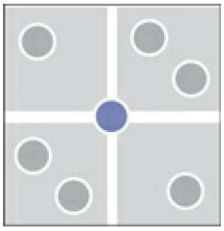
Gather all of your findings from Step 2 and write brief descriptions that can be input into the Ten Types of Innovation Framework. Ensure that the research covers a wide spectrum of the industry. Make a diagram (bar chart or line chart) showing high and low innovation activities for each of the ten types.

Step 4: Find insights, share, and discuss opportunities.

Review the ten types of innovation. Are the reasons for abundant or scarce innovations obvious? Document your insights, share them with the team, and discuss finding innovation opportunities and further explorations.



WHEN TO USE



BENEFITS

Broadens mindset

Encourages comprehensiveness

Shows best practices

Facilitates comparison

Provides organizing structure

INPUT

Identified industries, organizations, and their innovations relevant to the project's topic

OUTPUT

Understanding of how the different types of innovation are playing a role in the studied industries

8. Innovation Landscape

Mapping an industry's range of innovations as it grows over time

WHAT IT DOES

- The Innovation Landscape is a diagnostic method that applies Doblin's Ten Types of Innovation Framework to understand the broader patterns of innovations in industries over time.
- The method creates a three-dimensional terrain map by plotting the type of innovation on the *X*-axis, time on the *Y*-axis, and number of occurrences of innovation activities as the height dimension. The ten types of innovations plotted are in finance (business models, networking), process (enabling, core), offering (product performance, product system, service), and delivery (channel, brand, customer experience).
- The landscape shows the intensity of innovation activities by the height of the peaks, the diversity by the number of peaks, and the pace of change by how many new peaks form and by the change of their slopes.

How it works

STEP 1: Select the industry and identify databases to be searched.

Ensure that the selected databases (e.g., ProQuest and EBSCO) are about latest news and innovation activities happening in the sector including the industry you have selected for mapping.

STEP 2: Specify keywords and the time period to be searched.

Select keywords that are related to the ten innovation types and are commonly used in recognized journals and publications of the industry. Decide on the time period to be searched; a ten-year period is most often used.

STEP 3: Search the databases and compile results.

Send keywords about types and time periods as queries to the databases. While sending queries, specify that search results should provide the number of occurrences of innovation activities for each of the ten types for each year in a ten year period. Compile these numbers in a spreadsheet.

STEP 4: Visualize the results as a terrain map.

Create a three-dimensional terrain map with innovation types as the *X*-axis and time period as the *Y*-axis. Plot the number of occurrences of innovation activities as height on the terrain landscape. There are peaks and valleys distributed across the terrain where innovation is occurring and where it is not.

STEP 5: Discuss the patterns and explore opportunities.

Discuss the nature of the terrain. Are the peaks oversaturated areas for innovation in the industry? Do the valleys offer opportunities for innovation? Do the rising new peaks indicate trends and offer innovation opportunities? These questions and others offer valuable directions for further exploration.

BENEFITS

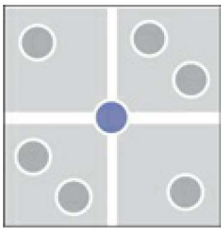
Creates overview

Facilitates comparison

Maps change over time

Reveals opportunities

WHEN TO USE



INPUT

Identified industries relevant to the project's topic

OUTPUT

Visual representations of innovation activities in industries over time

Indications of where innovation opportunities exist

9. Trends Matrix

Summarizing changes happening today that lead to a future direction

WHAT IT DOES

A trends matrix presents a high-level summary of how trends and forces of change affect technology, business, people, culture, and policy. The matrix offers an at-a-glance understanding of how trends impact your project.

HOW IT WORKS

STEP 1: Set up the dimensions for the Trends Matrix.

The vertical axis is usually shown as technology, business, people, culture, and policy. The horizontal dimension shows the aspects of the project that you are interested in tracking, for example, types of users, topics, and components of a system that you are considering. Sometimes it is valuable to define the horizontal dimension as "formerly," "currently," and "emerging."

STEP 2: Fill the matrix with relevant trends.

Conduct research to identify trends in technology, business, people, culture, and policy that will have an effect on the project. Describe these as trend statements in the matrix cells. A trend statement is usually a short sentence that describes how something is significantly changing.

STEP 3: Take a step back and discuss the matrix as an overview.

Remember that the purpose of the Trends Matrix is to offer a high-level overview of changes. Compare the trends to others to see how they are related. Recognize patterns of similar trends developing together. These might help you speculate on future directions and see how certain trends might affect your project.

STEP 4: Capture insights as overlays on the matrix.

Discuss and document your team's insights about trend patterns, how leading trends are affecting major changes, and speculations about how things might develop. Highlight these insights as overlays on the matrix for easy reading and sharing.

BENEFITS

Creates overview

Maps change over time

Encourages comprehensiveness

Reveals opportunities

Defines direction

INPUT

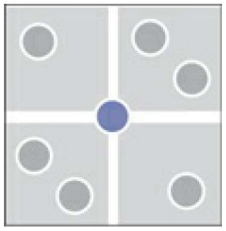
Project aspects to be studied

OUTPUT

Matrix with an organized set of trends

Insights about trend patterns and possible directions

WHEN TO USE



10. Convergence Map

Visualizing converging fields and seeing opportunities for innovation at the overlaps

WHAT IT DOES

The Convergence Map makes visible how areas of daily life (work-life, homelife, mobile communications, etc.) or industries are beginning to overlap more and how new behaviors are emerging because of this dynamic.

HOW IT WORKS

STEP 1: Identify topics for creating the Convergence Map.

Based on your research about latest developments, discuss and identify topics that are overlapping most with your project topic. For example, if "diabetes" is the project topic, your research might suggest that "food" and "wellness" are topics that most overlap with it.

STEP 2: Identify trends and innovations in these topics.

If you have already written trend statements in any of the other methods, use them to help build the Convergence Map here. Otherwise, look for trends in your topic that relate to technology, business, people, culture, and the market. Summarize trends in brief statements,

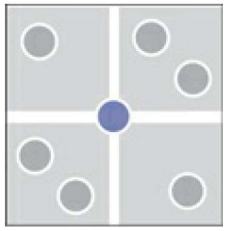
STEP 3: Build a Venn diagram showing overlapping regions.

Each circle in this Venn diagram represents a topic. Show these circles as overlapped based on common trends and key innovations. Add descriptions about how new behaviors or activities are emerging in these overlapping regions.

STEP 4: Discuss and identify opportunities.

Speculate on potential innovations that could support the trends or emerging behaviors in these overlaps. Describe opportunities for innovation emerging from these convergences.

WHEN TO USE



BENEFITS

Visualizes data

Reveals opportunities

Reveals relationships

Promotes shared understanding

INPUT

Data from research about trends and innovations in selected topics

OUTPUT

Visual map showing where topics are converging and the related trends affecting them

11. From… To Exploration

Moving from a current perspective based on conventions to a new perspective based on trends

WHAT IT DOES

From…. To Exploration is a method that helps turn a current perspective into a new perspective for solving problems. It is about challenging orthodoxies, questioning why things are the way they are, exploring possibilities, and making suggestions.

HOW IT WORKS

STEP 1: List the key aspects of the project.

Speculate on which aspects of the project have the most need for innovation. For example, the aspects of a project on educational innovations might be "learning environments," "curricula," and "research programs," among others.

STEP 2: Identify trends related to project aspects.

Identify the latest trends affecting the various aspects of the project. For example, for a project on educational innovations, a trend related to "learning environment" might be "learning environments are becoming distributed due to developments in communication technologies."

STEP 3: Describe current perspectives based on conventions.

Describe the current conventions about each project aspect. For example, a convention for a "learning environment" is a physical classroom. Describe this current perspective under the "From…" section.

STEP 4: Describe new perspectives based on trends.

Based on your understanding about trends from Step 2, speculate about what could be possible. Think of how current conventions may be reframed. For the learning environment example, can physical classrooms be reframed as virtual learning environments? Describe the new perspective under the "…To" section.

STEP 5: Discuss innovation opportunities.

Discuss how these new perspectives can lead to potential innovations. Think of how the innovation intent could be framed up based on these new perspectives. Think about which of these new perspectives your organization has the greatest potential to deliver.

BENEFITS

Challenges assumptions

Identifies opportunities

Gives focus to the process

INPUT

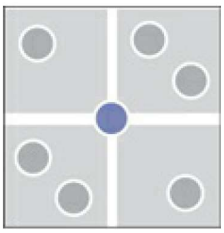
List of key aspects of the project

Understanding of key trends related to the project

OUTPUT

Table with conventions, trends, and possibilities; Innovation opportunities

WHEN TO USE



12. Initial Opportunity Map

Speculating on an opportunity space to move to in relation to the current position

WHAT IT DOES

- The Initial Opportunity Map helps you explore possible opportunities for your organization's innovations on a 2 × 2 map.
- The map uses two key dimensions that are found to be strategically significant to the project based on a deep understanding of the trends and other changes taking place.
- Plotted on the map are various participants operating in that space.
- The map shows your organization in relation to others and can support speculations on where opportunities exist for your organization to move.

HOW IT WORKS

STEP 1: Identify key dimensions.

List trends that may potentially influence the direction of the industry you are considering. Identify a few strategically important dimensions prompted by these trends.

STEP 2: Create a map and plot industry participants.

Create a 2 × 2 map using the two identified key dimensions. Plot the industry participants on the map. Decide as a team what can be included under "participants" for the most useful analysis—practitioners (people), organizations,

offerings, or services?

STEP 3: Discuss the map and identify opportunity spaces.

Identify opportunity spaces where no participants currently play a major role. Assess whether these spaces are in fact opportunities based on the trends and other dynamics of the industry. Assess existing participants' proximity to these opportunity spaces as well for making decisions.

STEP 4: Speculate on innovation opportunities.

Discuss the possibilities for your innovation (or organization) moving into the identified opportunity space. Consider how your innovation will successfully fit in that space. Can that be a position you can take as initial innovation intent?

BENEFITS

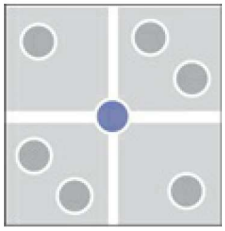
Visualizes information

Facilitates comparison

Reveals opportunities

Defines direction

WHEN TO USE



INPUT

Trends relevant to the industry to be considered

OUTPUT

Visual map of industry participants and potential opportunity spaces for innovation

13. Offering-Activity-Culture Map

Exploring innovation opportunities by shifting focus on offerings, activities, and culture

WHAT IT DOES

The Offering-Activity-Culture Map uses three ways to look at innovation opportunities: the "offerings" (products, services) with their functions and features, the "activities" people do with those offerings, and the "cultural context" in which people use those offerings. In thinking about opportunities this way, the method provides a high-level view that broadens explorations.

HOW IT WORKS

STEP 1: Describe the offering and its attributes.

Make a diagram showing the offering in a central circle. Describe its functions, features, and other attributes.

STEP 2: Describe activities related to the offering.

In a circle surrounding the offering in the diagram, describe people's activities driven by individual and social norms. If the offering is a "book," an example of an activity driven by individual norms will be "writing notes while reading a book." An activity driven by social norms will be "discussing the book content as a group" or "giving the book as a gift."

STEP 3: Describe the cultural context.

Describe the cultural factors that influence people's activities in the outer circle of the diagram. How do different groups use the offering differently? What are the shared beliefs about the offering? What are the accepted norms, customs, and practices? What are the prevailing cultural trends? What meanings and values are attached to the offering?

STEP 4: Discuss and speculate on innovation opportunities.

Use this diagram to discuss your team's overall thoughts about offerings, activities, and cultural context. Speculate on opportunities for innovation that touch on many parts of the diagram.

BENEFITS

Broadens mindset

Identifies opportunities

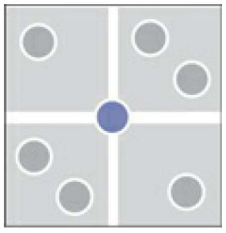
Visualizes information

INPUT

Offerings to study and their attributes

Understanding of cultural context around chosen offering

WHEN TO USE



OUTPUT

A mapped set of activities and influencing cultural factors relevant to the product

Speculations on innovation opportunities

14. Intent Statement

Stating an initial innovation intent based on an identified opportunity

WHAT IT DOES

Getting a good sense of what the opportunities are for creating something new is the main focus during Sense Intent mode. These opportunities are identified by understanding latest developments, seeing big pictures, recognizing current trends, and by reframing problems. The *Intent Statement* method builds on this understanding to speculate on an initial point of view to guide the innovation efforts. Usually the statement takes the form of a few sentences that capture the key aspects of a desired innovation. The Intent Statement is only preliminary, and therefore you should be ready to reframe it as you go through the process.

HOW IT WORKS

STEP 1: Review innovation opportunities identified by other methods.

Go through the findings from other methods that helped you understand latest developments, recognize trends, see overview patterns, and reframe problems. Review the identified innovation opportunities, and focus on those with high potential.

STEP 2: Define and state innovation opportunities.

Further define the opportunities since they may be boundless in your early explorations. Define the opportunities based on the following framework for clarity: Limitations—What are the constraints?; Intentions—What should be the goals?; Aspirations—What will be nice to have?

STEP 3: Have a point of view.

Discuss possibilities among your team members. Which opportunities can be built as a strong initial position to move your innovation efforts forward? Take an initial stance.

STEP 4: Frame the initial innovation intent.

Use a structured framework for stating the innovation intent. This should help project stakeholders to have a shared understanding of the goals and wishes.

Who is the customer? What are their needs? What are the opportunities?

What new values can be created? What are the risks?

STEP 5: State the innovation intent.

Draft a statement that describes the aforementioned aspects in clear, easy-to understand, and sharable form. Creating a one-paragraph (or a few sentences), concise statement is a common practice. Alternatively, you might state it as bullet points or a storyline, or write a detailed statement in two to three pages.

BENEFITS

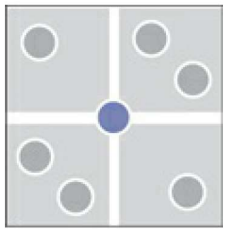
Defines direction

Supports transition

Gives structure to the process

Promotes shared understanding

WHEN TO USE



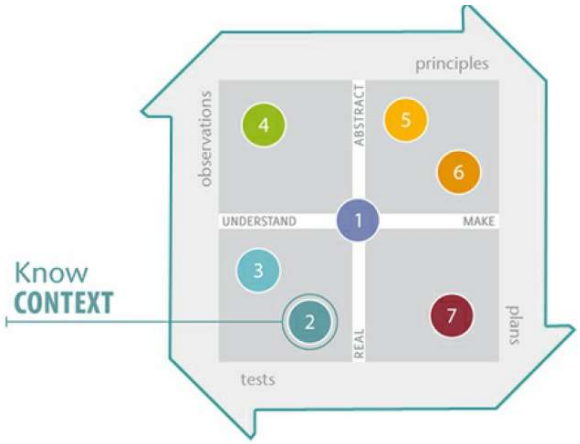
INPUT

Research findings, trend statements, and maps produced in previous methods

OUTPUT

A clear and concise statement of the innovation intent for the project

Mode -2
KNOW CONTEXT



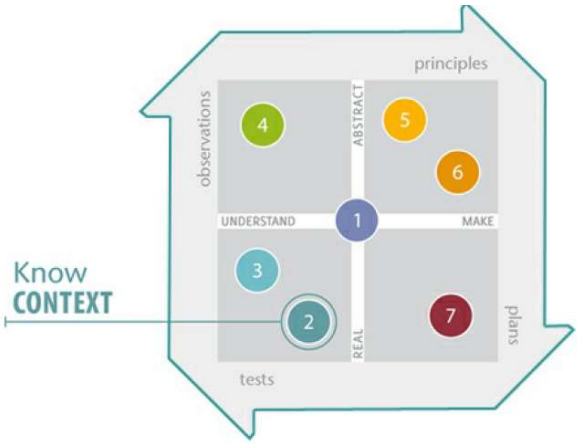
- In the "**Sense Intent" mode**, we focus on the trends and changes that happen around us so that we can sense an initial direction for our innovation.
- In the **Know Context mode**, we move to gain a full understanding of the surrounding conditions in which those changes happen.
- It is in this changing context that our innovation offerings (products, services, experiences) need to work to be successful.

The question is:

1. How do we understand this context well enough for us to be confident about our innovations? How do we study the components in the context such as products, services, organizations, competitors, markets, industries, governments, policies, environments, and technologies?
2. How do we study their relationships?
3. How do we understand our current offering's performance in the market relative to the competition?
4. How do we sense our competitor's evolving strategies?
5. How do we diagnose the conditions of our own organization?
6. How strong are our relations with our industry partners?
7. How do we find out what effects government policies and regulations have on our innovation?

All these and similar questions are good to ask when we are in this mode.

Overall, the goal is to gain as many insights as possible about the context, get prepared to confidently explore opportunities, and begin to see directions for the future.



Know context mindsets

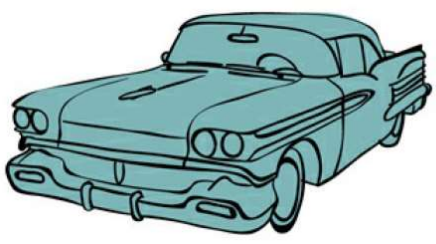
In Sense Intent mode, we were in the mindset of scanning broadly and widely, looking for promising places to go with our ideas. Now it is time to shift the mindset to one of focus and depth, geared up for a full understanding of the context. In this mode, part of our focus is to understand what in the past has led us to where we are now. The mindset is also about constantly being aware of the state-of-the-art and the cutting-edge developments.

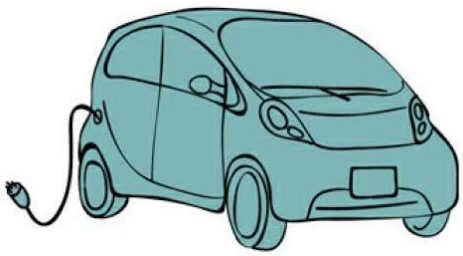
Mindsets

- Knowing Context History
- Understanding Frontiers
- Seeing System Overviews
- Understanding Stakeholders
- Using Mental Models

Know context mindset: Knowing Context History

Anyone who has ever started following a television series that has been already running for a few seasons knows the experience of trying to understand the story that is unfolding before them. Viewers who have been watching since the beginning of the series have an advantage over latecomers: historical context—knowledge of what has already happened and why things are happening now the way they are.





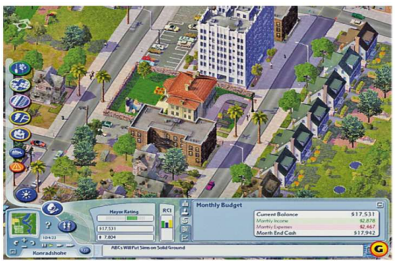
Know context mindset: Understanding Frontiers

Just as looking to the past helps understand the present, learning about the latest offers glimpses of possible future. We continually seek out the latest news and stories about the most advanced development, technique, or level of knowledge achieved in the topic. We look out for cutting-edge work. We look for innovations that are on the frontiers.

Know context mindset: Seeing System Overviews

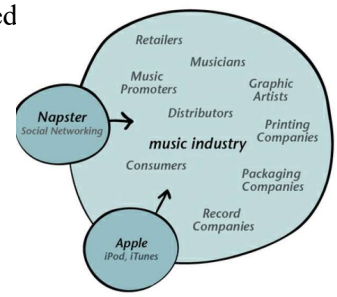
At one time or another everyone has become so deeply focused on the details of a problem that they've lost sight of the "big picture." Stepping back to get some perspective can be enormously beneficial. This is how we reveal some of the things that we may have missed when we were deeply immersed in all the details.

The context—the circumstances and events in a situation in which something happens—has numerous components that we must understand.



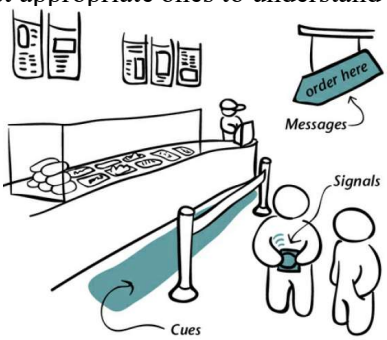
Know context mindset: Understanding Stakeholders

Contexts have stakeholders (individuals or organizations) that have an investment, whether personal, financial, or otherwise. Among them are companies, partners, competitors, regulatory agencies, trade associations, and similar entities. It is valuable to map out all the stakeholders involved in the context so that their relationships can be better understood. It is also useful to understand how stakeholders derive value from the context. This helps explain their motivations and interactions. It also helps us think about how stakeholders may be affected when changes happen to the context when new innovations are introduced



Know context mindset: Using Mental Models

One of the ways in which we can get comfortable with the complexity of the context that we are trying to understand is through the use of clear mental models. Fundamentally, a mental model is an internal representation we use to understand an external reality, and it is particularly useful to comprehend complexity. Keeping a collection of mental models as a repository helps us retrieve the most appropriate ones to understand specific contexts as needed.



KNOW CONTEXT

Methods

1. Contextual Research Plan
2. Popular Media Search
3. Publications Research
4. Eras Map
5. Innovation Evolution Map
6. Financial Profile
7. Analogous Models
8. Competitors-Complementors Map
9. Ten Types of Innovation Diagnostics
10. Industry Diagnostics
11. SWOT Analysis
12. Subject Matter Experts Interview
13. Interest Groups Discussion

1. Contextual Research Plan

Making a schedule and plan for researching the innovation context

WHAT IT DOES

The Contextual Research Plan is a method to develop a general plan and schedule for what we want to research about the context and how it will be accomplished. It brings a degree of rigor and clarity to exploratory activities at the beginning of projects.

HOW IT WORKS

STEP 1: Define areas for research.

Given that time and resources are limited, focus on the most relevant areas related to your context for study. Discuss the selection of these general areas and articulate why they are relevant to the project. Discuss what is known, assumed, and unknown and define areas for further research.

STEP 2: Define sources.

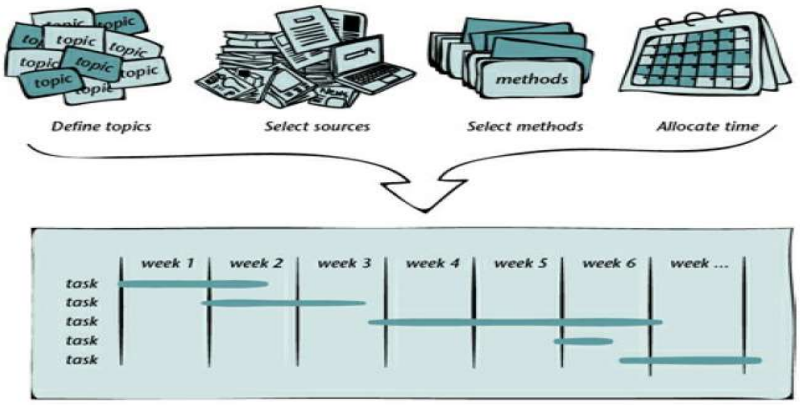
Identify the kinds of information you need to gather. Will you speak with industry experts? Survey available literature? Visit key organizations involved in the context? Identify where the information can be obtained. If it is not readily available, how might you go about accessing key information—people, publications, media, databases? Make an initial assessment of the amount of effort required to gather the information you seek.

STEP 3: Define methods.

Decide on the specific research methods you want to use. Refer to the methods in this chapter to determine which ones align with the kinds of information you hope to collect.

STEP 4: Create a research plan timeline.

Clearly define the start and end dates. Determine how work will be accomplished during this time period. Lay out when the key pieces of information will be gathered. Include intermediate check-in dates for the team to come together to review collected data and discuss.



STEP 5: Create an overview diagram of the research plan.

Prepare a visual overview of the Contextual Research Plan, and review it as a team. Use this overview as the basis for discussion about roles and responsibilities. Address any concerns team members might have about what they will be doing and when the work must be completed.

BENEFITS

Defines direction

Manages resources

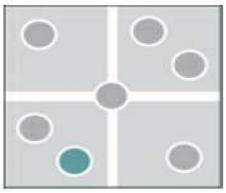
Promotes shared understandings

INPUT

Project goals

Potential sources of information

WHEN TO USE



OUTPUT

Research plan with timeline, teams, and choice of methods to be used

2. Popular Media Search

Seeking out commentary on the context in popular media outlets

WHAT IT DOES

Popular Media Search is a method to find out anything new being said about the context in the media landscape. During this search, we survey a wide array of media sources, such as newspapers, broadcast media, Web content, bookstores, popular magazines, and movies, to find references to new developments related to the context in which we are interested.

HOW IT WORKS

STEP 1: Identify topics most relevant to the project.

Segment your topic to bring focus to the areas of greatest interest to you. For example, if looking at the organic food industry, topics for research might be "scalability in organic farming," "agri-business's response to organic farming," or "managing supply chain with local producers of organic foods."

STEP 2: Identify sources of insightful information.

Who are the industry experts or people within an organization who can provide informed and thoughtful input on what is happening? Who are the bloggers writing about the context in a way that is insightful and timely? What are the publications that cover specifics about context?

STEP 3: Conduct searches.

Conduct a Web-based search, or library search, or scout around for information that may be available anywhere. Collect search results like articles, interviews, notes, photographs, and so forth into a single sharable space for all team members to work together.

STEP 4: Review, extract, and document observations.

As you accumulate information, write notes summarizing key points, record your distinct points of view, and capture any other information that can lead to insights. Discuss, extract, and document your observations in a sharable space for all team members to participate.

STEP 5: Cite sources.

Every observation that makes its way into a final report or presentation should include a citation as to where it came from, who wrote it, and any credentials of the writer. Citing sources is a way to anchor a point of view and demonstrate rigor and credibility.

BENEFITS

Captures knowledge

Reveals cultural patterns

Promotes shared understanding

INPUT

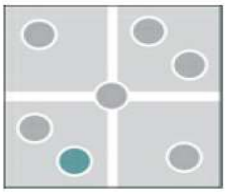
Topics relevant to the project

Popular sources of information around those topics

OUTPUT

Set of documented observations about the context of the project

WHEN TO USE



3. Publications Research

Finding out what is being written and published about aspects of the context

WHAT IT DOES

Publications Research is a method for understanding what is being written about a topic of interest related to a project. Often this topic of interest comes directly from the definition of the innovation intent that we establish at the beginning of the project.

HOW IT WORKS

STEP 1: Define the topic of interest.

Publications Research is most effective when targeted and narrowly scoped. Use your project brief and project goals to help you define topics that you need to deeply understand.

STEP 2: Search for publications.

Conduct a search for publications that are related to your topic of interest in public and university library collections; most of them are now available online. Search through news reports, academic journals, company reports, books, trade publications, conference publications, government publications, and encyclopedias. Use keywords and search terms that are related to your topic.

STEP 3: Study relevant publications and extract insights.

Review the titles and summaries returned by your searches. Try sorting in several ways—by title, topic, and author—to get a sense of broad categories. Identify and select a manageable number of publications for further review and study. Extract insights from what is written, include your ratings based on their relevance to the project, and add your comments.

STEP 4: Create and manage a repository.

Create a Publications Research findings repository. The repository should have a basic structure that organizes findings in the form of a spreadsheet with basic columns like titles, ratings, and summaries. This basic repository should be treated as an extensible document in which details such as authors, excerpts, and insights can be added as needed and can be commented upon throughout the course of a project.

BENEFITS

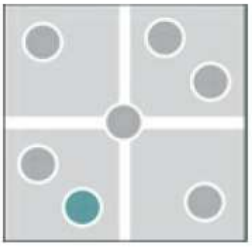
Builds credible foundation

Promotes shared understanding

Organizes information for easy access

Reveals patterns

WHEN TO USE



INPUT

Topics relevant to the project

Sources of authoritative publications

OUTPUT

Set of documented observations about topics relevant to the project

4. Eras Map

Mapping distinct eras in the context and describing them across topics of interest

WHAT IT DOES

The Eras Map provides historical perspective to the context being studied. Understanding how things change over time offers a fuller picture of the context and helps teams think about where things may be headed in the future and where opportunities might exist. The Eras Map highlights the key characteristics of each relevant period, shows how each era is different, and indicates how much they have changed over time.

HOW IT WORKS

STEP 1: Define the attributes and time periods to track.

Define which attributes of your project topic that you want to capture in the Eras Map. Behavioral changes over time, developments in technology, and key influential people who played major roles at various times are some examples of attributes that are useful to track and segment into eras.

STEP 2: Research the historical context.

Find historical information about the events that have occurred during the selected time period. Study how the selected attributes have changed over time. Seek out industry experts, historians, professors, and others who could help contribute information about the historical context.

STEP 3: Visualize the map.

Map the information collected from the research on a horizontal timeline. Consider what an appropriate division of time is. For example, dividing time by years as opposed to decades may be appropriate for areas that experience rapid change, such as social networking.

STEP 4: Define and label eras.

Identify distinct eras on the timeline and show them as clearly marked vertical segments. Describe and label each segment with defining characteristics of that particular era. For example, a project on communications might summarize eras as "the age of telegraphy," "the age of telephony," and "the Internet age."

STEP 5: Look for insights.

Step back and study the overview map as a team. Discuss and extract interesting insights about the eras identified.

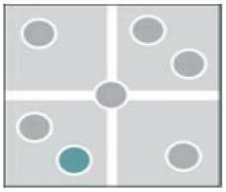
BENEFITS

Maps change over time

Creates overview

Organizes information for easy access

WHEN TO USE



INPUT

Attributes of the project topic

Timeframe of interest

OUTPUT

Distinct eras showing how different attributes of the project topic have evolved over time

5. Innovation Evolution Map

Mapping how innovations of the organization and industry have evolved over time

WHAT IT DOES

The Innovation Evolution Map shows how innovations in the company and in the industry as a whole have evolved over time. The ups and downs of the organization's innovation evolution are compared to other players in the industry. It is a visual aid that facilitates side-by-side comparisons for gaining insights.

HOW IT WORKS

Step 1: Determine the time period to study.

Consider the most relevant period for understanding your project context. Tracking long periods, say the last 30 years, likely will yield useful historical patterns. A shorter period, say the last 3 years, may be more meaningful to understand what is currently happening in the context.

STEP 2: Compile the innovation history of the organization and the industry.

Conduct an audit of your organization's innovations as well as industry-level innovations. Pay particular attention to super-hits—those innovations that have resulted in marked and significant increases in revenues, market share, or industry leadership.

STEP 3: Gather data for key quantitative measures to be compared.

Identify key quantitative measures that can be compared against the evolution of innovations by the organization and industry. For example, growth (or decline) in revenue, market share, return on investment, profitability, and stock price. Gather data for these key measures during the selected time period.

STEP 4: Create a visual map.

List years across the column headings. List your bases for comparison as row headings such as innovations, super-hits, revenue, or market share.

STEP 5: Look for insights.

Discuss the map as a team and look for insights. What impact does your organization's innovations and super-hits have on the industry? What is the correlation between your organization's innovation patterns and stock prices or market share?

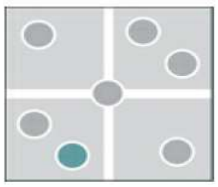
BENEFITS

Helps understand best practices

Facilitates comparison

Reveals relationships

WHEN TO USE



INPUT

Timeframe relevant for study; Historical data about innovations in your company and industry

OUTPUT

Visual map of innovations over time; Observations about the relationships between innovations and quantitative measures

6. Financial Profile

Profiling and comparing financial performances of organizations and industries

WHAT IT DOES

This is a method to map out financial attributes of an organization to create its profile. Understanding the full financial profile of an organization and comparing it with others in the industry often reveals new opportunities. The common financial measures used for profiling are capital, revenue, profit/loss, market share, stock performance, equity, debt, and R&D spending.

HOW IT WORKS

STEP 1: Identify relevant financial information and find sources.

Identify the most pertinent type of financial information for understanding your organization and other organizations in the industry that you want to compare. For example, if the scope of your project is broad and you are looking for meta-level insights, then it is appropriate to look for broad economic indicators.

STEP 2: Search for financial information.

Conduct searches on sources like annual reports, government reports, trade journals, company websites, and other publicly available databases. Some of the key data to search for are market capital, revenue, profit/loss, market share, stock performance, equity, debt, and R&D spending.

STEP 3: Organize profiles for comparisons.

Create an overview table or diagram in which you can enter the financial data you have found for your company, other companies, and the industry overall.

STEP 4: Look for insights.

Discuss the profiles as a team and look for insights. What are the financial growth patterns of your company in relation to competition? What is your organization's financial impact on the industry, compared to other players? Show your insights on the profile diagram.

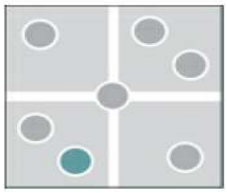
BENEFITS

Facilitates comparison

Builds credible foundation

Reveals patterns

WHEN TO USE



INPUT

Sources of financial data for your organization, other organizations, and industry

OUTPUT

Financial profiles of companies and industries

Insights about the financial conditions of companies and industries

7. Analogous Models

Profiling and comparing financial performances of organizations and industries

WHAT IT DOES

Sometimes breaking out of the current project space to see how similar contexts operate elsewhere can spark new insights. Analogous Models are behaviors, structures, or processes present in other domains that bear some similarity to the context being examined. The method is also effective for studying what makes for success or failure and understanding how they might be embraced or avoided.

HOW IT WORKS

STEP 1: Identify project aspects for analogous thinking.

Identify important aspects of your project that can benefit from analogous thinking. For example, if doing a project on "brand loyalty," the idea of "affiliation" will be important and it may be selected for finding analogous contexts in which the idea of affiliation is successfully applied.

STEP 2: Find Analogous Models.

Analogous Models can be related to organizations, products, services, or even individuals. Look at varied types of Analogous Models. For example, if trying to understand "affiliation," look at formal organizations like professional societies, less formal groups like alumni associations, or loosely affiliated social groups like skateboarders.

STEP 3: Create descriptions and diagrams of the Analogous Models.

Write a brief description of how these Analogous Models can be relevant to your project. Create diagrams showing how the selected Analogous Models work. Include participants, relationships, and processes in these diagrams.

STEP 4: Compare the Analogous Models for insights.

Discuss these diagrams as a team and compare them to learn about how successfully they work. Compare your project context with these analogous models and discuss what implications they have on your own project. Build on these thoughts as a way to guide your search for opportunities.

BENEFITS

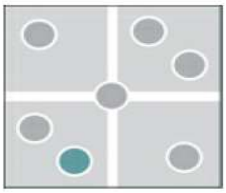
Reveals opportunities

Helps understand best practices

Facilitates comparison

Challenges assumptions

WHEN TO USE



INPUT

Aspects of your project to compare to Analogous Models

OUTPUT

Set of Analogous Models and descriptions of how they are relevant to the project's topic

New ways to think about opportunities for the project

8. Competitors-Complementors Map

Mapping the organization and their competitors and complementors

WHAT IT DOES

A top view of an industry map can effectively show how the various organizations in that industry compete or complement one another. This method maps an organization and its competitors to key business dimensions such as price, quality, revenue, market share, or type of audience.

HOW IT WORKS

STEP 1: Identify competitors and complementors in the industry.

Competitors are organizations that go after the same customers as your organization. Complementors are organizations that support each other in the same industry but may compete in another, or they can be organizations in a complementary industry.

STEP 2: Establish dimensions for comparison.

These can be market share, profitability, types of customers, or any other dimensions you are interested in for comparisons. Make sure dimensions are broad enough so that they can be applied to all organizations you have identified in the earlier step.

STEP 3: Map the competitors and complementors.

Use the dimensions to create visualization; a 2 × 2 map is most commonly used. Plot all the competitors and complementors in this map by placing them according to their position on the dimensions and according to their relative positions.

STEP 4: Review the map, reflect, and look for insights.

Discuss the map as a team. What are the relationships between competitors? How does the existing configuration define or characterize what is happening? Does the map point to potential opportunities that have not been explored? What sorts of changes happening in the technology, the economy, or other sectors might impact the current map? Document these insights on the map.

BENEFITS

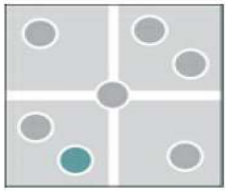
Visualizes information

Facilitates comparison

Reveals opportunities

Reveals relationships

WHEN TO USE



INPUT

List of competitors and complementors

OUTPUT

Visualization of the competitor-complementor landscape

Opportunity areas for further exploration

9. Ten Types of Innovation Diagnostics

Mapping the innovation portfolios of organizations and industries

WHAT IT DOES

This is a diagnostic method that uses Doblin's Ten Types of Innovation framework for understanding the organization's innovations and identifying new opportunities. The ten types include business model and networking innovations in finance; enabling and core processes in process; product performance, product systems, and service in offering; and channel, brand, and customer experience in delivery.

HOW IT WORKS

STEP 1: Identify organizations to study and find experts.

Make a list of organizations whose innovations you want to compare with yours. Find experts from within and outside your organization who can assess different types of innovations.

STEP 2: Understand innovations by organizations.

Study innovations by your organization as well as others' in the following types: business model, networking, core processes, enabling processes, product performance, product system, service, channel, brand, and customer experience.

STEP 3: Assess the quantity and quality of innovations.

Consult with the experts and score the identified innovations based on a low and high scale, considering quantitative (revenue generated or growth in market share) and qualitative (attention given in media/publications or recognition) success measures.

STEP 4: Compare and look for insights.

Discuss the map and its patterns and extract insights. What are the big differences between your organization's profile and others plotted? What can be done to the low points on the map? What opportunities exist for raising certain types of innovations in your organization? Document your insights on the map.

BENEFITS

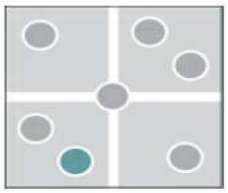
Helps understand best practices

Helps understand context

Reveals opportunities

Broadens mindset

WHEN TO USE



INPUT

List of relevant innovations from your organization and industry

OUTPUT

Understanding of different types of innovation in your organization in comparison with others

Innovation opportunities for further exploration

10. Industry Diagnostics

Conduct multidimensional assessments of an industry's innovations

WHAT IT DOES

Industry Diagnostics employs frameworks to identify key aspects of an industry and clarify its current state of health. One framework that is particularly effective for understanding the competitive intensity of an industry is Michael Porter's Five Forces. The Five Forces include: the threat of potential entrants to the market, the threat of substitute products or services, the bargaining power of customers/buyers, the bargaining power of suppliers, and the intensity of rivalry among competitors. An extension of Porter's framework, called Six Forces, added the concept of "complementors," who strategically align with the organization. This method is helpful in seeing early opportunities for the organization's innovations and strategic positioning in the industry

HOW IT WORKS

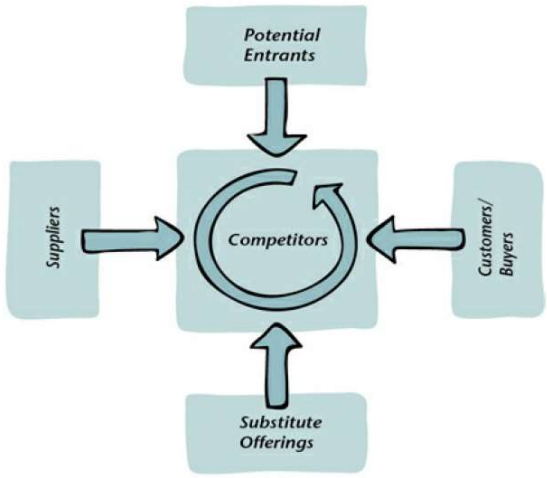
STEP 1: Gather information about the industry.

Prepare to assess the impact of all the Five Forces in your industry: potential entrants, substitutes, buyers, suppliers, and competitors. Review information that you may have already gathered that relate to any of these Five Forces and be prepared to do additional research if needed.

STEP 2: Assess the impact of the Five Forces on the industry.

1. *Potential entrants:* Using industry information, ask who might be new entrants to the market. How high are the barriers to their entry? How vulnerable is the industry to threats from these new entrants?

2. *Substitute offerings:* Ask how readily customers may switch to alternative or substitute offerings. How vulnerable is the industry to the threats from such substitute offerings?



3. *Customers/buyers:* Ask how much control customers have in dictating the kinds of products and services available in the industry. How much influence do customers have in pricing or other attributes of the offering?

4. *Suppliers:* Ask how suppliers exert their demands. How reliant is the industry on the suppliers? How much control do suppliers have in determining the kinds of products and services the industry produces?

5. *Competitors:* Understand the nature of rivalry among competitors. Is it technology driven, price driven, or service driven? Is the rivalry consistent across competitors or variable?

STEP 3: Identify the organization's response mechanisms.

Mechanisms are organization's activities that can respond to these Five Forces. Examples include policies, procedures, plans, budgets, controls, and protocols. What mechanisms are in place to monitor changes and make corrections as required?

STEP 4: Discuss the findings and look for insights.

Put together all the findings from previous steps in a presentational form. Discuss this as a team. What are the opportunities for your organization to play a new role in the industry?

BENEFITS

Reveals opportunities

Captures current conditions

Identifies challenges

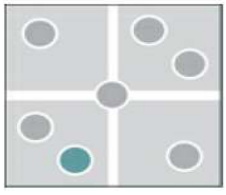
INPUT

Industry information from contextual research

OUTPUT

Understanding of the forces at play in an industry

WHEN TO USE



11. SWOT Analysis

Evaluate an organization's strengths, weaknesses, opportunities, and threats

WHAT IT DOES

The SWOT Analysis, a method widely popular for decades, is used to evaluate an organization's strengths, weaknesses, opportunities, and threats. The analysis begins with studying the organization and its innovations and seeks to understand how the organization performs in relation to competitors in the market. A high-level assessment is made of the strengths and weaknesses of the organization, the opportunities available as well as competitive threats.

HOW IT WORKS

STEP 1: Describe the initial innovation intent.

Define the basic goal that you are considering for your innovation, and clarify the reasons for pursuing that direction. Think of the benefits from doing so.

STEP 2: Assess the organization's strengths, weaknesses, opportunities, and threats.

Strengths: What about your organization gives your innovation an advantage over competitors in your industry? What are the organization's capabilities in technology, operations, people, brand, user experience, and other areas?

Weaknesses: What aspects of your current organization will make it difficult for the innovation intent to be realized? Examples may include: financial constraints, unproven technologies, or an unreliable supply chain. How do your weaknesses put you at a disadvantage relative to your competition?

Opportunities: What is happening in the marketplace that indicates the likelihood that your innovation intent will succeed? Where are the gaps in offerings that you can fill? Why aren't they currently being met?

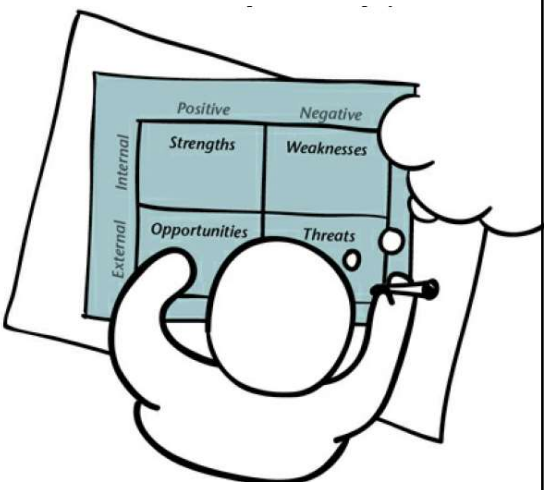
Threats: What are the external threats to realize your innovation intent? What elements exist in the current environment that will be barriers? What is the nature of rivalry in the industry?

STEP 3: Organize findings into a 2 × 2 SWOT diagram.

Summarize findings into brief statements that can be listed in each of the four quadrants, no more than seven or eight statements per quadrant.

STEP 4: Review, discuss, and analyze the SWOT diagram.

Involve key team members to discuss the findings. What does the unified presentation of the different elements suggest about the opportunity space? Is the innovation intent worth pursuing? Is the level of risk acceptable to you? Do your strengths outweigh your weaknesses? Do the opportunities outweigh the threats?



BENEFITS

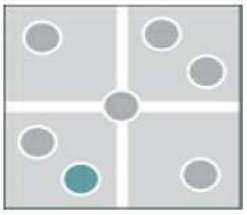
Creates overview

Provides direction

Identifies challenges

Reveals opportunities

WHEN TO USE



INPUT

Formal statement of the project objective and understanding of its context

OUTPUT

Diagram showing the project's strengths, weaknesses, opportunities, and threats

12. Subject Matter Experts Interview

Speak with subject matter experts to understand the most advanced and potential developments

WHAT IT DOES

The Subject Matter Experts Interview is a method for getting up to speed quickly on your area of interest. Speaking with experts in a given field accelerates general understanding about it, offers information about the most advanced developments, and provides guidance for where to look for additional information. Using frameworks as a reference is useful for getting the most out of conversations with experts, for example, a framework organized around time—the past (how did we get here?), present (what is happening today?), and future (where are things going?).

HOW IT WORKS

Step 1: Define the subject to be covered.

The type of information you seek will guide how to find the appropriate experts. If the subject area is broad like economics, define the appropriate branch you want to understand: micro, macro, behavioral, and so forth.

Step 2: Identify experts.

Through a combination of Internet searches, conversations with colleagues, literature searches, or other means pull together lists of people who are recognized as experts in the given subject. Survey people working in related fields for their recommendations of the subject matter experts.

Step 3: Come prepared.

Read articles or books written by experts to familiarize yourself with their points of view. Prepare questions you hope to have answered during the course of the interview.

Step 4: Conduct the interview.

Interviews are about making the most of someone's limited time and building a resource network that you can hopefully tap into in the future. Use prepared questions to guide the conversation. The conversation should focus on essential information, facts, or the expert's opinions as needed

Step 5: Listen, capture, and follow up.

Interviewing requires active listening. If allowed, use a recording device to capture the conversation. As the conversation unfolds, take copious notes and keep track of clarifying questions you may want to ask later.

Step 6: Transcribe and summarize.

Have the recorded conversation transcribed so that key phrases or interesting insights can be extracted, written as summary documents to be shared with the team.

BENEFITS

Defines direction

Captures the latest

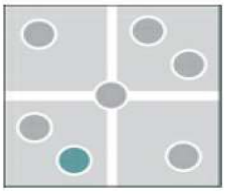
Brings in new perspectives

INPUT

Subject areas relevant to the project

Pool of experts in subject areas

WHEN TO USE



OUTPUT

Understanding of essential information, latest developments, and varying opinions in a subject area

13. Interest Groups Discussion

Immerse with interest groups to learn about what is being discussed in a topic

WHAT IT DOES

Groups often form around shared interests in particular subject matters. Whether the groups are affiliated with a professional organization or come together in an informal structure, their shared interests fuel active dialog about what is happening around a given context.

HOW IT WORKS

STEP 1: Seek out interest group forums.

Conduct online searches, visit professional association websites, and scan social networks for interest groups organized around the subject of interest to you. Find out when and where groups get together, how forums are organized, and what forthcoming topics will be addressed

STEP 2: Find out what is being discussed in interest forums.

Scan interest forum directories for the topics being discussed. This will give you a high-level view of what matters to people organized around the subject matter.

STEP 3: Dive in.

If you are entering an online forum, read recent postings to get a sense of what people are discussing. Read further back to understand how the conversation has changed over time. Participate and post questions and comments.

STEP 4: Capture your findings.

Write brief statements that capture what is discussed in these forums. Record what you see as the various points of view on the topic, the latest developments being discussed, trends mentioned, extreme contexts and behaviors that emerge,

and similar types of information that is valuable to you. Collect these findings in a form that can be shared with others.

STEP 5: Review and summarize.

Review your findings to look for larger themes or patterns that may be emerging. Try to identify what is driving these themes. This may suggest opportunities for additional research. Summarize.

STEP 6: Share and discuss.

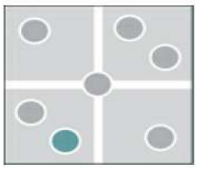
Share your summary with stakeholders and/or subject matter experts to get their opinions of the findings.

BENEFITS

Brings in new perspectives; Captures the latest

Facilitates quick and early discovery; Reveals patterns

WHEN TO USE



INPUT

List of interest groups around topics of interest to your project and ways to access them

OUTPUT

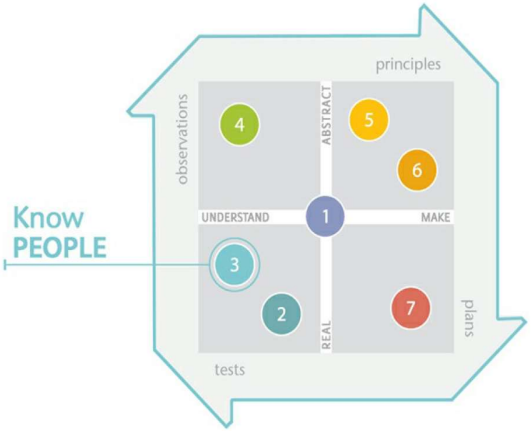
Understanding of latest developments, variety of viewpoints, and trends in a subject area

Mode-3

Know People

Mindsets, Observing everything, Building empathy, Immersing in daily life, Listening openly, Looking for problems and needs, Know people: Methods, research participant Map, Research planning survey, User research plan, Five human factors, POEMS, field visit, video ethnography, ethnographic interview, User pictures interview, cultural artifacts, Image sorting, Experience simulation, Field activity, Remote research, user observation database..

- Design that is sensitive to and based on people's needs and patterns of behavior will be good design. As such, the mode of Know.
- People, with its focus on empathy, observation, personal engagement, and problem solving, is an indispensable phase of the design process.



KNOW PEOPLE
mindsets

- Knowing people is about gaining an empathic understanding of people's thoughts, feelings, and needs by listening, observing, interacting, and analyzing.
- Knowing people well can lead us to entirely new categories of products, services, or business strategies that fundamentally address people's needs and desires, create significant new value, and are very hard to copy.

Mindsets

- Observing Everything
- Building Empathy
- Immersing in Daily Life
- Listening Openly
- Looking for Problems and Needs

Know people mindset: Observing Everything

Observe everything in the context of study, not just the people or the products in use. Notice places, notice other people, notice inconsistencies between what people say and what they do. Be prepared to consider innovations that address these seemingly external factors.

A study of the automobile market in India unexpectedly revealed that, unlike Americans, only 10 percent of Indians eat or drink in the car. On the other hand, 80 percent display religious symbols near the dashboard, and in India, cars are a common wedding present. All of these observations were at the periphery of the central study—how do Indians buy cars?—but were invaluable in designing better cars for the market.

Know people mindset: Building Empathy

Is it possible to go beyond just knowing about people's experiences and feelings, to the point of actually sharing them? Spend a day with a busy mom as she struggles to organize the family's day, share and identify with her daily experiences, frustrations, and challenges. If we make a deep, direct emotional connection with end users' needs, we will be in a far better position to develop new ideas in tune with the customer.

A Jump Associates innovation team gave executives at Mercedes-Benz an assignment: Sit down and have a conversation with a group of young, upwardly mobile drivers for whom they were trying to innovate, and then go out and buy a gift for them. What would be a gift they would value? The best innovations should feel like a gift from a knowing friend, according to Jump.

Know people mindset: Immersing in Daily Life

Spending time with people in their everyday lives can be eye opening.

Use the ethnographer's approach to live with and learn about the behaviors, practices, and motivations that form the context in which people will use the tools, artifacts, messages, and services that you intend to create. Spending a day in the life of people for whom you are designing will be revealing. We can learn a lot by shopping along with people to learn about how they make decisions where to go and what to buy, how they plan for it, how they coordinate their other life activities simultaneously, and how they overcome hauling and transportation challenges.

Immersive ethnographic research is frequently used by companies like consumer product companies trying to create new products and services. Only by immersing into the daily lives of their new customers can they hope to understand the vastly different behaviors and values. Margaret Mead, an American cultural anthropologist, pioneered the idea of immersive ethnographic research. In a study she conducted among a small group of Samoans, she got to know, live with, observe, and interview 68 young women between the ages of 9 and 20 to frame-up classic revealing insights about behaviors during the passage from childhood to adulthood.

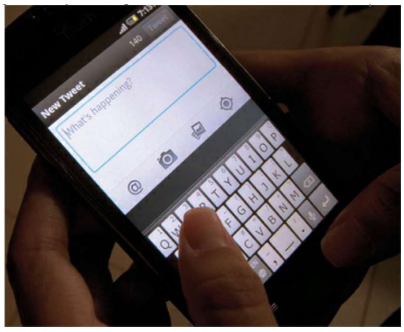
Know people mindset: Listening Openly

We should not just prepare and follow a script for our interaction with research participants. We should let them guide the discussion toward what's important to them; we have to be students, not teachers. Likewise, it is not a good idea to go into the field to prove a hypothesis or test a preexisting idea, and avoid judging people's behaviors or motivations. We ought to think of open-ended questions, suggest general solution alternatives, and be prepared to hear things that will help us reframe our approach to the problem

Fiat Brazil developed the design of their car, Fiat Mio FCC III, by adopting an open source approach through a dedicated website, listening to about 10,000 ideas and suggestions coming from about 17,000 members of the community viewed by 2 million people from 160 countries. This approach, based on large-scale "listening," was a challenge for the company, but they successfully established both physical and virtual collaborative environments among the online community and the company's various departments.

Know people mindset: Looking for Problems and Needs

What's not working well in the current situation and why? How are people facing challenges in their daily lives? How are they working around the problems? Or are they just giving up since there is nothing that can support their needs? These are great questions that we should ask to reveal opportunities for new products or services. But, let us not just ask people what is wrong and expect them to know how to tell us.



How many people would have intentionally asked for a microblogging service that limited their posts to 140 characters? Probably none, but as of 2011, Twitter had more than 300 million users and counting. The microblogging service satisfied a completely unstated need for a way for friends and strangers to exchange quick, 140-character updates. Despite the lack of a stated need, Twitter is now handling over 1.6 billion search queries per day.

KNOW PEOPLE

Methods

1. Research Participant Map
2. Research Planning Survey
3. User Research Plan
4. Five Human Factors
5. POEMS
6. Field Visit
7. Video Ethnography
8. Ethnographic Interview
9. User Pictures Interview
10. Cultural Artifacts
11. Image Sorting
12. Experience Simulation
13. Field Activity
14. Remote Research
15. User Observations Database

1. Research Participant Map

Mapping people in relation to the project's topic and selecting candidates for research.

WHAT IT DOES

Research Participant Maps help us see an overview of all the people involved in the project topic, based on their roles and activities, in order to ensure that the right people are researched for a given project intent.

HOW IT WORKS

STEP 1: Identify target participants. Brainstorm a broad, unstructured list of the types of people who could be selected as participants in a research study to gain knowledge of a well-defined topic for innovation (developed during Sense Intent).

STEP 2: Create a map that defines the project topic.

Identify one or more attributes, based on the innovation intent, that are important to the project—these will get converted into defining scales for a 2 × 2 map. Create the map that defines the participant space of your research.

STEP 3: Plot participants on the 2 × 2 map.

As a group, populate the map with the list of people from Step 1. One good way to begin is by identifying which people fall in the extremes of the map: Who is at each corner? Other people can then be plotted relative to these "anchors."

STEP 4: Analyze the plotted map.

Identify the people on the map who come closest to your ideal range of participants. Assess the ease with which you can access them and engage them in your study. Frequently, at least one representative participant is selected from each of the quadrants of the map to ensure coverage based on the project topic.

STEP 5: Share your findings and discuss.

Write a brief summary that can be shared with the team to explain why you have chosen specific participants over others and how their selection will contribute to the project.

BENEFITS

Encourages comprehensiveness

Facilitates comparison

Facilitates discussion

Helps select options

Structures existing knowledge

INPUT

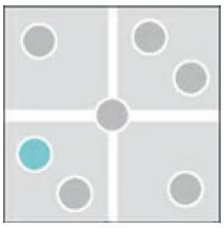
Project's area of study

List of people as possible participants in the project

OUTPUT

Selection of participants that covers the full range of the project space

WHEN TO USE



2. Research Planning Survey

Conducting preliminary surveys to select candidates and identify areas for further research

WHAT IT DOES

Unlike traditional market research surveys, Research Planning Surveys are short, quick, loosely constructed questionnaires used at the early phase of a research project to understand peoples' activities, behaviors, and attitudes about a particular topic of interest. They provide quick overviews of a topic, identify interesting trend patterns, and help the team decide where to focus their detailed research.

HOW IT WORKS

STEP 1: Develop survey questions. Based on the innovation intent, develop questions that probe for broad patterns of behavior, values, or needs. For example, if the intent is to innovate in the area of retail, ask questions like: "What resources do you use when shopping?" or "Do you shop more in stores or online?"

STEP 2: Create survey.

These days, it is very quick and easy to set up online surveys using tools like Google Docs or SurveyMonkey.com. However, in particularly complex projects, a market research firm may be used.

STEP 3: Distribute survey.

Identify a group of people, either through the team's personal contacts or via a market research firm. Send them the survey through channels like e-mail, bulletin board, or Web postings. Be sure to set a closing date for the survey.

STEP 4: Identify patterns.

Analyze the results to see common patterns of behavior, or, just as important, extremes of behavior, or "fringe" behavior. For example, notice that most people use a wide variety of different resources and decision-making tools when shopping, or that a minority of people are beginning to use mobile phones to do online price comparisons while in a physical store.

STEP 5: Select candidates and plan additional research.

Plan what deeper research to conduct on people representative of the interesting patterns identified by the survey. Determine a good mixture of representatives from the patterns for further research such as majority core users, some extreme users, and some nonusers.

BENEFITS

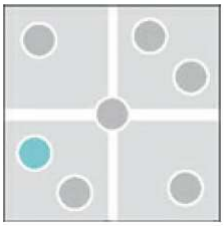
Facilitates quick and early discovery

Provides evidence

Reveals patterns

Supports decision making

WHEN TO USE



INPUT

Project's topic area and the innovation intent

OUTPUT

Understanding of participants' behaviors and interesting patterns to guide further research

Identified participants that can be contacted for further research

3. User Research Plan

Detailing the type of people to be researched, and when and how the research will be conducted

WHAT IT DOES

A User Research Plan is a method for organizing the research portion of a project. The method is a disciplined approach to define all aspects of the work to be done. It sets forth the stated goals of the research including, types of people to be studied, the desired number of participants required, what is hoped to be learned, a protocol for interacting with participants, a statement about methods used to collect user information, the possible output at various stages, work sessions, a timeline, and a budget.

HOW IT WORKS

STEP 1: Choose the types of people to study.

Depending on the nature of your project, focus the study on different types of users, such as core users, extreme users, experts, nonusers, or some other type. Besides the majority of core users to study, make sure that you include extreme users and nonusers since they can provide unconventional and nonobvious insights.

STEP 2: Choose participants based on screening criteria.

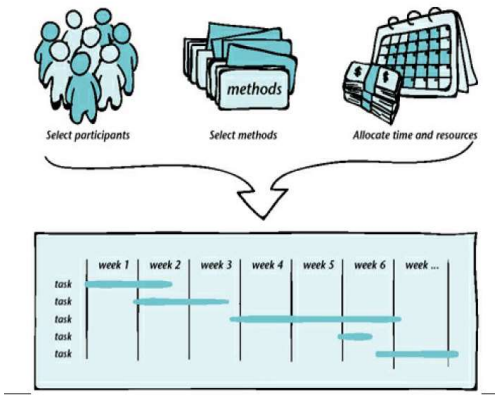
State the criteria you will use to select research participants. What are the attributes that you will be looking for in the types of participants? What kind of participants can provide the most valuable information you seek?

STEP 3: Decide on research methods.

Based on the time and resources available, choose the research methods most well suited to your goal. For example, Video Ethnography yields large amounts of rich data but is time-and resource-intensive; quick Field Visits with a notebook can be done much more quickly and cheaply, though with a corresponding reduction in the richness of data.

STEP 4: Create a budget.

Based on the plan, determine how much it will cost to conduct the various activities. Develop a budget to be shared with your client or within your organization that can be used to justify anticipated spending.



STEP 5: Create a timeline and show activities.

Gantt charts, spreadsheets, or other common project-planning tools can be used to show the activities and estimate the amount of time required to complete tasks and to order them in a sequence that meets your stated goals.

STEP 6: Share the plan and discuss further actions.

Share the research plan with your team and other relevant stakeholders, such as clients or research contractors, to discuss the next steps of starting the research process.

BENEFITS

Defines direction

Manages resources

Promotes shared understanding

Supports transition

INPUT

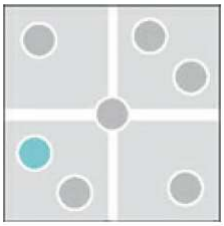
Project topic and innovation intent

Time and resource limitations

OUTPUT

Detailed plan defining schedule, methods, and participants for research

WHEN TO USE



4. Five Human Factors

Studying physical, cognitive, social, cultural, and emotional factors that drive overall user experience

WHAT IT DOES

The Five Human Factors is a method for supporting observation in the field, prompting researchers to look for the physical, cognitive, social, cultural, and emotional elements present in any situation to understand how they affect peoples' overall experiences.

HOW IT WORKS

STEP 1: Prepare to go into the field.

Create a note-taking template where you can record and categorize your observations according to the Five Human Factors. Carry tools (notebooks, cameras, pens, recorders, etc.) that will support user observation or interviewing.

STEP 2: Go into the field.

Observe or engage people in a conversation. Observe or ask about peoples' activities, the objects they use, their environments, the information they interact with, and similar aspects. Take down notes based on your observations or the responses from people.

STEP 3: Look through the lens of the Five Human Factors.

Physical: How do people experience their physical interaction with things and other people? What do they touch, push, pull, open, close, lift, carry, control, and so forth?

Cognitive: How do people associate meanings to things they interact with? What are the various interactions that require people to think? What do they read, research, process, assess, and decide?

Social: How do people behave in teams or in social settings? How do they formally and informally interact, make decisions, coordinate actions, make schedules, and work together?

Cultural: How do people experience shared norms, habits, and values? What, if any, shared values seem present? How are they manifest?

Emotional: How do people experience their feelings and thoughts? What in the environment is triggering these emotions? Are people sad, aggravated, frustrated, or happy?

STEP 4: Describe peoples' overall experience.

Look for problems as well as surprisingly positive observations about each of the five factors. Describe your high-level sense of peoples' experiences in the situation that you have observed. Discuss and document.

BENEFITS

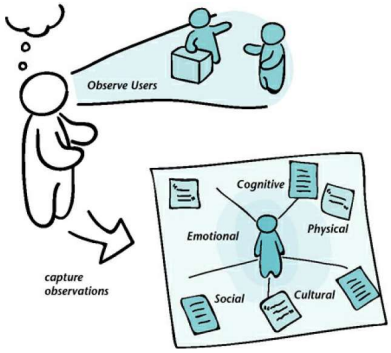
Broadens mindset

Encourages comprehensiveness

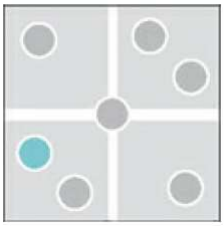
Focuses on details

Focuses on experience

Gives focus to the process



WHEN TO USE



INPUT

Project's area of study

Identified situations for user observation

OUTPUT

Organized observations about each of the five factors that drive user behavior

5. POEMS

Studying people, objects, environments, messages, and services in a context.

WHAT IT DOES

The POEMS framework is an observational research framework used to make sense of the elements present in a context. The five elements are: People, Objects, Environments, Messages, and Services. Application of the POEMS framework encourages researchers to examine these elements independently as well as an interrelated system.

HOW IT WORKS

STEP 1: Prepare for going into the field. Create a note-taking template where you can record and categorize your observations according to the POEMS framework. Carry tools (notebooks, cameras, pens, recorders, etc.) that will support user observation or interviewing.

STEP 2: Go into the field. Observe or engage people in a conversation. Observe or ask about peoples' activities, the objects they use, their environments, the information they interact with, and similar aspects. Take down notes based on your observations or the responses from people.

STEP 3: Understand the context through POEMS.

People: Who are the different kinds of people in the context? Mother? Repairperson? Customer? What appear to be their reasons for being there? Try to capture the full range of types of people present. Record them on your note-taking template.

Objects: What are the various objects that populate the context? Phones? Dining table? Newspaper? What are the broader categories of objects? What is their relationship to one another? Record them.

Environments: What are the different settings where activities take place? Kitchen? Store? Meeting room? Determine the distinct environments within the context. Record them.

Messages: What messages are being communicated in the context, and how are they being transmitted? Conversations? Package labels? Signs? Record the messages.

Services: What are the distinct services offered in the context? Cleaning? Delivery? Media? Note the types of services available and record them.

STEP 4: Describe your overall observations.

Describe the overall context you have understood through POEMS from your observations or responses from interviews.

Collect all your notes and share your observations with team members for discussion.

BENEFITS

Broadens mindset

Encourages comprehensiveness

Gives focus to the process

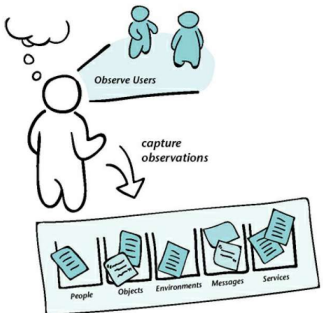
Helps understand context

Focuses on details

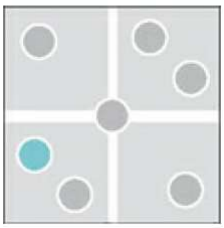
INPUT

Project's topic

Identified situations for user observation



WHEN TO USE



OUTPUT

Organized observations about aspects of a context

6. Field Visit

Bringing researchers into direct contact with people, places, and things they are studying

WHAT IT DOES

The field visit is the most direct means of building empathy with people. Spending time with people engaged in real-world activities helps innovation researchers understand relevant behaviors firsthand. Unlike surveys or focus groups, where researchers' questions dictate the conversation, a field visit emphasizes observation and inquiry about what is being observed.

HOW IT WORKS

STEP 1: Plan field protocol.

A field protocol is a detailed plan of where the team will visit, who they will observe and interact with, how long they will be there, what they plan to explore (general themes and/or specific questions), and how the team will function—for example, who will take notes, who will guide the conversation with the people, and who will take photos/video or record audio.

STEP 2: Assemble resources. Put together a Field Visit kit, which may contain things like notebooks, cameras, sketchbooks, audio recorders, bags, or containers for artifacts taken back from the field. Prepare any *pro forma* documents like permissions or disclosure agreements.

STEP 3: Go into the field. Upon arriving at the site, establish relations and begin to build trust with the people there. Before going into the research, have people sign any necessary paperwork, make them comfortable, explain the process, and let them ask questions about it. It is essential to have conversations not formal interviews, and to let the subjects lead the discussion as much as possible. Remember to ask, "Can you show me?," to repeat back what you are hearing, and confirm that your observations are valid. Always be respectful of peoples' time, and, when appropriate, provide compensation.

STEP 4: Capture observations. Throughout a Field Visit, some members of the team should be dedicated documenters, taking notes, sketching, taking photos, and audio or video recording to capture conversations, collecting artifacts and as much as possible, keeping this data organized for later analysis.

STEP 5: Debrief with team. As soon as possible after the visit, compare notes, decide what was learned, what was important, what additional research is needed, and how it should be done.

BENEFITS

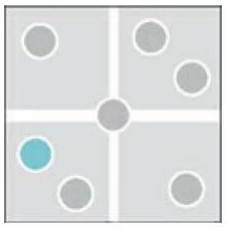
Focuses on details

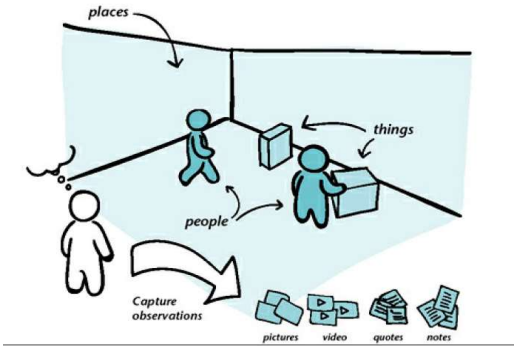
Focuses on experience

Provides evidence

Promotes learning in context

WHEN TO USE





INPUT

Project's topic

List of important/relevant locations for understanding the topic

OUTPUT

Rich observations about users' activities and behavior in context

7. Video Ethnography

Video documenting people and their activities in their context to reveal insights

WHAT IT DOES

Video Ethnography is a method adopted from the field of visual anthropology. The objective is to capture peoples' activities and what happens in a situation as video that can be analyzed for recognizing behavioral patterns and insights. The method is similar to photo ethnography, but has the ability to capture entire periods of time as well as audio recording. It is good for recording processes or dynamic situations such as public or group spaces, and for conversations or experiences in which sound is important. On the downside, video requires far more time to analyze than photographs.

HOW IT WORKS

STEP 1: Determine what will be filmed.

Depending on the project you may choose to conduct "talking head" interviews, document activities, record changes in environments or the levels of activity over a span of time, or some other focus. Decide if you will set up a stationary camera and let it film, or have a researcher film using hand-held cameras. There are advantages of each. The former is effective for interviews or observing an environment over time, while the latter works well in environments where there may be many things happening that involve more than one or two people.

STEP 2: Determine who will film.

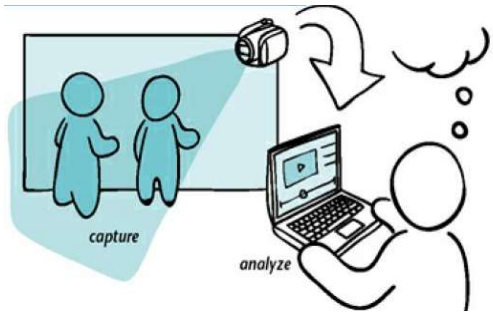
Depending on the project, decide whether you want researchers to document users, have participants self-document, or use a combination of both.

STEP 3: Obtain necessary permissions.

Prepare permission and release forms that will enable you to film or use video footage of participants who are self-documenting. The permission form should state the intended use of the footage and should indicate who will be able to view it.

STEP 4: Shoot video.

Equip researchers and participants with easy-to-use cameras. They should have a clear understanding of how to use the cameras before going off to film. Then, have researchers or participants film their activities and related elements of the context. Provide a schedule to indicate when you will need to collect footage.



STEP 5: Collect and analyze footage.

Spend time with participants reviewing footage and capturing their reflections as they view it. If it is footage shot by your team, review it together, analyzing small increments at a time. A general rule of thumb is to allow three hours for analysis for every hour of footage.

BENEFITS

Captures information over time

Facilitates storytelling

Focuses on experience

Provides evidence

Reveals the unexpected

INPUT

Project's topic

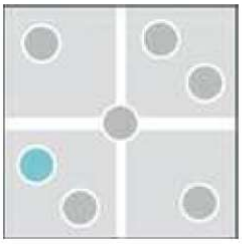
List of locations for Video Ethnography

OUTPUT

Video footage showing user processes and behavior over time

Observations about user processes and behavior

WHEN TO USE



8. Ethnographic Interview

Having conversations with people about their daily lives and contexts.

WHAT IT DOES

A close companion to field visit observational research, Ethnographic Interview is concerned with understanding peoples' activities and experiences from their own perspectives and in their own places. It lets the researcher learn about people through their stories and in their own words, in an open-ended and exploratory fashion, with less risk for bias than interviews based on scripted questions.

HOW IT WORKS

STEP 1: Plan interview protocol. An interview protocol is a detailed plan of whom you will visit, whom you will talk with, how long you will be there, what you plan to ask the participants, and how you will function;

STEP 2: Assemble resources. Put together an interview kit, which may contain things like notebooks, cameras, sketchbooks, and audio recorders. Prepare any *pro forma* documents like permissions or disclosure agreements.

STEP 3: Conduct visit.

Upon arriving at the site, establish relations and begin to build trust with the participants there. Before starting the interview, have people sign any necessary paperwork, make them comfortable, explain the process, and let them ask questions about it. It is essential to treat the participants as equals, to have conversations, and to let the participants lead the discussion as much as possible. Remember to ask "Can you tell me more?," to repeat back what you are hearing, and confirm that your observations are valid. Always be respectful of peoples' time, and, when appropriate, provide compensation.

STEP 4: Capture conversations.

Some members of the team should be dedicated documenters, taking notes, sketching, taking photos or short videos, recording conversations, and, as much as possible, keeping this data organized for later analysis.

STEP 5: Debrief with team.

As soon as possible after the interview, the team should have a discussion about it to compare notes, decide what was learned, what was important, what gaps in their knowledge still need filling, what additional research is needed and how it should be done.

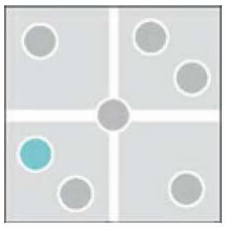
WHEN TO USE

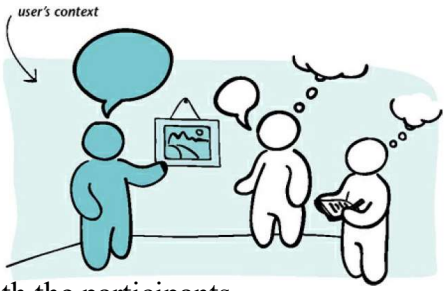
BENEFITS

Builds empathy

Focuses on experience

Promotes learning in context





INPUT

Project's topic

List of possible questions to initiate the conversation with the participants

OUTPUT

Observations about users' experience told from their point of view

9. User Pictures Interview

Having conversations with people about the photographs they have taken of their activities

WHAT IT DOES

The User Pictures Interview is a method that combines aspects of Photo Ethnography and Ethnographic Interview. The interview follows a period in which subjects have been asked to use photography to document their engagement in specific activities or experiences. An interview is scheduled and a researcher sits down with the participant to review the photographs. The method gathers information, through open-ended questions, about participants by getting them to talk in detail about the photographs they have taken.

HOW IT WORKS

STEP 1: Plan research protocol. Decide who will be asked to take photos, where and when, roughly how many photos are desired, and choose any frameworks, such as POEMS, that they should use to guide them.

STEP 2: Assemble resources. Create diary templates (print or electronic) and instruction sheets; procure disposable cameras, if using them, or set up digital photo-sharing services.

STEP 3: Brief participants.

Explain how to take photos—quickly, liberally, don't worry about artistic quality; what to take photos of (for example, POEMS, any and all people, objects, environments, messages, and services related to an activity); how many days the study will continue; and logistical details (where to send back disposable cameras or where to upload digital photos); provide disposable cameras, if using them; provide the diary templates.

STEP 4: Give mid-course feedback.

Ideally, have a quick check-in with participants after they have shared an initial set of photos. Use this opportunity to give them feedback, correct any misunderstandings, answer their questions, debug technical difficulties, and possibly ask them to refocus on new or different things.

STEP 5: Interview participants.

Ideally in the same location the photos were taken, have participants walk the team through the diary. Ask questions, get clarification, take additional notes, and don't forget to capture everything about the interview.

STEP 6: Debrief.

Immediately after the interview, debrief the team about what was learned, and if necessary plan to follow up with participants for additional clarification.

BENEFITS

Builds empathy

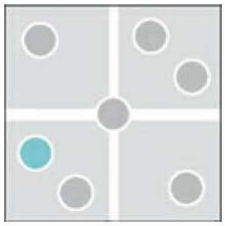
Captures users' points of view

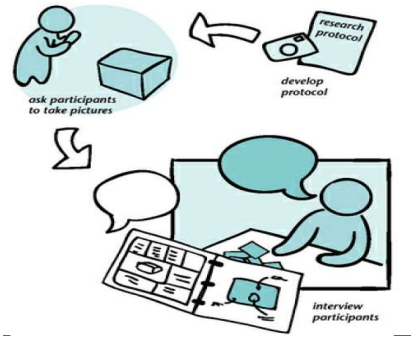
Grounds conversation with artifacts

Promotes learning in context

Reveals the unexpected

WHEN TO USE





INPUT

Project's topic

List of activities relevant to your study, especially the ones that are spontaneous and difficult to observe

OUTPUT

Photos and observations of situations that are important to participants

10. Cultural Artifacts

Discovering perceptions of people using artifacts that are culturally relevant to sociocultural groups

WHAT IT DOES

This method leverages the emotional charge and cultural meaning artifacts have on people. The connotation of "culture" here is not restricted only to nationality or ethnicity. Sociocultural groups have particular customs, behaviors, traditions, thoughts, and practices of everyday life. In other words, every group has its own culture.

HOW IT WORKS

STEP 1: Develop a kit with Cultural Artifacts and tasks.

Taking into consideration cultural nuances about the group of people particular to the project, develop a research kit containing a disposable camera, journal to record thoughts, voice or video recorders, and cultural artifacts. Artifacts are reappropriations of specific elements from that culture/group. The artifacts are intended to trigger the most emotional responses, allowing researchers for a deeper conversation with participants that would not be possible with a traditional Ethnographic Interview.

STEP 2: Brief participants. Explain the artifacts and the tasks included in the kit to participants. All materials must include printed instructions and contact information in case participants need feedback.

STEP 3: Provide time for participants to respond. Allow ample time for participants to respond. The objective is to allow them to do this at their leisure in a stress-free environment.

STEP 4: Collect kits. Collect the kits in person or retrieve them by mail through a prepaid postage included in the package.

STEP 5: Analyze information. Once the kits are collected, analyze the information provided and prepare for a debriefing interview with participants.

STEP 6: Interview participants. Because the method's tasks are meant to be inspirational, a follow-up, semi-structured interview is conducted with participants to review and dig deeper into their responses.

STEP 7: Frame inspirations. Framing the participants' inspirations into insights helps the design team generate personas and scenarios.

BENEFITS

Builds empathy

Captures users' points of view

Grounds conversation with artifacts

Promotes playfulness

Reveals the unexpected

INPUT

Project's topic

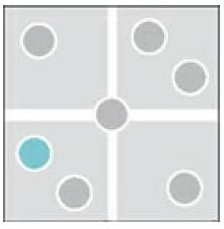
A relevant artifact significant to the group of users being studied

OUTPUT

In-depth knowledge of users' activities and thought processes

Kits and activities completed by users

WHEN TO USE



11. Image Sorting

Having people sort symbolic images to find out their thoughts and attitudes about a topic

WHAT IT DOES

Image Sorting is a method used to find out peoples' associations and perceptions of particular topics. Engaging in activities in which people sort, discuss, and create stories using preprepared images is a powerful way of revealing the emotions, relationships, and values people associate with other people, places, and objects in a situation

HOW IT WORKS

STEP 1: Determine what topics you want to explore.

Based on your project intent, decide what attitudes you want to explore that will help you understand how people think about a given topic. For example, if working on a service design initiative, you may want to understand peoples' attitudes and perceptions about what constitutes good and bad service experiences.

STEP 2: Select an Image Sorting method.

Depending on what you want to explore, employ an appropriate sorting method. Use a *grouping* method for clustering images based on a particular criterion. For example, to understand attitudes about environments, you might ask participants to sort images according to notions of "welcoming" versus "unwelcoming."

STEP 3: Select images.

Search for images that can be used for sorting activities. When seeking out images, it helps to use the POEMS (people, objects, environments, messages, and services) framework to create a comprehensive set that will allow participants to express their values and attitudes in several ways.

STEP 4: Invite participants.

Invite people to participate in the sorting activity. Explain what they will be doing and the reason why it is being done. Indicate where and when the activity will take place and how long they can expect to be there. In most cases, compensation is provided to participants for their time.

STEP 5: Conduct Image Sorting exercises.

Provide instructions to participants at the start of each exercise. Allow time for them to do the exercise alone or in groups. At the completion of each exercise, photograph the resulting sort.

STEP 6: Engage in conversations.

Ask participants to explain why they sorted the images as they did. Have team members take notes to capture responses or, if participants permit it, use audio or video recordings. Often useful insights can be gained by asking participants to elaborate on their answers and talk more broadly about what informed their thinking, what associations the images brought to mind, and how they relate them to their daily lives.

STEP 7: Document photos and responses.

Gather photographs of image sorts and corresponding responses into documents that can be reviewed and analyzed by your team. Discuss the attitudes and perceptions participants have shown through the activity and gain insights.

BENEFITS

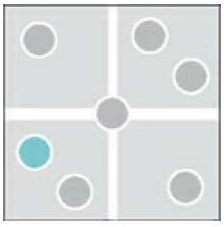
Captures users' points of view

Grounds conversation with artifacts

Provides evidence

Reveals relationships

WHEN TO USE



INPUT

Project's topic

A comprehensive set of images to help users communicate abstract ideas

OUTPUT

Observations about users' values and attitudes toward a topic

12. Experience Simulation

Engaging people in simulated experiences to understand what matters to them

WHAT IT DOES

Experience Simulation is a research method used to help researchers understand how people might behave or interact in a given situation. The method is useful for studying experiential offerings such as new services, environments, or interactions.

HOW IT WORKS

STEP 1: Identify the research question.

Decide what behaviors or activities the team is interested in studying. How people choose to buy organic food in supermarkets? How parents teach children about physics by playing with blocks?

STEP 2: Select a specific experience to simulate.

Determine which aspects of the experience need to be realistic and which can be "simulated." Does the "supermarket" need to be realistic or can it be constructed in a conference room?

STEP 3: Design the simulation.

Build the environment, create the objects, develop the messages and services, find the people to run the simulation, and recruit the participants for it (this may be done beforehand, or, in the case of public simulations, people may be recruited onsite or passing by).

STEP 4: Run the simulation.

Simulations could last anywhere from a few hours to a few weeks; in some cases they might be semi-permanent, as in a test store. Obviously, different scales and durations of simulation will require different levels of planning, staffing, and resources.

STEP 5: Capture behaviors and insights.

Assign designated observers to take notes, capture video/audio/photos, and possibly identify gaps or flaws in the simulation or process that can be corrected. Document insights. Discuss them with your team and with participants to get more feedback.

BENEFITS

Captures information over time

Facilitates comparison

Focuses on experience

Grounds conversation with artifacts

INPUT

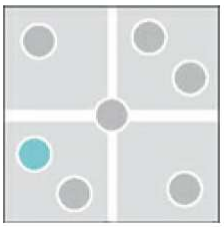
Research questions about behaviors or activities

Selected experiences to simulate

OUTPUT

Observations of how users might behave or interact in a situation

WHEN TO USE



13. Field Activity

Engaging people in contextual activities, observing them, and later interviewing them

WHAT IT DOES

Field Activities is a method designed to understand how people might respond to an actual situation by having them engage with it. The method involves taking targeted users into the field and engaging them in selected activities in a specific situation in order to observe their behaviors.

HOW IT WORKS

STEP 1: Identify user behaviors to study. Based on the innovation intent, identify specific user behaviors that you want to study in an actual situation. The main objectives are to test early assumptions about user behaviors and/or to find unmet user needs.

STEP 2: Identify research participants. Select and invite users who you want to take to the field. Once invited, describe to them what you hope to learn by taking them to the field.

STEP 3: Establish the activities for participants.

Make arrangements to engage users in selected activities. For example, engage users in office work situations where youths are engaged in hands-on activities in order to study their response to work situations. Determine whether you will be looking at specific activities or the entire experience?

STEP 4: Take participants to the field. Provide orientation documents to the participants telling them about what to expect while out in the field. When bringing subjects into the field, determine how prepared the environment will be to accommodate their activities.

STEP 5: Observe users engaged in Field Activities. Decide how to capture observations—video, photographs, or field notes. Make sure that everyone in the field knows that they are being observed and documented for the purposes of research.

STEP 6: Conduct interviews with participants. After the Field Activities are over, engage participants in a conversation to learn about their responses, opinions, and viewpoints. Ask questions to clarify what you have learned from observations. Transcribe interviews.

STEP 7: Summarize findings and discuss.

Create a summary of findings, from both observations and interviews. Share them with team members and other stakeholders and use them for later analysis.

BENEFITS

Builds empathy

Focuses on experience

Grounds conversation with artifacts

Promotes learning in context

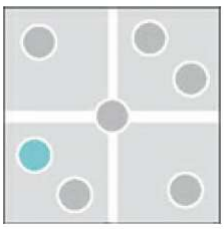
INPUT

Behaviors and activities to be studied

OUTPUT

Observations of how users engage in existing situations

WHEN TO USE



14. Remote Research

Using online research tools for users' self-documentation studies

WHAT IT DOES

Remote Research is a method of user self-documentation that employs Web based tools. The method leverages Internet connectivity so that studies can be conducted simultaneously in multiple locations anywhere in the world without requiring researchers to be out in the field.

HOW IT WORKS

STEP 1: Identify activities you want to study.

Based on the innovation intent, identify specific user activities that you want to study in Remote Research. Determine the scope of your study. Will you be looking at specific activities and interactions or the entire user experience?

STEP 2: Identify users for Remote Research.

In preparing a study group, record why this group was chosen and what you hope to learn by studying them. Determine how you can gain access to them and how you will invite their participation in the study.

STEP 3: Write a research protocol and upload it online.

Inform participants what is expected of them, how long the study will last, and how they will be compensated. Provide a detailed schedule indicating when participants are to upload materials, participate in online interviews, or attend online participant forums.

STEP 4: Select the online tools you will use.

Study the online research tools available, and select the most appropriate ones for your use. Remote Research can be conducted using photo-sharing or video sharing sites. When using such sites, it is important to create password-protected collections that cannot be accessed by anyone other than the research participants and the research team.

STEP 5: Launch the study and monitor it.

Ask participants to upload photos and descriptions of their activities. Ask them to express their attitudes, motivations, thought processes, and contextual stories. Review information being uploaded by participants. If the information is incomplete or requires clarification, communicate via online tools to ensure adjustments are made or questions that arise are addressed.

STEP 6: Compile findings and share them with the team.

If using online platforms, data may be aggregated into reports for analysis. Describe users' attitudes, motivations, thought processes, and contextual stories that you have learned from the process. Collect information into documents that will facilitate comparative analysis.

BENEFITS

Accesses hard-to-reach user groups

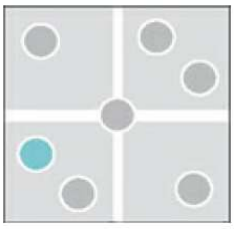
Builds empathy

Captures information over time

Captures users' points of view

Organizes information for easy access

WHEN TO USE



INPUT

Topic that would benefit from reflective responses from participants

OUTPUT

Users' documentation of attitudes, motivations, thought processes, and contextual stories around a topic

15. User Observations Database

Organizing and sharing observational data and insights from different projects

WHAT IT DOES

The User Observations Database is a method for organizing data gathered during user observation. It contains data in many forms—videos, photos, field notes, diagrams, and others—captured during a research project. Each piece of data is tagged using frameworks like POEMS and Five Human Factors so that the data can be searched using these tag words.

HOW IT WORKS

STEP 1: Identify data to be input.

Gather observations from various research methods, and write each observation as a uniform description to be input into the database. The observations to be input may be in the form of videos, photos, field notes, diagrams, transcripts, audio recordings, or other such media. Upload all the observations into the database.

STEP 2: Inventory uploaded data.

For every unit of observation uploaded into the database, provide a project name, researcher's name, date, location, title of observation, description, relevant quotes, notes/comments, and any other relevant information.

STEP 3: Tag data with frameworks.

Tag each observation with one or more frameworks such as POEMS, Five Human Factors, or another framework. Use predetermined generic tags (e.g., kitchen, mother, cookbook, television) as well as project-specific tags (Chicago, young mother, Martha Stewart).

STEP 4: Conduct searches.

Use the keyword search function to compare the findings of your research with that of prior projects. Look for patterns among the findings and note new insights about the project.

STEP 5: Summary search results.

Prepare a summary of search results. Describe the insights you gained by looking at the patterns you found through your searches. Do they reveal larger behaviors that you need to pay attention to for generating concepts? Likewise note differences among your findings and those of past projects.

BENEFITS

Builds knowledge base

Enables systematic analysis

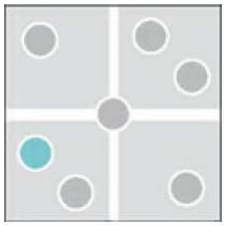
Handles large sets of data

Organizes information for easy access

Reveals patterns

Supports transition

WHEN TO USE



INPUT

All previously generated user research data (observations, photos, videos, etc.)

OUTPUT

Organized and searchable archive of user observations

Mode 4 -

FRAME INSIGHTS

Frame Insights: Mindsets

Exploring Systems

Looking for Patterns

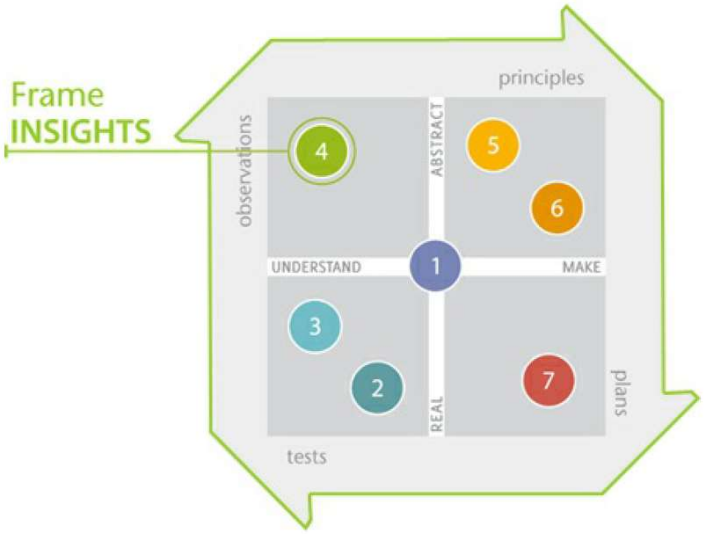
Constructing Overviews

Identifying Opportunities

Developing Guiding Principles

Frame Insights: Methods

1. Observations to Insights
2. Insights Sorting
3. User Observation Database Queries
4. User Response Analysis
5. ERAF Systems Diagram
6. Descriptive Value Web
7. Entities Position Map
8. Venn Diagramming
9. Tree/Semi-Lattice Diagramming
10. Symmetric Clustering Matrix
11. Asymmetric Clustering Matrix
12. Activity Network
13. Insights Clustering Matrix
14. Semantic Profile
15. User Groups Definition
16. Compelling Experience Map
17. User Journey Map
18. Summary Framework
19. Design Principles Generation
20. Analysis Workshop



- In the Know Context and Know People modes, we discussed how to understand the context of an innovation project and how to uncover peoples' experiences and needs.
- We move from gaining such knowledge to clearly understanding that knowledge in Frame Insights. We move from researching and collecting data to applying various analytical frameworks to the data so that we can organize our thinking and gain a clear perspective. The methods and tools in this mode help us distill reams of research into a handful of key insights, and then turn those insights into concise, actionable principles for innovation.

FRAME INSIGHTS
mindsets

As our mode shifts from knowing the context and the people to revealing insights and framing them up, we are actually moving from the very real world that we have researched to the very abstract world of insights, principles, systems, and ideas. In this mode we begin to make sense of all that we have learned from the real world and start to extract key insights out of large, fuzzy data sets. It is like "cutting cubes out of fog," in the words of Jay Doblin.

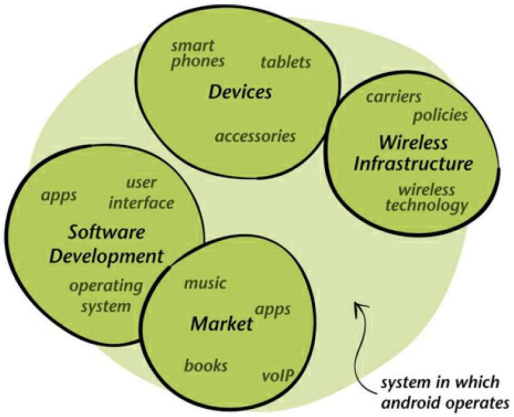
Mindsets

- Exploring Systems
- Looking for Patterns
- Constructing Overviews
- Identifying Opportunities
- Developing Guiding Principles

Mindset: Exploring Systems

- As we discussed earlier, one of the core principles of nearly every successful innovation effort is thinking in terms of systems.
- Although this principle applies to all modes of an innovation process, it is perhaps nowhere more evident than during Frame Insights.
- This is the mode in which we try to understand the complexity of our innovation challenges. This is when we create our own proprietary system views of this complexity.
- This is when we ensure that the concepts we will create have a better chance to fit well with complex real-world systems.
- Moreover, thinking in terms of systems helps avoid the classic pitfall of focusing too soon and too narrowly on just the offerings.
- Systems are collections of entities. Some examples of entities that we most commonly use in our projects are people, offerings, organizations, and markets.

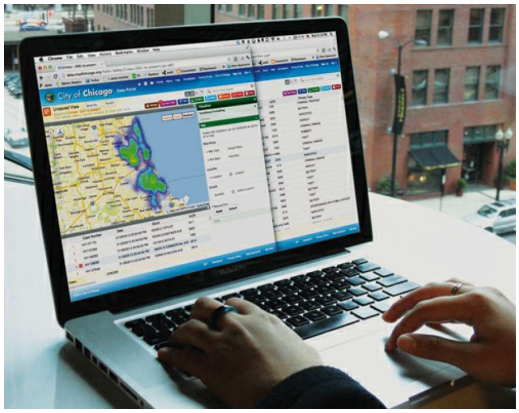
Entities have relations between them, for example similarity, belonging, or complementing. Entities and relations have attributes like demographics, price, or brand. There are flows like transfer of money, goods, and information among entities.



Mindset: Looking for Patterns

- When dealing with large, complex, fuzzy sets of qualitative data about people and contexts, as is often the case with human-centered research, it's generally impossible to understand and represent every detail of the situation completely.
- There are too many pages of notes, too many hours of video, too many nuances of meanings to know everything about everyone.
- Fortunately, a perfect and complete understanding of the entire landscape is not necessary for successful innovation. What is important is to understand the most relevant patterns in the data, in order to reveal the general principles that should focus ideation.
- The key advantage of finding patterns is that they help us move from detailed, "messy" data, to general, abstract, easily grasped models of how a context works. From these models, we can readily form a point of view, generate insights, or develop innovation principles.

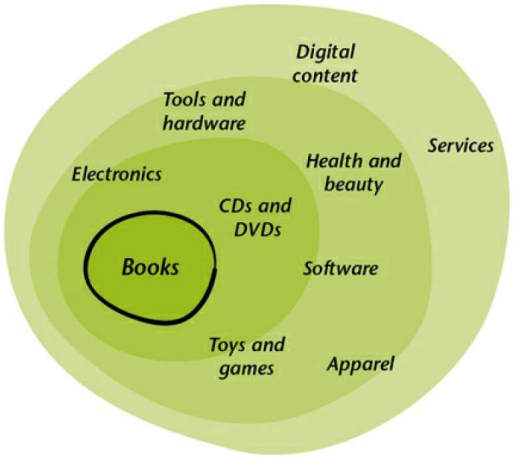
Developments in sharable databases and visualization technologies are allowing cities to open up data about the city's services, facilities, and performance to the public. New York City, San Francisco, and Chicago in the United States have portals providing a variety of tools for information visualization and pattern finding about the cities' contexts like budget, crime, housing, transportation, and employment. Seeing patterns in open sources of systemic data like this will increasingly support innovators' mindsets to visualize patterns and rapidly generate insights.



Mindset: Constructing Overviews

- Just as seeing patterns in fuzzy and complex data are helpful in getting insights, constructing overviews too is beneficial for getting a fuller understanding of the context.
- Challenging innovation projects produce large amounts of data from research methods. The rigors of these methods allow us to systematically reveal insights from complex data at numerous levels of granularity and in abundance.
- Moreover, while being immersed in the process, it is clear that intense focus is essential for uncovering rich insights. However, the challenge is to elevate the mindset to a higher comprehensive level in which overviews of patterns identified and insights generated are clearly visible and understood.
- Gaining insights at the "edges" of a context is of great help in the later modes, when the team is looking for new opportunities to develop concepts that others have missed.

In the early days of online commerce, Amazon.com's innovation framework was built on a good understanding of online retail, customer interaction, and the bookselling business. Providing a strong customer interface for browsing books, a large number of choices, reading reviews, information about similar books others bought, and one-click ordering all were parts of Amazon.com's bookselling framework. But the larger overview framework they constructed was a picture that their innovations in bookselling can be easily extended to a bigger retail footprint by providing other products and services (DVDs, CDs, MP3 downloads, software, video games, electronics, apparel, furniture, food, and toys) to become the world's largest online retailer.



Mindset: Identifying Opportunities

- Just as successful entrepreneurs continuously and actively look for opportunities for new ventures, innovators too seek out ways to define offerings that create new value for people and organizations.
- A key frame of mind during this mode is to be on the lookout for the most promising opportunities that are grounded on the needs of the people and the context.
- Just as with some of the other mindsets that we have discussed, like looking for patterns and constructing overviews, analyzing a context as a holistic system is an excellent approach to finding opportunities for innovation.
- Most often opportunities for innovation that others might have missed are not at the core of your topic. Unexplored opportunities exist at the fringes, adjacent areas, and peripheries. Innovators should be paying attention to these areas for inspiration.

Innovators in one of the largest conglomerates in India, Godrej Group, in their continuous quest for excellence, sought new opportunities in "disruptive innovations

Mindset: Developing Guiding Principles

- The abundance of insights gained out of the many activities that we do in this mode will have to be somehow made actionable so that concepts could be explored based on a strong foundation.
- Here is where thinking about guidelines and principles will help us to think about what to create. Throughout the innovation process we ought to be on the lookout for extracting such principles from our learning about people and the context.
- We ought to use mental tools to "bubble up" insights and observations into a handful of key, significant clusters that can then be translated as our guiding principles to drive innovation generation efforts.
- The advantage of such a mindset is that we can be sure that the creative process that we use for generating concepts will be based on a set of principles solidly supported by learning about real-life challenges and opportunities.

Frame Insights: Methods

1. Observations to Insights
2. Insights Sorting
3. User Observation Database Queries
4. User Response Analysis
5. ERAF Systems Diagram
6. Descriptive Value Web
7. Entities Position Map
8. Venn Diagramming
9. Tree/Semi-Lattice Diagramming
10. Symmetric Clustering Matrix
11. Asymmetric Clustering Matrix
12. Activity Network
13. Insights Clustering Matrix
14. Semantic Profile
15. User Groups Definition
16. Compelling Experience Map
17. User Journey Map
18. Summary Framework
19. Design Principles Generation
20. Analysis Workshop

1. Observations to Insights

Learning from what is observed in research by revealing nonobvious inner meanings

WHAT IT DOES

Research produces a number of observations about people and context. In this method we systematically think through all these observations and extract valuable insights. An insight, according to common definition, is the act of "seeing into" a situation or understanding the "inner nature" of what we observe.

HOW IT WORKS

Step 1: Gather observations and describe them.

Observations come from field notes, photos, video/audio recordings, facts, and the results of other methods. For each observation, write a small description as a factual statement of what is happening. No interpretations or judgments should be made at this point while describing observations.

STEP 2: Ask why and find an agreed-upon rationale.

As a group, question why these observations are happening. Find out people's reasoning behind their actions and behaviors. Take a point of view or make a well aligned interpretation. Document all "insights" and choose the most agreeable ones.

STEP 3: Describe the Insights.

Write a concise and objective statement for each insight. Insights should be written as a general statement since it represents a higher-level learning from a specific observation.

STEP 4: Organize the insights.

Organize all the observation statements and the corresponding insight statements in a spreadsheet. Note that many observations might lead to one insight or many insights could come out of one observation.

STEP 5: Discuss and refine.

As a group, discuss the insights as overall learning from the research. How surprising or nonobvious are these insights? Is the collection of insights extensive enough to cover the whole topic? Is more research or validation needed?

BENEFITS

Supports transition

Builds knowledge base

Encourages comprehensiveness

Makes process transparent

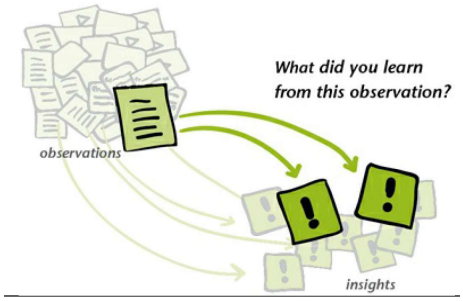
Promotes shared understanding

INPUT

All observations captured during the Know People and Know Context modes

OUTPUT

A collection of structured insight statements that can be traced back to corresponding observations



WHEN TO USE

2. Insights Sorting

Manually sorting insights from research to find clusters and hierarchies

WHAT IT DOES

The method starts with gathering all the insights we have generated from research. We write insight statements on sticky notes and start sorting them to find an agreed-upon clustering logic. Once the team agrees on this clustering logic, we resort all the insights to reveal interesting clustering patterns.

HOW IT WORKS

STEP 1: Gather insight statements.

Gather all the insight statements you have generated from research. If you have not already generated insights, then go through your observations and other findings from research and generate them. Insights are interpretations of what you have observed in your research about people and the context that reveal something nonobvious, surprising, and valuable for your project. Write insight statements as one or two phrases or sentences.

STEP 2: Do a sample sort and reach alignment on clustering logic.

Write insight statements on sticky notes. As a team, start clustering these insight statements on a wall or table surface. Discuss the logic you are using to cluster them. A common logic frequently used is how one insight is "similar" to another in terms of meanings they share. Reach alignment about this clustering logic.

STEP 3: Cluster and recluster insight statements.

Complete the clustering activity based on the agreed-upon clustering logic. Discuss and gain a shared understanding about why all the insight statements in a cluster are grouped together. Cluster and recluster if necessary until you reach a stable clustering pattern.

STEP 4: Define the clusters.

Discuss insight clusters and recognize why they are grouped that way. Define each cluster and describe its overall characteristics. Give each cluster a short title.

STEP 5: Discuss next steps.

Document the patterns. Discuss among your team members how these clustering patterns can be made valuable to the later stages of the project. Are the insight clusters comprehensive enough to holistically address the project?

BENEFITS

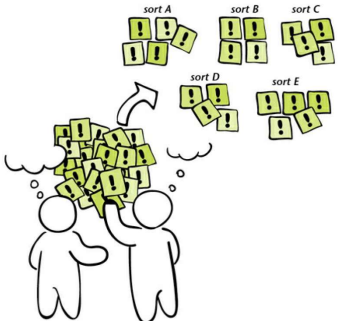
Reveals patterns

Reveals relationships

Structures existing knowledge

Facilitates discussion

WHEN TO USE



INPUT

All insights captured during Know Context and Know People modes

OUTPUT

Clusters of insights showing patterns and relationships

3. User Observation Database Queries

Making requests to databases containing observations and getting responses

WHAT IT DOES

Observation Queries is a method that uses a database like the User Observations Database, a continuously updated collection of user observations and insights gathered from research projects from around the world that can be

searched by keywords. In this database, user observations are organized with their related photos/videos/field notes, descriptions, quotations, activities, and insights.

HOW IT WORKS

STEP 1: Capture conjectures.

Refer to the research findings from Know People and Know Context modes of the project to formulate statements about your conjectures—behaviors that you think might happen.

STEP 2: List keywords that relate to your conjectures.

For example, if your earlier research findings lead you to conjecture that breakfast is mostly eaten on the way to school or work, your query could include keywords such as "breakfast," "eating on the go," "morning," "commuting," and other similar words.

STEP 3: Send queries.

Open the User Observations Database and send your combinations of words as queries for searching.

STEP 4: Review query results.

Review the search results as a spreadsheet that organizes all the found observations in rows along with their related photos/videos/field notes, descriptions, quotations, activities, insights, and tags. Look for patterns across the found observations.

STEP 5: Modify queries and repeat the search.

Modify your conjecture with a different set of keywords and repeat the process for additional insights. Try a new query based on another conjecture.

STEP 6: Summarize findings and discuss.

Prepare a summary document showing the results of all queries and key insights. Share them with team members and discuss your learning. Were your conjectures verified? What behavioral patterns emerged? Does the database have enough research data to reliably reveal new insights? Is there any additional research needed?

BENEFITS

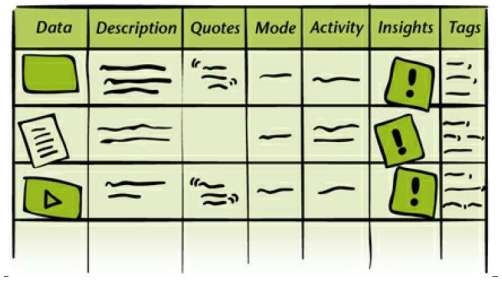
Enables systematic analysis

Encourages comprehensiveness

Handles large sets of data

Reveals patterns

WHEN TO USE



INPUT

User Observations Database with a critical mass of research data

Conjectures about users' behaviours

OUTPUT

Insights about user behavior patterns; Understanding of the breadth of data collected

4. User Response Analysis

Analyzing research participants' responses to understand patterns and derive insights

WHAT IT DOES

User Response Analysis is a method that uses data visualization techniques, such as color and size, to analyze large quantities of qualitative data gathered from user surveys, questionnaires, interviews, and other ethnographic research methods.

HOW IT WORKS

STEP 1: Gather user research data into a spreadsheet.

Gather user research from questionnaires, interview transcripts, surveys, and others and enter in a spreadsheet.

STEP 2: Reduce and organize the data.

Determine what you want to analyze, such as an entire group, a segment of a group (according to type of activity, age, gender, frequency of use), or simply individual responses. Choose topics for comparison. These could be specific questions asked in questionnaires, topics that came up in interviews, or some other dimension.

STEP 3: Determine the kinds of searches to conduct.

Determine if you want to conduct a broad or focused keyword search. For example, a keyword search using the word "shopping" may return results that are very general for your analysis. Additional keywords such as "grocery" or "high-end retail" may return results more suitable for your objective.

STEP 4: Visually code the queried results.

Use visual techniques such as color, shapes, and size to highlight patterns found in your results. For example, user responses can be color-coded by age, gender, or type of user responses. The visual coding creates a macro-view showing visual clusters from which new relationships can be understood.

STEP 5: Analyze visualization for patterns and insights.

Analyze the visual map for similarities and differences such as disproportionate number of entries between two data sets.

STEP 6: Document insights.

Summarize your analysis and insights and share them among team members. Include information that indicates the need for additional analysis.

BENEFITS

Enables systematic analysis

Handles large sets of data

Keeps grounded in research

Organizes information for easy access

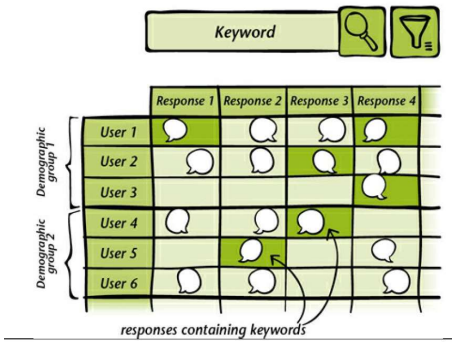
Reveals patterns

INPUT

Large sets of user response data

OUTPUT

Insights about patterns in user responses



WHEN TO USE

5. ERAF Systems Diagram

Diagram and analyze Entities, Relations, Attributes, and Flows

WHAT IT DOES

The ERAF Systems Diagram is a method for creating high level–systems views of the context being explored. It helps us think about all elements of a system and their interactions with one another. Regardless of the project, any system can be basically understood by studying it as a set of entities, relations, attributes, and flows. The ERAF Systems Diagram works on two levels: It is synthetic in that the information gathered through research is brought together in a single systems diagram, and it is analytic in that the study of the diagram points to existing, emerging, or potential problems, imbalances, missing entities, and other gaps.

HOW IT WORKS

STEP 1: Identify entities of the system.

Include only those entities that have a significant impact on your project. While identifying entities, keep in mind the analogy that they are the nouns of the system. List people, places, things, organizations, and the like that comprehensively cover the context you want to analyze. Draw circles to represent these entities and label them.

STEP 2: Define relations and flows among entities. Draw lines to show relations and arrows for flows in the diagram. Add text labels to describe these relations and flows.

STEP 3: Define attributes of entities. Identify attributes that are important to know for the project. Represent them as smaller circles and add labels. For detailed analysis, enter the attribute values as well; for example, income, age, and so forth.

STEP 4: Refine the network diagram. The resulting general diagram will show you context as a set of entities, relations, attributes, and flows. Review the diagram as a team to ensure that all these elements are comprehensively captured and described in this systems diagram.

STEP 5: Analyze the diagram. Study the ERAF Systems Diagram to diagnose the current state of the context. As you review the system diagram, look for gaps, disconnects, missing entities, missing relations, or other aspects of the system that are a problem or have potential to become one. Generate a list of these deficiencies.

STEP 6: Discuss the diagram and extract insights.

Are there big disconnects? Are there opportunities for creating new entities? Can new relations be established for creating additional value? Are there weak entities that need attention? Share these visualizations and insights with your team members and develop an action plan for next steps.

BENEFITS

Captures current conditions

Creates overview

Promotes shared understanding

Reveals relationships

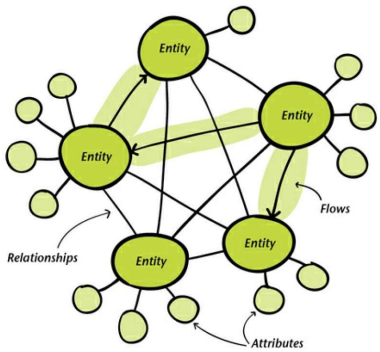
Structures existing knowledge

Visualizes information

INPUT

Context and user research data

WHEN TO USE



OUTPUT

Diagrammatic visualization of the context being studied

6. Descriptive Value Web

Constructing a network diagram showing how value is created and exchanged in the context

WHAT IT DOES

A Descriptive Value Web visualizes the existing set of relationships among stakeholders in a given context, showing how value is exchanged and flows through the system. Most frequently it is represented as a network diagram in which stakeholders are presented as nodes connected by links with descriptions of what value is flowing from node to node. Common value flows include: money, information, materials, and services.

HOW IT WORKS

STEP 1: List all relevant stakeholders in the given context.

The stakeholders should include competing organizations, complementary organizations, suppliers, distributors, customers, relevant government agencies, and other entities that derive value from the present conditions.

STEP 2: Determine relevant value flows. Keep in mind that money is not always a given value flow. Consider flows of information, materials, services, and other intangible values like reputation. For example, projects designed for social good have different values such as opportunity, access to social services, or socially uplifting influences.

STEP 3: Draw an initial value web. Combine information from Steps 1 and 2 into a preliminary network diagram that represents your understanding of the current conditions. This initial web should serve as a sketch for further discussion and analysis. Make sure all nodes and links are clearly labeled so that someone seeing the web for the first time can quickly grasp the nature of values being exchanged.

STEP 4: Analyze the value web.

Ask questions to fully understand the dynamics of the value web. Where is the value fundamentally created? Which stakeholders have dominance? Which control customer interface? Which control intellectual property? Discuss these and other questions as a team and document your insights.

STEP 5: Review and refine the value web.

Through discussions among team members and outside experts, refine the value web until you reach consensus that it reflects the current state.

BENEFITS

Captures current conditions

Gives focus to the process

Promotes shared understanding

Reveals relationships

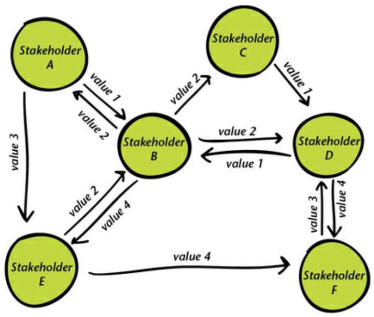
Visualizes information

INPUT

Context and user research data

List of key stakeholders in current context

WHEN TO USE



OUTPUT A network diagram visualizing relevant stakeholders and existing value exchanges among them

7. Entities Position Map

Plotting entities on a position map to analyze their distribution and grouping patterns

WHAT IT DOES

The Entities Position Map is a method for analyzing how entities group together in relation to two intersecting attribute scales. Each entity is plotted within the boundaries of the position map. The method helps illuminate not just where entities fall within this defined space, but their relative position to one another. Once entities have been plotted, mainly five kinds of analysis could be performed.

HOW IT WORKS

STEP 1: Identify entities for comparison. Most commonly analyzed entities are products, services, technologies, users, activities, places, innovation cases, brands, and organizations.

STEP 2: Determine attributes for comparison. Select two attributes related to the entities that you think would be most useful for analysis. For example, for a study on cars you might choose “size” and “usage” as attributes. Turn these attributes into scales, for example, “small versus large” and “utility versus indulgence.” Create a position map using these two scales.

STEP 3: Create a position map and plot entities.

First find those entities that are likely to occupy the most extreme corners of the position map and plot them. These entities, therefore, set the boundary conditions for the context. Place the remaining entities onto the position map. The resulting constellation becomes the basis for analysis.

STEP 4: Analyze the position map.

Extreme analysis: Study the entities positioned at the extreme edges and corners of the map. Look for any patterns and search for insights.

***Grouping analysis*:** Groupings will be concentrations of entities on the map that suggest commonalities or affinities among them. Represent groupings by drawing a circle around them and write insights.

Gap analysis: It is just as important to analyze where entities do not cluster. Do the gaps represent unmet needs or areas of potential opportunity? What if anything about existing conditions makes them inhospitable to entities?

Migration analysis: Identify those entities that may occupy a different position on the map over time. Use arrows to indicate this migration on the map. How do these migrations affect other entities and the overall context?

Quadrant analysis: What are the common characteristics of the entities that fall within each quadrant? How do they differ from the entities in other quadrants? Do the entities positioned in a quadrant point to any unique characteristics of that quadrant, besides what is known from the attribute scales?

STEP 5: Share insights and discuss.

Gather insights and findings and prepare summary documents. Share with team members and discuss.

BENEFITS

Creates overview

Facilitates comparison

Identifies opportunities

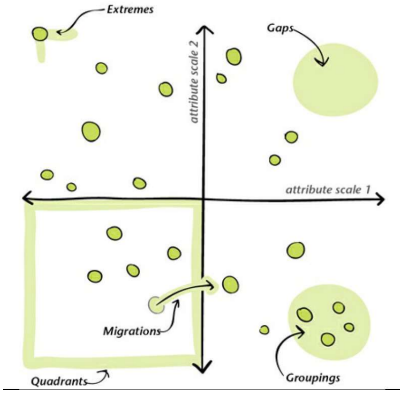
Improves communication

Visualizes information

INPUT

List of entities to be compared

WHEN TO USE



OUTPUT

Map of entities positioned according to two attribute scales revealing insights and opportunity areas

8. Venn Diagramming

Diagramming to analyze clusters of entities that overlap

WHAT IT DOES

Venn Diagramming is an effective method to analyze the overlaps between two or more clusters of entities. The most common context in which the method is used is for industry-level analysis.

HOW IT WORKS

STEP 1: Identify entities for grouping and overlapping.

Although the type of entities that you want to cluster and overlap depends on the project, entities that usually benefit from seeing overlaps are products, services, technologies, users, places, brands, and organizations.

STEP 2: Cluster entities and overlap clusters.

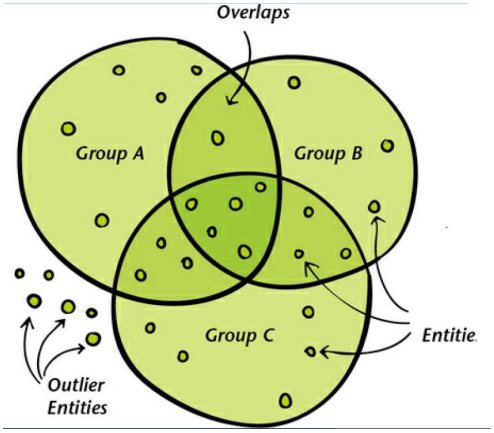
As you start clustering entities one by one, place the entities related together as groups and draw circles around them. If you find that some entities are common to two or more clusters, place them at the intersection of those clusters by drawing overlapping circles.

STEP 3: Analyze the clusters and overlaps.

Analyze clusters: Understand the entities in the clusters and label them.

Analyze overlaps: Focus on entities in the overlaps and understand their meaning.

Analyze outliers: Understand the meaning of disjointed entities that are outside clusters.



STEP 4: Share insights and discuss.

Gather insights and prepare summary documents. Share with team members and discuss. How critically significant are the entities in the overlaps since they affect multiple clusters? Are there opportunities for increasing or reducing overlaps?

BENEFITS

Facilitates comparison

Identifies opportunities

Improves communication

Reveals relationships

Visualizes information

INPUT

Sets of entities based on research findings

OUTPUT

A diagram showing overlapping clusters of entities

WHEN TO USE

9. Tree/Semi-Lattice Diagramming

Diagramming to analyze entities related in hierarchies

WHAT IT DOES

The Tree and Semi-Lattice Diagrams are good for analyzing the hierarchical nature of relationships among entities. In a tree diagram, one child entity can have only one parent entity and, therefore, the branches are distinctly separate. In a semilattice diagram, one child can have more than one parent and, hence, the branches can cross over.

HOW IT WORKS

STEP 1: Identify entities at various levels.

List all lower-level entities. These are the most fundamental components in the system. For example, if diagramming people's shopping behaviors, their specific tasks (e.g. making a grocery list) will be at the lowest level, their activities (e.g. making payments) next, and their mode/s (e.g. shopping) at the highest level.

STEP 2: Construct the tree diagram.

Build the tree diagram either bottom-up by starting with the lowest level of entities or top-down starting with the highest level of entities. Represent entities as dots or circles, and connect the child entities to parent entities with lines.

STEP 3: Analyze the diagram.

What can we learn from the shape of the tree/semi-lattice with its branching patterns? Are there branches that are distinctly denser or leaner than others? Or is the tree/semi-lattice balanced? Are there any missing entities or relations? Are entities distinct enough to be in those levels? If there are many cross-links in the semi-lattice, what do they mean? Does the tree/semi-lattice reflect your understanding of the context? Capture these insights and show them in relation to the tree/semi-lattice diagram.

STEP 4: Share insights and discuss.

Prepare documents summarizing insights learned through analysis. Share with team members and discuss how the existing hierarchy affects the context and where opportunities for concepts may be found.

WHEN TO USE

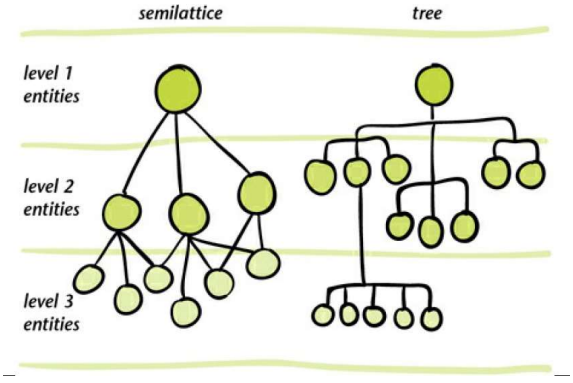
BENEFITS

Creates overview

Improves communication

Reveals relationships

Visualizes information



INPUT

Set of entities and an understanding of their relations based on research findings

OUTPUT

A diagram visualizing entities related together in hierarchies

10. Symmetric Clustering Matrix

Clustering entities in a set based on relations among them

WHAT IT DOES

This method allows us to take a set of entities gathered during research and see how they are grouped based on their relationships. Seeing these grouping patterns from unstructured lists of entities is useful because they reveal high-level order and help us develop frameworks to drive concept exploration.

HOW IT WORKS

STEP 1: List entities for clustering. List the kind of entities you want to compare to one another to find clustering patterns. Examples of possible listings are: (1) Peoples' activities, experiences, roles, needs, problems, challenges, goals, motivations, or other similar lists from the Know People mode; (2) Context elements like products, services, places, functions, features, problems, challenges, and other similar lists from the Know Context mode.

STEP 2: Determine the relation between entities.

One most commonly used relation is similarity that measures how one entity in the list is similar to another. Other examples of relations to consider are complementary (how one entity complements another), support (how one entity supports another), and frequency (how frequently one entity occurs with another).

STEP 3: Determine a scoring scale to measure relations between entities.

The most commonly used scale has four steps: 0 means no relation between entities, 1 means minimum relation, 2 means medium relation, and 3 means maximum relation. Depending upon the scoring sensitivity needed, the scale can vary from a binary scale (0 or 1) to even one with nine steps (−4, −3, −2, −1, 0, + 1, + 2, + 3, + 4). It is a good idea to color-code matrix cells according to the corresponding scores. For example, lighter grays for lower scores and darker grays for higher scores.

STEP 4: Create a symmetric matrix.

Create a spreadsheet with a square symmetric matrix. For this, enter the same list of entities as both row and column headings. Each cell in this matrix represents a relation between two corresponding entities.

STEP 5: Score the relations.

Enter a relation score in each matrix cell. Scoring is best done as a group to reduce biases and get to as objective a score as possible. At a minimum, spend the first hour as a group to do trial scoring so that all team members gain a shared understanding of the scoring logic and range.

STEP 6: Sort the matrix.

For small matrices (up to 30 × 30), you can do a manual sort of the matrix by shifting the position of columns and rows in the matrix so that two rows or columns having similar scores are kept next to each other.

STEP 7: Identify clusters.

After sorting the matrix, take a step back and look at the whole matrix and see how many entity clusters can be visually identified. In a symmetric matrix, remember that the matrix is symmetric along the diagonal of the matrix.

STEP 8: Define and name clusters.

Ask questions like: What makes the entities in this cluster belong together as a group? Why is this cluster different from other clusters? Discuss as a group and define each cluster based on the similarity between entities. Appropriately label each cluster.

STEP 9: Capture insights and make frameworks. Capture insights out of the clustering patterns. Are the clusters of the same size and density? If their density and size varies a lot what does that mean?

STEP 10: Share insights and discuss. Summarize findings and share them with team members and other stakeholders. Discuss the frameworks and use the feedback to revise your analysis. Document your process and results.

BENEFITS

Enables systematic analysis

Encourages comprehensiveness

Gives focus to the process

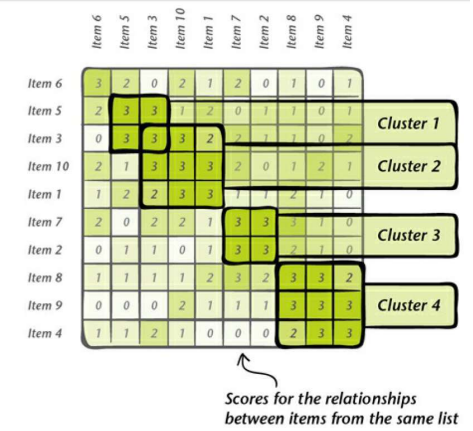
Handles large sets of data

Makes process transparent

Reveals patterns

Reveals relationships

WHEN TO USE



INPUT

Set of entities based on research findings

A matrix tool for scoring and sorting

OUTPUT

Entity clusters based on strengths of individual relations

Insights about patterns among entities

11. Asymmetric Clustering Matrix

Clustering two entity lists based on relations between entities in one list to the other

WHAT IT DOES

The Asymmetric Clustering Matrix works just like the Symmetric Clustering Matrix, but instead of analyzing a single set of entities, it compares two entities. This method allows us to take two sets of entities gathered during research and see how each set breaks down into clusters based on its relation to the other set.

HOW IT WORKS

STEP 1: List entities for clustering.

List the two *kinds of entities* you want to compare against each other to find clustering patterns. For example, comparing a list of activities against a list of places reveals clusters of common activities happening in common places.

STEP 2: Determine the relation between entities.

Define a relation you want to measure between elements of one list to the elements of another. For example, if your lists are activities and places, then a possible relation to measure will be *frequency*—how frequently does that activity happen in that place?

STEP 3: Determine a scoring scale to measure relations between entities.

The most commonly used scale has four steps: 0 means no relation between entities, 1 means minimum relation, 2 means medium relation, and 3 means maximum relation. It is a good idea to color-code matrix cells according to the corresponding scores. For example, lighter grays for lower scores and darker grays for higher scores.

STEP 4: Create an asymmetric matrix.

Create a spreadsheet with a rectangular or asymmetric matrix. For this, enter the entities from the first list as row headings and from the second list as column headings. Each cell in this matrix represents a relation between two corresponding entities.

STEP 5: Score the relations.

Enter a relation score in each matrix cell. Scoring is best done as a team to reduce biases and get to as objective a score as possible.

STEP 6: Sort the matrix.

For small matrices you can do a manual sort of the matrix by shifting the position of columns and rows in the matrix so that two rows or columns having similar scores are kept next to each other.

STEP 7: Identify clusters. After sorting the matrix, take a step back and look at the whole matrix and see how many clusters can be visually identified. Both lists will be clustered in the case of this asymmetric matrix. Identify a manageable and meaningful number of clusters for each list.

Step 8: Define and label clusters. Ask questions like: What makes the entities in this cluster belong together as a group? Why is this cluster different from other clusters? Discuss as a group and define each cluster based on the similarity between entities. Appropriately label each cluster.

STEP 9: Capture insights and make frameworks.

Capture insights out of the clustering patterns shown in the matrix. Are the clusters of the same size and density? If their density and size varies a lot, what does that mean? What can be learned from the different levels of clusters? If there are big overlaps between clusters, what does that mean?

STEP 10: Share insights and discuss.

Summarize findings and share with team members and other stakeholders. Discuss the insights and frameworks, and use the feedback to revise your analysis. Document your process and results.

BENEFITS

Enables systematic analysis

Encourages comprehensiveness

Facilitates comparison

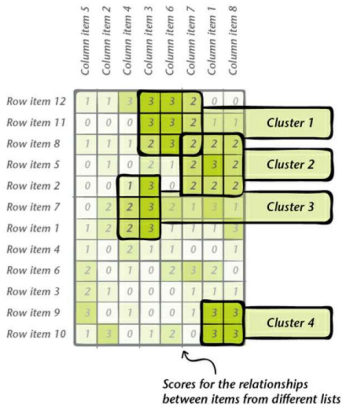
Handles large sets of data

Makes process transparent

Reveals patterns

Reveals relationships

WHEN TO USE



INPUT

Two sets of entities based on research findings

A matrix tool for scoring and sorting

OUTPUT

Entity clusters based on strength of relations among them

Insights about relations between two sets of entities

12. Activity Network

Structuring activities of stakeholders and showing how they relate to one another

WHAT IT DOES

This method allows us to take a list of activities gathered during research and see how they are grouped based on their relationships. The method uses a Symmetric Clustering Matrix to relate activities of all the stakeholders (users, providers, maintainers, etc.) in the context we are studying and clusters them together.

HOW IT WORKS

STEP 1: List activities for structuring. List people's *activities* that you want to compare and structure. This can be extracted from your previous research on people. The activities could include those of all stakeholders for the study—users, providers, maintainers, and so forth.

STEP 2: Determine the relation between activities.

The most commonly used relation is *similarity*, which measures how one activity is similar to another.

STEP 3: Determine a scoring scale to measure relations between entities.

The most commonly used scale has four steps: 0 means no relation between entities, 1 means minimum relation, 2 means medium relation, and 3 means maximum relation. It is a good idea to color-code matrix cells according to the corresponding scores. For example, lighter grays for lower scores and darker grays for higher scores.

STEP 4: Create a symmetric matrix. Create a spreadsheet with a square symmetric matrix. For this, enter *activities* as both row and column headings. Each cell in this matrix represents a relation between two corresponding activities.

STEP 5: Score the relations. Enter a relation score in each matrix cell. Scoring is best done as a team to reduce biases and get to as objective a score as possible.

STEP 6: Sort the matrix. For small matrices (up to 30 × 30), you can do a manual sort of the matrix by shifting the position of columns and rows in the matrix so that two rows or columns having similar scores are kept next to each other.

STEP 7: Identify clusters.

After sorting the matrix, take a step back and look at the whole matrix and see how many activity clusters can be visually identified and defined. For a 100 × 100 matrix, it is a good idea to define 10 to 15 clusters. If needed, you could also recognize 3 to 6 higher-level clusters.

STEP 8: Define and label clusters.

Ask questions like: What makes the activities in this cluster belong together as a group? Why is this cluster different from other clusters? Discuss as a group and define each cluster based on the similarity between activities. Appropriately label each cluster.

STEP 9: Create a network diagram.

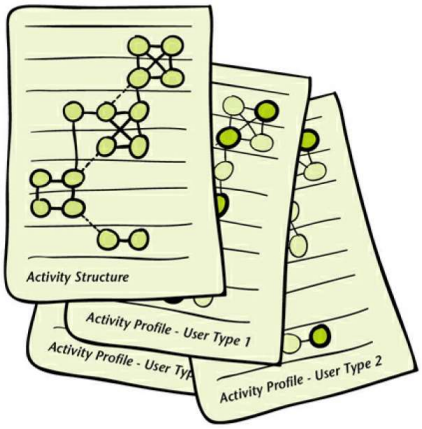
Build an Activity Network Diagram with each node representing a defined activity cluster. Draw lines connecting related nodes. Rearrange the nodes in the diagram for shortest line lengths and minimum line crossings. Organize the nodes in such a way that higher-level clusters of nodes, if any, are clearly visible. The result is a diagrammatic representation of all the activities that indicate their relations and hierarchies.

STEP 10: Capture insights and make frameworks.

Capture insights out of the clustering patterns shown in the matrix and network diagrams. Are the clusters of the same size and density? If their density and size varies a lot, what does that mean?

STEP 11: Share insights and discuss.

Summarize findings and share them with team members and other stakeholders. Discuss the insights and frameworks and use the feedback to revise your analysis. Document your process and results.



BENEFITS

Enables systematic analysis
Encourages comprehensiveness
Facilitates comparison
Handles large sets of data
Makes process transparent
Reveals patterns
Reveals relationships
Visualizes information

WHEN TO USE

INPUT

Comprehensive list of activities happening in the context of study

OUTPUT

A central network map representing how activities are interconnected
Insights about patterns among activities

13. Insights Clustering Matrix

Clustering insights and showing their relations and hierarchies

WHAT IT DOES

This method allows us to take a list of insights generated from the research on people and context and see how they are grouped together based on their relationships. The method uses a Symmetric Clustering Matrix to relate these insights. The results of clustering are then turned into a clustering diagram that displays all the insights together, showing their clustering patterns and overall inter-relationships.

HOW IT WORKS

STEP 1: List entities for clustering. List the *insights* captured from research findings that you want to compare against each other to find clustering patterns.

Step 2: Determine the relation between entities. The most commonly used relation is *similarity*, which measures how one insight in the list is similar to another.

Step 3: Determine a scoring scale to measure relations between entities. The most commonly used scale has four steps: 0 means no relation between entities, 1 means minimum relation, 2 means medium relation, and 3 means maximum relation.

STEP 4: Create a symmetric matrix.

Create a spreadsheet with a square symmetric matrix. For this, enter *insights* as both row and column headings. Each cell in this matrix represents a relation between two corresponding insights.

STEP 5: Score the relations.

Enter a relation score in each matrix cell. Scoring is best done as a team to reduce biases and get to as objective a score as possible.

STEP 6: Sort the matrix.

For small matrices (up to 30 × 30), you can do a manual sort of the matrix by shifting the position of columns and rows in the matrix so that two rows or columns having similar scores are kept next to each other. After a few shifts of columns and rows this way, you can see the entities getting reordered to reveal clusters.

STEP 7: Identify clusters.

After sorting the matrix, take a step back and look at the whole matrix and see how many insights clusters can be visually identified and defined.

STEP 8: Define and label clusters.

Ask questions like: What makes the entities in this cluster belong together as a group? Why is this cluster different from other clusters? Discuss as a group and define each cluster based on the similarity between entities. Appropriately label each cluster.

STEP 9: Capture insights and make frameworks.

Capture insights from the clustering patterns shown in the matrix. Are the clusters of the same size and density? If their density and size vary a lot, what does that mean? What can be learned from the different levels of clusters? If there are big overlaps between clusters, what does that mean? Discuss the clustering patterns and refine them as useful frameworks for concept generation.

STEP 10: Share insights and discuss.

Summarize findings and share with team members and other stakeholders. Discuss the insights and frameworks and use the feedback to revise your analysis. Document your process and results.

BENEFITS

Enables systematic analysis

Encourages comprehensiveness

Facilitates comparison

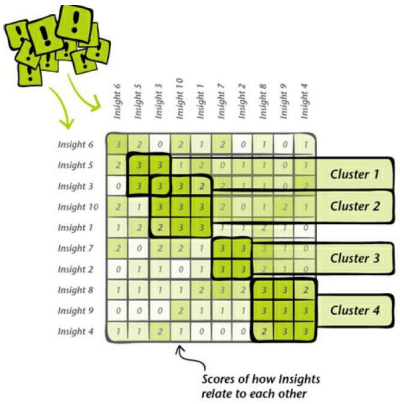
Handles large sets of data

Makes process transparent

Reveals patterns

Reveals relationships

WHEN TO USE



INPUT

List of insights generated from research findings

OUTPUT

A central diagram representing how insights are interconnected and clustered

14. Semantic Profile

Making profiles of entities based on a set of semantic scales and comparing those profiles

WHAT IT DOES

Semantic Profile is a method based on Osgood's Semantic Differential used in social sciences that measures peoples' attitudes about products, services, experiences, concepts, and similar entities. The method uses a set of semantic scales for measurement defined by two opposite adjectives, such as "simple" and "complicated," "weak" and "strong," or "important" and "not important."

HOW IT WORKS

STEP 1: Select entities to compare. The most commonly used entities are products, services, activities, brands, and user groups. Limit the list to ten most relevant entities for easy comparisons.

STEP 2: Define key attribute scales. Determine the most relevant attributes that are likely to comprehensively define the profile of entities selected. Less than ten attribute scales is usual.

STEP 3: Create a Semantic Profile diagram. Set up attribute scales with adjective pairs as end labels, for example, "cheap" and "expensive." Set up the scales in random order to avoid implied priority.

STEP 4: Create entity profiles.

Score each entity by placing markers on the semantic scales. Connect the markers vertically to form a zig-zag line profile for each entity. Use color-coding to visually differentiate the profiles.

STEP 5: Analyze patterns.

Compare entity profiles and recognize if there are similar ones forming clusters. Are there profiles that are diametrically opposite to each other in terms of their scores on the scales? Are there gaps between groups of profiles? What do these patterns mean? Reorder the polarity of the scales so that end labels are aligned, based on negative and positive meanings, if relevant. In this diagram, if profiles lean toward one side of the scales, what does that mean? Look for insights.

STEP 6: Capture insights and share them.

Document all the insights gained for the analysis and show them next to their respective places on the Semantic Profile diagram for easy readability and sharing among team members. Discuss patterns and insights.

BENEFITS

Facilitates comparison

Facilitates discussion

Identifies opportunities

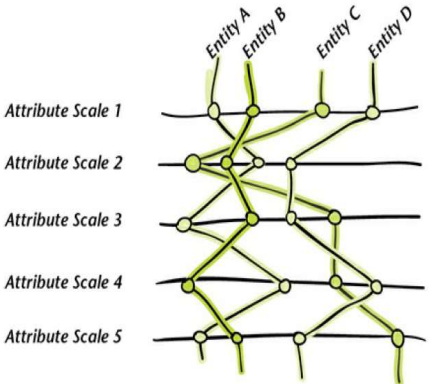
Visualizes information

INPUT

Entities or groups of entities to be compared

Attribute scales of interest

WHEN TO USE



OUTPUT

A visual comparison of a set of entities against multiple attribute scales

A visual comparison of different users or user groups against multiple attribute scales

15. User Groups Definition

Defining the different kinds of users present in a context

WHAT IT DOES

User Groups Definition is a method that maps different types of users according to a set of key attributes related to the project topic. It creates a 2 × 2 map based on two important attribute scales and represents users in relation to one another on that map.

HOW IT WORKS

STEP 1: List user activities and user types. Review user researcher findings. Distill findings into a list of user types with similar activities and behaviors. For example, in a research study of peoples' reading habits, the user types vary from casual readers to thesis students to language critics.

STEP 2: Identify attribute scales. Generate a list of attributes that apply to all user types. Sort the list to determine which attributes are most relevant to your topic.

STEP 3: Create a 2 × 2 map and plot user types. Use the two attribute scales identified to create the 2 × 2 map. Plot the user types identified earlier on this map. Refine the map working with team members.

STEP 4: Define user groups.

Study the user types in each quadrant. Identify the commonalities among their activities and their characteristics. Define each quadrant of the map as a user group and give it a descriptive name. In the example on the study of peoples' reading habits, the user group names might be *Professional Advancers, Spiritual Seekers, Self-Educators,* and *Active Escapists.*

STEP 5: Describe common characteristics of user groups.

Study the users represented in each user groups. Describe the commonalities among their characteristics.

STEP 6: Discuss and extend.

Can this map help describe the core user needs for concept exploration? Can these user groups be the core audience for concept development? Is it possible to focus on one or two user groups for further concept development?

BENEFITS

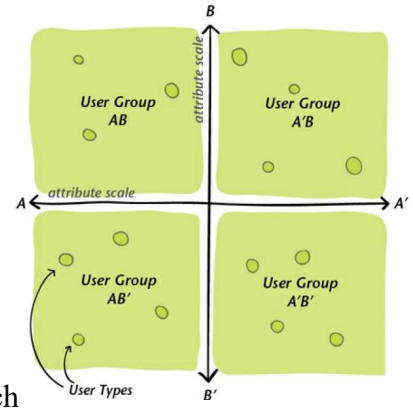
Builds higher-level systems

Facilitates comparison

Keeps grounded in research

Structures existing knowledge

WHEN TO USE



INPUT

Lists of user activities, behaviors, and statements from research

OUTPUT

Four distinct user groups strongly rooted in research

16. Compelling Experience Map

Mapping the entire user experience with five stages—attraction, entry, engagement, exit, and extension

WHAT IT DOES

The Compelling Experience Map is a framework developed at Doblin that takes a comprehensive view of any experience looking beyond the main focus of the experience to understand what happens before, during, and after. The framework divides any experience into five stages: Attraction, Entry, Engagement, Exit, and Extension.

HOW IT WORKS

STEP 1: Select an experience to analyze and create a worksheet for analysis.

Create a five-column worksheet with Attract, Enter, Engage, Exit, and Extend as column headings. Identify an experience that you want to analyze and discuss it among your team.

STEP 2: Describe the Attract stage.

Think about all of the interactions prior to an experience that generate interest in it. Trailers for upcoming films, print ads, billboards, online discussions, blogs, and other modes of communication all can be mechanisms for attracting users to an offering. Record all of the activities currently being done in the column of the worksheet.

STEP 3: Describe the Enter stage.

Consider what happens when the user arrives at the experience. What if anything is done to welcome the user to the experience? A chaotic ticket line in an event can affect a user's overall sense of the experience.

STEP 4: Describe the Engage stage.

This is the core offering. In a personal banking setting, it is the interaction that takes place between employees and customers, the ease with which transactions are done, and the information provided.

STEP 5: Describe the Exit stage.

This stage corresponds with the Enter stage, but refers to what happens when the user prepares to depart from the experience. It is the checkout line in a grocery store. It is the payment process in place at an online shop.

STEP 6: Describe the Extend stage.

This stage is similar to the Attract stage, but it refers to anything that happens after the experience that keeps the user engaged. Amazon's online recommendation system employs an Extend stage strategy by suggesting other book titles or products that have some connection with your purchases.

STEP 7: Rate the six attributes across the stages.

Each of the stages of the experience is measured against the six attributes (defined, fresh, immersive, accessible, significant, and transformative). Frequently the attributes are shown as horizontal lines running across all the five stages, and they are measured by changing the line thickness (or changing the color) on whichever stage attribute is relevant.

STEP 8: Analyze the experience map.

Review the map and consider why each stage is structured as it is. What about the existing conditions cause them to be this way? Is the experience compelling in all the stages? Which attributes are strongest where? Where are the opportunities for making the experience better?

BENEFITS

Broadens mindset

Focuses on experience

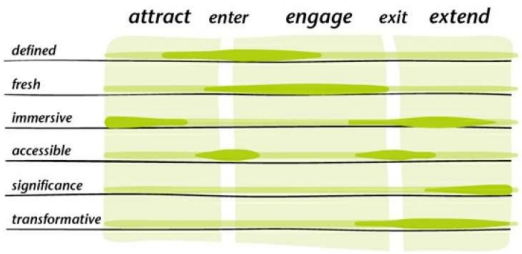
Identifies opportunities

Creates overview

Encourages comprehensiveness

Inspires ideation

WHEN TO USE



INPUT

Data from context and user research

OUTPUT

Understanding of strengths and weaknesses of the user experience at different stages of interacting with an offering

17. User Journey Map

Mapping the user's journey through the context

WHAT IT DOES

The User Journey Map is a flow map that tracks users' steps through an entire experience. This method breaks down users' journey into component parts to gain insights into problems that may be present or opportunities for innovations.

HOW IT WORKS

STEP 1: Generate a list of all the activities. Identify all the specific activities that occur throughout an experience (for example, rinsing, chopping, and disposing for cooking experience).

STEP 2: Cluster activities. Cluster related specific activities into higher-level activities (for example, rinsing, chopping, and disposing forming the higher-level activity precooking).

STEP 3: Show activity clusters as nodes on a timeline. Represent high-level activities as nodes and place them on a timeline as a flowchart. List the related specific activities under each of these nodes. Show arrows connecting the nodes to show the flow direction. If needed, include arrows showing feedback loops.

STEP 4: Call out problems and pain-points.

Identify pain points while activities are happening during the process. Highlight these problems or pain-points as call-outs attached to the appropriate node(s) or arrows.

STEP 5: Extend the map with extra information.

Extend the journey map with additional layers of information such as video clips of user activities, quotations from user studies commenting on process stages, or layout diagrams showing where activities take place.

STEP 6: Look for insights.

Study the whole User Journey Map as a team, refer to your research findings, discuss them, and look for insights. For example, an insight might be stated as: "While rinsing and chopping ingredients during precooking is enjoyable, disposing of waste is universally perceived as unpleasant."

STEP 7: Summarize the findings and share them.

Highlight these insights as overlay descriptions on the User Journey Map. Discuss the biggest opportunities for making the user journey compelling and delightful for users?

BENEFITS

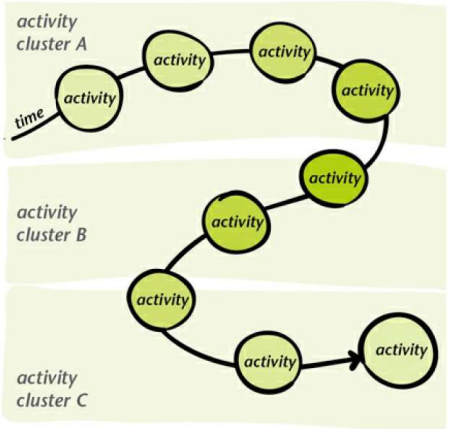
Focuses on experience

Reveals relationships

Structures existing knowledge

Visualizes information

WHEN TO USE



INPUT

List of all user activities happening in the context of study

OUTPUT

Visualization of activity clusters over time representing the journey users go through in a particular process/experience

Pain-points, insights, and opportunities along the user's journey

18. Summary Framework

Creating a framework summarizing key insights from analysis

WHAT IT DOES

The Summary Framework is a structured method used at the end of analysis to bring together key findings, insights, and design principles into an integrated whole. The framework provides a concise summary of what activities took place, the insights gained from each one, and what these findings indicate about opportunities for the future.

Any framework can be defined to have characteristics like:

It is a complete and comprehensive representation of a topic.

It is an overview showing only the high-level information; details are hidden.

It shows a structure, the relations among parts of a topic.

It is a single representation, usually with diagrams representing the framework.

It is a sharable representation used to support conversations.

How it works

STEP 1: Review the key findings from research and analysis.

Review the results from the many methods you have used during the project. Write a brief statement summarizing your major findings as your initial point of view. The statement should describe your assumptions at the start of the project and how it led you to frame the research and analysis.

STEP 2: Create a reference table.

Create a four-column table to summarize your work so far. Beginning with the left column, use the following headings: "Methods," "Findings," "Insights," and "Design Principles."

STEP 3: Create a Summary Framework.

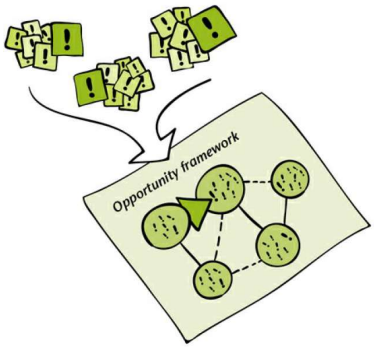
Often the insight clusters or design principles clusters are used to build the Summary Framework. As a team, review the clusters of insights or design principles, and start to build your Summary Framework as diagrams:

STEP 4: Describe the Summary Framework.

Write brief statements, descriptions, or stories that bring together the main ideas you want anyone to take away from the Summary Framework.

STEP 5: Share the results with the team, and discuss possible extensions.

Review the framework with team members and key stakeholders. Discuss how to further develop the framework. Is it comprehensive enough to guide the concept exploration activities? Does it capture the team's point of view? Does it sufficiently reframe the current situation? How promising is the framework for developing successful innovations?



BENEFITS

Improves communication

Keeps grounded in research

Makes process transparent

Supports transition

INPUT

All research and analysis data generated

OUTPUT

A table organizing key findings, insights, and principles

Summary Framework with main ideas to be carried forward

WHEN TO USE

19. Design Principles Generation

Transforming insights from research into actionable, forward-looking statements to guide ideation

WHAT IT DOES

Design principles fill the "intuition gap" that exists in most innovation projects between understanding needs and having a "magical" leap of intuition about solutions that meet those needs. This method is a way to purposefully transition from the insights that we have framed to begin to explore concepts in a disciplined manner, so that concepts we develop are fully grounded in objective research data rather than biased by subjective assumptions.

HOW IT WORKS

STEP 1: Gather all the insight clusters generated from many methods. Review the methods you have previously used, especially while in this Frame Insights mode, and gather all the insights, even the detailed ones related to particular observations.

STEP 2: Normalize them into a finite list of insights. Review the list of insights. Eliminate duplicates. Combine similar ones. Avoid redundancy. If insights sound too detailed, consider them as part of higher-level insights. Write short descriptions for each insight for establishing shared understanding among team members.

STEP 3: Generate design principles.

Use the insights as reference to brainstorm among your team members and generate design principles. Design principles are actionable, forward-looking prescriptive statements.

STEP 4: Find three to ten high-level design principles.

In a bottom-up approach your team might generate a large number of specific design principles from a large number of insights. If that is the case, it is a good idea to cluster them and narrow them down to three to ten high-level design principles to drive concept generation.

STEP 5: Summarize the design principles.

As a group, look at all the design principles and discuss how to refine them to be a comprehensive starting place for exploring concepts. Describe each design principle and list the related insights under them. It will help the team trace back and understand which user need each design principle is supporting.

BENEFITS

Improves communication

Keeps grounded in research

Makes process transparent

Supports transition

INPUT

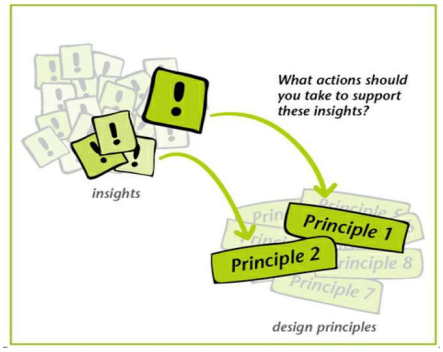
All research and analysis data generated

OUTPUT

A table organizing key findings, insights, and principles

Summary statements of main ideas to be carried forward

WHEN TO USE



20. Analysis Workshop

Conducting a work session to understand insights, find patterns, and make frameworks for ideation

WHAT IT DOES

The Analysis Workshop is a method used to gain shared understanding about what is happening in a context and to build analytic frameworks useful for concept generation. The method brings together a team of people with the purpose of using the observations and the insights already developed by the design team to align around the emerging patterns.

HOW IT WORKS

STEP 1: Plan for the workshop. Create a workshop goal statement and outline. The objective is to gain a shared understanding about what is happening in a context and to build analytic frameworks that can be useful for concept generation later.

STEP 2: Gather insights already defined. Review your research documents and gather all the insights you have developed, using many methods in this mode. Create a document describing each insight. Share it with participants to be used as a basis for the workshop session.

STEP 3: Facilitate the workshop.

Establish an environment that is conducive to openly sharing insights and having conversations. Provide a space where many teams of three or four can work comfortably. Make sure the basics are covered, such as sticky notes, pens, paper, and even snack foods.

STEP 4: Review insights and generate more if needed.

Use the first part of the workshop to review all the previously generated insights. Gain a shared understanding among all workshop participants. Allocate a short period for participants to reflect on the insights and generate more insights or revise existing ones.

STEP 5: Cluster insights.

Identify complementary insights and combine them to form clusters. Write brief descriptions that highlight key features of these clusters. Prepare brief write-ups to explain why you consider them to be a cluster of insights or what makes them a cluster.

STEP 6: Organize the insight clusters into analytical frameworks.

As a team review the clusters of insights and organize them in relation to each other. The clusters of insights may be organized as a network diagram or in different hierarchical levels like a tree diagram, or relatively position them in a position map diagram.

STEP 7: Debrief participants and summarize the workshop output.

Debrief at the conclusion of the workshop. Have different teams share their findings with one another. Allow time for discussion and for the possibility of higher level insights that might arise as the result of dialog. Compile the write-ups into output documents that can be shared with stakeholders.

BENEFITS

Brings in new perspectives

Builds higher-level systems

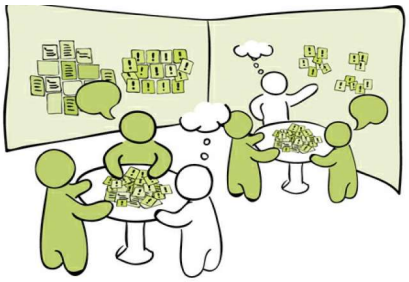
Facilitates discussion

Identifies opportunities

Promotes collaboration

Reveals patterns

WHEN TO USE



INPUT

Key research findings and insights

List of potential participants

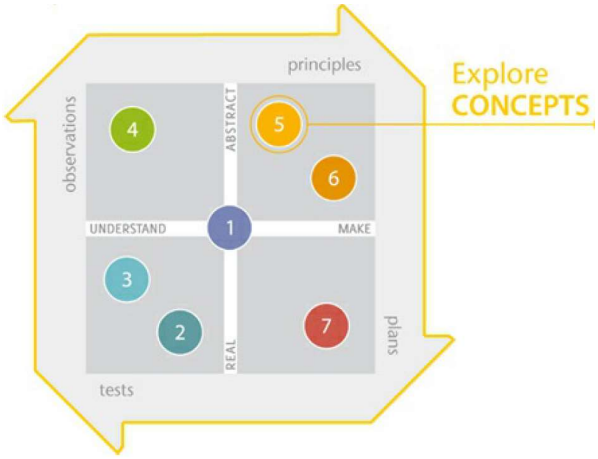
OUTPUT

Identification of key insights and high-level clusters of insights

Understanding of what those indicate about the context

mode **5**

EXPLORE CONCEPTS



Explore Concepts: Mindsets

Challenging Assumptions

Standing in the Future

Exploring Concepts at the Fringes

Seeking Clearly Added Value

Narrating Stories about the Future

Explore Concepts: Methods

1. Principles to Opportunities
2. Opportunity Mind Map
3. Value Hypothesis
4. Persona Definition
5. Ideation Session
6. Concept-Generating Matrix
7. Concept Metaphors and Analogies
8. Role-Play Ideation
9. Ideation Game
10. Puppet Scenario
11. Behavioral Prototype
12. Concept Prototype
13. Concept Sketch
14. Concept Scenarios
15. Concept Sorting
16. Concept Grouping Matrix
17. Concept Catalog

- The starting activities in this mode build on the patterns and insights gained from the previous modes.
- We take a strong point of view about how innovations ought to be built for the user and context needs.
- Exploring new concepts inherently involves "envisioning the future" through brainstorming, sketching, prototyping ideas, and storytelling. Explorations happen in nonlinear, continuous, and iterative cycles until new and valuable solutions and strategies are generated.
- The mindset for Explore Concepts is to be creative and open to new, perhaps radical ideas and ways of thinking; but at the same time, keeping sight of human-centered and context-driven principles for success that were identified in earlier modes.

1. Mindset: Challenging Assumptions

- Innovation teams are eager to quickly move to building concepts based on insightful findings from previous modes.
- When entering the mode of Explore Concepts, teams naturally follow their instincts to jump in immediately and get started on brainstorming ideas.
- What they might miss is uncovering the organization's or the industry's hidden assumptions and orthodoxies that prejudice the project in a given direction.
- The current "frame" around the area where solutions might lie may well have to be reframed. Innovators must first ask themselves, "Are we coming up with the right solutions?"

Organization	From assumptions…	To new ways…
Amazon	Mass-market book advertising	Personalized reading recommendations based on your navigation history
Apple	MP3 players	Managing personal music collections
Netflix	Brick-and-Mortar movie rentals on daily rates	Online managed library and home delivery (mailing DVD and instant streaming) on a subscription basis.
Nike	Shoes	Supporting runners in meeting goals

Organizations that create disruptive innovations and become successful are often leaders in exercising this mindset – abandoning conventional models and adopting new ways of thinking. The table shows a few examples of organizations that challenged assumptions in a timely manner and reframed their solution space, opening up drastically new opportunities for products and services.

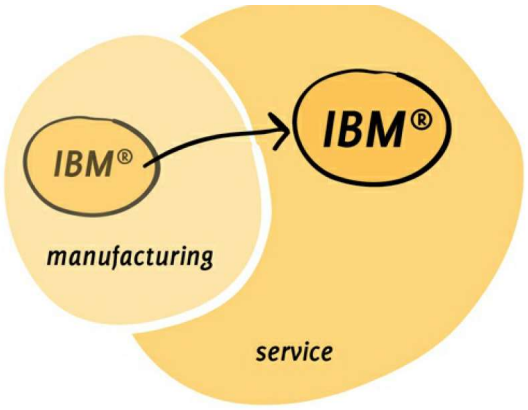
2. Mindset: Standing in the Future

- When you're planning the next phase of your career, a common approach is to ask yourself: "What am I good at now? And what can I do next?" But often a better approach is to ask: "Where do I want to be ten years from now? And what would it take to get there?"
- There are two ways of thinking about the future: In one, we stand in the present, looking forward at some desired future, and plan the steps that will take us to it. This way of thinking about the future is quite common, and usually leads to incremental innovation.
- Another way is to imagine ourselves standing in the future, after our innovations have already taken root, and to look back at how we must have gotten there.

"100 Dreams, 100 Minds, 100 Years," is Steelcase's 100th anniversary celebration project that will explore how the world will be 100 years from today. In this extraordinary collaborative project, peoples' dreams about that future are collected, analyzed for patterns, and shared. The project is built on the idea of standing in the future, imagining a world, and then using those visions as a way to guide us. It is also inspired by the notion that children instinctively imagine about the future that way.

3. Mindset: Exploring Concepts at the Fringes

- Even as we seek radical ideas standing in the future, we should never forget to explore ideas adjacent to, but outside of, our normal domain.
- These areas at the fringes of the business can contain opportunities for new offerings that actually strengthen core concepts, systems, and market positions, which are often overlooked.
- The fringes of an industry's concept space, by their nature, contain unexplored and often undeveloped opportunities that can lead to disruptive innovations and competitive advantage.



A well-known example of exploring the fringes is IBM, which shifted its entire strategy under Lou Gerstner [early 2000] from selling technology products, to selling the much higher-value services and support of business technology—moving IBM from the increasingly competitive computer "manufacturing" sector, where companies like Dell and HP were playing, into the high-margin "service" sector, where IBM's scale and scope of expertise gave them an advantage. This kind of peripheral thinking about what innovation can involve—possibly even a leap from one sector to another —is a bold mindset to have for exploring new frontiers.

4. Mindset: Seeking Clearly Added Value

- Discussions often devolves into a test of wills rather than a test of concepts. In particular, when multidisciplinary teams brainstorm, the outcome can be strongly influenced by the biases and preferences held by the different disciplines. Technologists will prefer ideas based on the latest gizmo; marketers will want to pursue ideas that are easy to explain and sell.
- But often these sorts of "pet" concepts create value for only one set of stakeholders: the people who came up with them.
- When exploring new concepts, innovators should always be seeking ideas that create or add value—whether for the user, the business, the economy, society, the environment, or any combination of these.
- This mindset is about always being alert to objectively identify and explore the concepts that deliver value more comprehensively than others.
- This leads to a higher proportion of focused, context sensitive concepts rather than scattershot brainstorming.

In the world of brainstorming, probably no company is as well known as Palo Alto–based design firm IDEO. The company's ideation methods have made headlines from BusinessWeek and Fast Company to ABC's Nightline, and helped launch a slew of iconic products. Most importantly they are famous for working in multidisciplinary teams that, having experts from different areas, are able to generate and recognize which concepts are the most valuable to all stakeholders in a project.

5. Mindset: Narrating Stories about the Future

- While we may have lots of great ideas in our heads, they are only useful if we communicate them effectively, and at all stages and modes of the innovation process, not merely at the end when a final presentation or report is often required.
- Storytelling is an effective way to express ideas that didn't previously exist or ideas that are abstract.
- Telling stories about the future, particularly while concepts are being explored, can trigger more concepts and help speculate on how they will be valuable in future scenarios.
- Stories need to be built on what we have already analyzed and understood about people and the context.
- Moreover, concepts must be clear and compelling to ourselves, to our team members, to our users, and to our client(s) if they are to succeed.

Kickstarter is a Web-based service organization creating a platform for helping individuals with creative projects in mind to get funding. Selected projects are published on Kickstarter for people (as investors) to pledge money to and help the project get funded. One of the key funding success criteria is how best the project creators can tell stories about their innovations through a short video.

Explore Concepts: Methods

1. Principles to Opportunities
2. Opportunity Mind Map
3. Value Hypothesis
4. Persona Definition
5. Ideation Session
6. Concept-Generating Matrix
7. Concept Metaphors and Analogies
8. Role-Play Ideation
9. Ideation Game
10. Puppet Scenario
11. Behavioural Prototype
12. Concept Prototype
13. Concept Sketch
14. Concept Scenarios
15. Concept Sorting
16. Concept Grouping Matrix
17. Concept Catalog

1. Principles to Opportunities

Transitioning from analysis to synthesis: exploring opportunities based on defined design principles

WHAT IT DOES

Design principles fill the "intuition gap," giving us a good structure to move from understanding needs to defining principles to exploring opportunities to generating concepts. This method is a way to purposefully transition from the Frame Insights mode to the Explore Concepts mode in a disciplined manner, so that concepts are fully grounded in objective research data rather than biased by subjective assumptions. Exploring opportunities before jumping into generating concepts is an important step that helps us first identify areas that can be more fertile than others. Design principles also help build alignment among the team.

HOW IT WORKS

STEP 1: Create a table to explore opportunities.

Collect all the insights and principles developed in previous modes. Create a table with your insights in the first column and the corresponding design principles in the second column. Create additional columns for exploring opportunities—single offering opportunities, system opportunities, and strategy opportunities.

STEP 2: Generate single offering opportunities.

Focus on each design principle and think of possible single offerings and enter them in the proper column. Depending upon the nature of the project, the single offering might be a product, service, process, message, or the like. Enter as many single offering opportunities as possible for each design principle.

STEP 3: Generate system opportunities.

In the same way that you generated single offering opportunities, take each of the design principles and think of system opportunities in the next column. System level opportunities indicate possibilities for a set of components like people, things, and environments, all working together for a common purpose.

STEP 4: Generate strategy opportunities.

Think of strategy opportunities as well, and enter them in the column for the corresponding design principles. Thinking of strategic opportunities early in the process, and not at the end, is a good way to ensure broader conversations among the team members.

STEP 5: View all opportunities together and gain insights.

Think through all cells in your table. Study the table as an overview and discuss all opportunities in relation to one another—single offerings, systems, and strategies. Discuss how to build on these opportunities.

BENEFITS

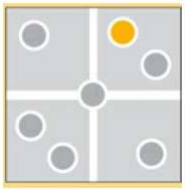
Broadens mindset

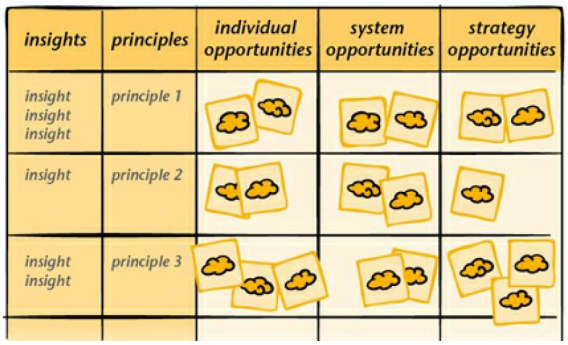
Identifies opportunities

Structures ideation

Supports transition

WHEN TO USE





INPUT

Insights and design principles from research and analysis

OUTPUT

List of potential opportunities at the individual offering, system, and strategic levels

2. Opportunity Mind Map

Organizing aspects of the project and mapping areas of opportunities for innovation

WHAT IT DOES

This method is used at the beginning of concept exploration. Using frameworks from previous methods such as the Summary Framework or Design Principles Generation, teams start to create visual depictions of where innovation opportunities may reside. These visual depictions start with the core topic in the center, and possible opportunities are explored from this center, to the periphery.

HOW IT WORKS

STEP 1: Define the core topic and related aspects.

Looking at the insights and frameworks developed during the Frame Insights mode, define the core topic that's most interesting to explore opportunities. Identify from previous research the key aspects related to this topic. For example, for a core topic "healthy living," the related aspects might be "health products/services," "food choices," and "education."

STEP 2: Map the core topic and related aspects.

Build the basic structure for the mind map: position the core topic as the center, define a scale represented by concentric circles to determine the different levels of relationship to the core topic, and lastly, divide the area around the topic and show them as the key aspects you want to explore.

STEP 3: Explore opportunities around the core topic and its aspects.

Based on the insights and principles developed in the Frame Insights mode, explore possible opportunities for each of the aspects mapped. Capture them in the map, positioning them according to the aspects they relate to and how they are related. Discuss ideas in teams and build on each other's ideas.

STEP 4: Refine the map according to the attributes.

Discuss attributes that are important to track in the early stages of exploration. For example, a useful common attribute is the "relevance to the core topic." Represent the most relevant opportunities closer to the center of the radial opportunity map, and place the least relevant ones toward the periphery.

STEP 5: Analyze the map and recognize areas for further exploration.

Analyze and evaluate the potential of the mapped opportunities. Discuss and determine which areas on the map are most interesting for further development.

BENEFITS

Creates overview

Identifies opportunities

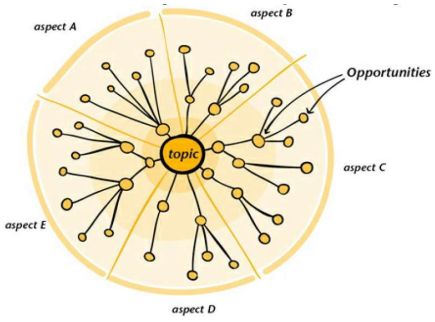
Reveals relationships

Structures existing knowledge

INPUT

Attributes for topic of interest

WHEN TO USE



OUTPUT

Collection of concepts/opportunities organized around a common attribute

3. Value Hypothesis

Clearly defining what value the intended solution will create for users and providers

WHAT IT DOES

Rather like an "elevator pitch," which succinctly describes the value of a new offering after it has been developed, a Value Hypothesis is a definition of the intended value for a possible new offering and is used at the beginning of development to frame the exploration area. A Value Hypothesis is created after a thorough investigation of the topic—based on a strong analysis of findings and insights from previous modes and on the generated design principles.

HOW IT WORKS

STEP 1: Study the findings from previous modes.

Particularly focus on the insights, opportunities, and principles developed. Discuss these in teams, define the priorities for your project, and try to arrive at a shared point of view for crafting a hypothesis.

STEP 2: Align on a structure for your Value Hypothesis.

There are innumerable ways in which a Value Hypothesis can be structured. The five-part model described above is a common and comprehensive structure. Think about the context of your project, and identify the key elements that should be defined to focus concept development.

STEP 3: List options and iterate.

Based on your research and insights, list as many options as possible for each of the parts in your hypothesis. Iterate between potential combinations among those parts and create a list of possible Value Hypotheses to follow.

STEP 4: Evaluate options and define your Value Hypothesis.

Discuss these combinations among your team and evaluate which can deliver the most value to both client and users. Select one combination and craft a cohesive and clear statement to communicate the value your team will be aiming to deliver. Share this statement with important stakeholders in the project.

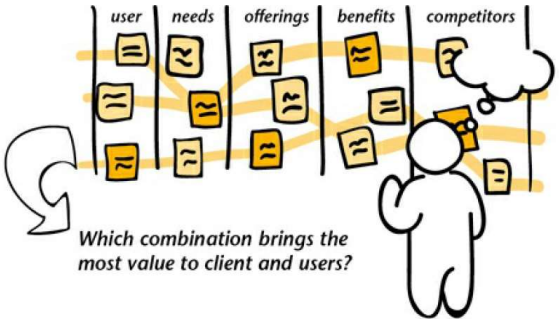
BENEFITS

Defines core values

Defines direction

Promotes shared understanding

Supports transition



INPUT

Insights, opportunities, and principles from research and analysis

OUTPUT

An “elevator pitch” statement about where the project is going

WHEN TO USE

4. Persona Definition

Defining user personalities for exploring concepts around them

WHAT IT DOES

In this method, user personalities—personas related to the intended innovation —are defined and documented first. Analyzing the types of potential users and organizing them according to sets of shared attributes define the personas. It is helpful to think of a persona as a personality type. A finite number of such personas are created and considered as representing the target users for the project.

HOW IT WORKS

STEP 1: Generate a list of potential users. Generate a list of potential users for your innovation. This should be based on your insights, design principles, Value Hypothesis, findings from ethnographic research, or results from other methods like Semantic Profile and User Groups Definition.

STEP 2: Generate a list of user attributes. Generate a comprehensive list of user attributes relevant to your project. These attributes may be demographic, psychographic (values, attitudes, interests, or lifestyles), or behavioral (motivations, intelligence, or emotions).

STEP 3: Define a finite number (three to ten) of user types.

Cluster users based on the common attributes they have. If you don't already have a sense of what attributes are shared by different types of users you could use an Asymmetric Clustering Matrix to find groupings. Label these clusters; they represent user types. Aim at having a manageable number of user types (three to ten) to build focus and more effective communication.

STEP 4: Create personas around user types.

For each user type, create a specific persona, a specific character. Create this persona as a combination of attributes defined earlier. Personas should be true to the findings of research and easy to empathize, give them descriptive and memorable titles. For example: Jane, the city gardener, 28 years old, lawyer, art enthusiast, and so on. Complement the persona profiles with quotes and anecdotes when possible.

STEP 5: Build a visual profile for each persona.

Create visualizations for the personas and define a standard format to organize the attributes, quotes, and anecdotes for each of them. The resulting documents should be highly visual, well communicated, and quick to read. Share them among team members to drive concept exploration.

BENEFITS

Broadens mindset

Builds empathy

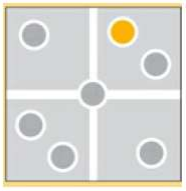
Defines direction

Facilitates storytelling

Inspires ideation

Structures existing knowledge

WHEN TO USE



INPUT

Findings from ethnographic research

List of potential users and user attributes

OUTPUT

Set of personas based on different user attributes to inform concept exploration

5. Ideation Session

Conducting structured sessions to generate concepts based on defined insights and principles

WHAT IT DOES

Compared to traditional free-form brainstorming, an Ideation Session is more structured. Concepts are generated using preorganized sets of insights, principles, and frameworks that teams have already developed. The method encourages generating as many concepts as possible without making judgments and is done in a short amount of time. The session brings together people with multidisciplinary backgrounds and encourages building on each other's ideas.

HOW IT WORKS

STEP 1: Plan for the ideation session.

Define what you hope to achieve through the Ideation Session, how many concepts you hope to gather, and how well they can be organized and refined in the given time period. Prepare guidelines describing rules of engagement, how teams should interact, structure their time, and complete assigned tasks. Create a plan with a goal statement, a compact schedule, an inspiring space, and multidisciplinary participants.

STEP 2: Select participants with a variety of expertise.

Involve the right combination of people for the session. For example, include people with different job functions and levels of seniority, with different points of view, different experiences and of ages, and those who will have a willingness to play along.

STEP 3: Organize insights, principles, and frameworks to guide ideation.

Gather all insights, principles, and frameworks that your team has produced during the earlier modes. Define how to present them and how they will be used during the concept-generating activities. Organize them as reference materials for the Ideation Session. Many times an organized list of design principles is used to directly generate concepts. In such a case, decide whether or not you want participants to address all of them or only a subset.

STEP 4: Create a comfortable environment for the session.

Create an environment that is conducive to creativity. Provide a space where many teams of three or four can work comfortably. Make sure the basics are covered, such as sticky notes, pens, paper, and even snack foods. Prepare the necessary support materials. Include graphic organizers or worksheets that will enable teams to easily capture their ideas.

STEP 5: Start the session and facilitate activities.

Facilitators play an important role in making these sessions successful. Their role should include: engaging the whole group at all times, keeping participants focused on ideation, encouraging clear conversations, stimulating and maintaining a good energy level, encouraging contribution from shy participants, promoting enjoyment and humor, asking evocative questions, and introducing idea stimulators when activities slow down.

STEP 6: Generate concepts.

The focus should be on producing as many concepts as possible. Time constraints can foster efficiency. Confine ideation to 45 minutes to 2 hours. Allow time for both individual idea generation and group discussions where team members can build off of another person's idea. Use open-ended ways to think, like: "How might we…?" and "What if…?" Have templates or worksheets to capture concepts.

STEP 7: Capture and summarize ideation output.

Make sure that each concept is captured or summarized in a one-page template, with a concept description, sketches, and other relevant aspects such as user values, provider values, concept strategy, capabilities, partners, and risks.

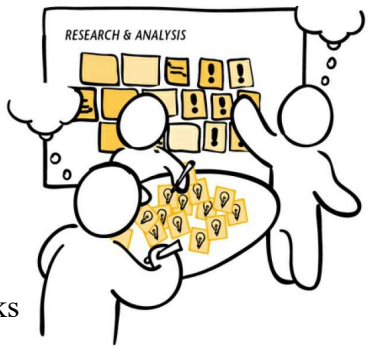
BENEFITS

Brings in new perspectives

Promotes collaboration

Structures ideation

WHEN TO USE



INPUT

Insights, design principles, and/or opportunity frameworks

OUTPUT

Numerous concepts (around the project's research findings)

6. Concept-Generating Matrix

Generating a comprehensive and well-grounded set of concepts based on research insights

WHAT IT DOES

A Concept Matrix takes two sets of important factors from analysis and creates a 2D matrix to help explore concepts at their intersections. The key to this method is to determine which set of factors to use. Each set should be comprehensive and complementary to the other so that the intersections are coherent with the goals of the project.

HOW IT WORKS

STEP 1: Select two sets of factors to build the matrix. Revisit the insights and frameworks that resulted from the work in Frame Insights mode. Discuss them in teams, speculate on how they can lead to valuable concepts, and choose two sets of factors for interaction. These should be complementary to each other and create interesting frames for concept exploration.

STEP 2: Populate the matrix cells with concepts. Brainstorm around the intersection of pairs of factors. Some cells may be more fruitful than others; this is fine, but make sure each cell is at least considered. Give each concept a compelling and memorable name. Write a brief description about the concept. Optionally, create thumbnail sketches or diagrams of each concept.

STEP 3: Use the method to further explore concepts.

Use the matrix as an overview to recognize and fill gaps, recognize critical areas in the matrix to do deeper brainstorming, compare concepts, or do initial evaluation of concepts as a team. Make other matrices with other sets of factors from the research as a way to explore more concepts.

BENEFITS

Broadens mindset

Reveals opportunities

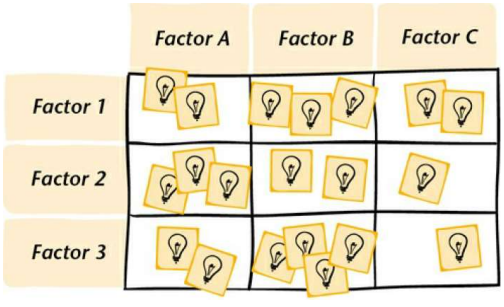
Encourages comprehensiveness

Identifies opportunities

Keeps grounded in research

Structures ideation

WHEN TO USE



INPUT

Two sets of factors or frameworks from research and analysis

OUTPUT

Collection of targeted/relevant concepts

7. Concept Metaphors and Analogies

Generating concepts in new ways by thinking of them as something else that is familiar

WHAT IT DOES

Framing concepts in terms of familiar metaphors or analogies can be a powerful way to inspire creativity during brainstorming. In this method, a metaphor is used to generate a concept by means of a vivid comparison but is not meant literally. For example, a mobile phone is a wallet; a tablet computer is a pad of paper. Analogies are more direct when making comparison; concepts are thought of as something similar in some ways to something else.

HOW IT WORKS

STEP 1: Determine a starting place for using metaphors and analogies.

Any insight about an innovation opportunity identified in the earlier modes is a good starting place to explore concepts using this method. Perhaps a Value Hypothesis Statement, with its early definitions of potential "new offerings," can be used as a base to create concepts. The design principles generated in the Frame Insights mode is another starting place.

STEP 2: Identify interesting metaphors and analogies.

As a team, take up the design principles (or other findings pointing to innovation opportunities) and use metaphors/analogies to conceive of ideas in interesting, inspiring, and unexpected ways. Think about the values that you aim to deliver and seek examples of how similar values are currently delivered. A simple yet powerful way is to use comparisons such as "acts like, looks like, or works like."

STEP 3: Generate concepts.

For each metaphor and analogy uncovered in the previous step, generate concepts around the possibilities they elicit. These concepts should aim at exploring the "how" or the "what if" questions. Build on the initial concepts by further considering the insights from the Know People and Know Context modes.

STEP 4: Document, discuss, and refine concepts.

Document all the concepts generated, add descriptions, share them with the team, and discuss how they could be evaluated and further developed.

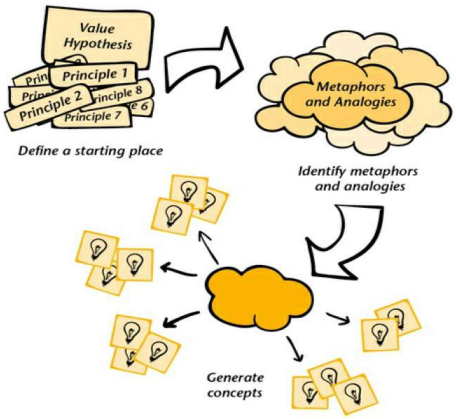
BENEFITS

Challenges assumptions

Improves communication

Inspires ideation

WHEN TO USE



INPUT

Insights, value hypothesis, or design principles from research and analysis

OUTPUT

Collections of interrelated concepts surrounding each metaphor or analogy

8. Role-Play Ideation

Generating concepts from another person's point of view

WHAT IT DOES Role-playing is an approach to brainstorming in which each member of the team plays the role of a different stakeholder in the concept area. Stakeholders include end users, designers, engineers, executives, marketers, suppliers, partners, and others. Brainstorming using this method can take individual team members out of their usual mindsets and assumptions, and greatly enrich the quality and quantity of ideas and generate useful discussions.

HOW IT WORKS

STEP 1: Identify important topics or concept areas for brainstorming. These topics might be based on the innovation opportunities suggested by the analysis frameworks, design principles, opportunity mind map, value hypothesis, or other sources.

STEP 2: Identify stakeholders. Make a list of all the stakeholders in the concept area you are considering. Identify the most important stakeholders for the purpose of brainstorming, if time is limited.

STEP 3: Generate concepts through role-playing.

Assign each team member a stakeholder role to play during brainstorming around the topic for a period of time. Using concept sketching as part of roleplaying can be very powerful. Vary the role-play periodically to sustain creative energy, in one of three ways:

Role Round Robin: Reassign team members to different roles in a "round robin" and repeat roleplay ideation.

Concept Round Robin: Have team members sketch ideas on paper in the character of their role, and then pass the sketch to the next player, for them to add to or refine based on their own role.

Concept Improv: Act out concepts as a group.

STEP 4: Discuss and share the concepts among stakeholders.

The concepts generated during the session are documented, including sketches and descriptions. Share these with actual stakeholders for feedback and conversations about potential refinements and buildup.

BENEFITS

Builds empathy

Challenges assumptions

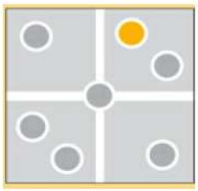
Facilitates discussion

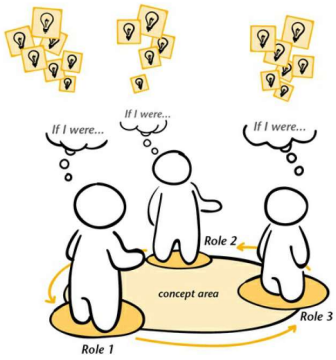
Inspires ideation

INPUT

Innovation opportunities from analysis

WHEN TO USE





OUTPUT

Collection of concepts rooted in empathy and understanding of stakeholder needs

9. Ideation Game

Engaging stakeholders in game-like activities to generate concepts

WHAT IT DOES

Classic games like Monopoly and chess not only engage players in enjoyable ways, but also help them learn about topics like transaction, strategy, growth, and success. These games improve the player's skills in problem solving, decision making, strategic thinking, tactical actions, creative thinking, and the like. The casual, fun, engaging, skill-building, and educational interactions games offer are used in this method as an opportunity for generating fresh concepts.

HOW IT WORKS

STEP 1: Define the intent of the game and gather the necessary input data. The intent is to build concepts for your project through game-playing. Concepts are generated based on inputs such as design principles, insights, and frameworks that your team has generated in the earlier modes. Collect these input data to be built into the game.

STEP 2: Understand the players. Understand the audience so that the game can be designed for their interaction. Consider the number of players, their backgrounds, and how they are going to engage.

STEP 3: Define the type of game to be built and played.

Decide on the appropriate game options for generating concepts. Choose a type of game that is familiar to most people. Decide if it should be a board game, memory game, card game, construction game, role-playing game, or some other type. Consider how much time will be needed.

STEP 4: Determine the key elements and build the game.

Brainstorm to design the game. First, key elements (goal, competition, rules, interventions, tasks, rewards, and game pieces) of the game need to be defined. The goal of playing the game is to generate as many concepts as possible. Provide an appropriate level of competition to make the game exciting and engaging.

STEP 5: Play the game and collect output.

Involve the right combination of players for the game. Arrange for a comfortable space for groups to engage in the game and generate concepts. Establish time limits. Brief all participants before the game starts about rules, task, rewards, and other details. Facilitate the game-playing session and reward participants. Capture all concepts generated during the game and organize them in documents.

STEP 6: Share the concepts and discuss refinements and prioritization.

Gather all the concepts generated during the game-playing session, including sketches and descriptions. Review concepts and remove un-substantive and irrelevant ones. Share the remaining concepts with team members and discuss prioritization, refinements, and build-up.

BENEFITS

Brings in new perspectives

Broadens mindset

Inspires ideation

Promotes playfulness

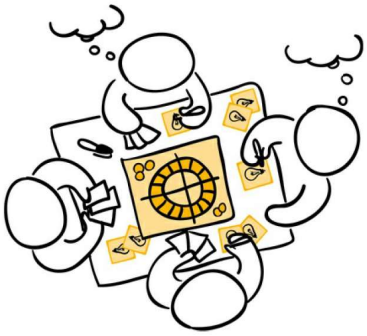
WHEN TO USE

INPUT

Insights, design principles, and/or opportunity frameworks

OUTPUT

Numerous concepts (around the project's research findings)



10. Puppet Scenario

Collaboratively creating current and future scenarios and enacting them with puppets as actors

WHAT IT DOES

The Puppet Scenario is an idea-generation game used to encourage participation and collaboration among different stakeholders. It has three elements: collective exploration, design, and games. The exploratory element brings together participants with diverse backgrounds, expertise, and competencies to ideate on possible future scenarios.

HOW IT WORKS

STEP 1: Prepare design cards, what-if cards, and construction kit before the workshop. Prepare about ten design cards containing glimpses from ethnographic encounters presented as pictures, illustrations, short statements, or questions. The content of the cards should be evocative and relate to specific situations that the participants can recognize from their own everyday life.

STEP 2: Share everyday stories using design cards. Participants in this method are potential users chosen through other methods. They form groups of four to six and each group should have an identical deck of design cards. Every participant chooses one or two cards and explains to the rest of the group why they have chosen that specific card and why it is interesting.

STEP 3: Evoke possible directions for your project using what-if cards.

On the shared board of stories ask participants to identify (with green and red markers, for example) areas of best design possibilities and most challenging problems. Introduce what-if cards, ask participants to place them on the board, and encourage discussions about future possibilities for your project.

STEP 4: Produce and stage a Puppet Scenario.

After thinking of both current and what-if stories, allow each group to choose elements from the board to construct a cohesive story. Using the construction kit, they should produce a Puppet Scenario by dressing puppets as actors with specific characters, preferably themselves.

STEP 5: Enact scenario, document, and discuss.

Rehearse and perform scenarios for other groups. As groups are enacting their final scenarios, designate a member from your team to take video and photos. Capture video one scene at a time, and record only what is enacted in front of the backdrop. Share the video scenarios with team members, participants, and other stakeholders for discussions.

BENEFITS

Brings in new perspectives

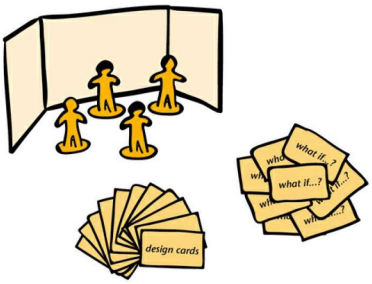
Facilitates storytelling

Inspires ideation

Promotes collaboration

Promotes playfulness

WHEN TO USE



INPUT

Everyday-life findings and insights from ethnographic research

OUTPUT

A collection of future scenarios and related concepts

11. Behavioural Prototype

Simulating situations of user activity to understand user behaviors and build early concepts

WHAT IT DOES

A Behavioral Prototype is a method used in the Explore Concepts mode (before physical prototypes are made) in which, based on early concepts, teams plan a situation with simulated artifacts, environments, information, or processes and involve users in it. Through observation and conversation, user behaviors to help the team further build on the concepts. In particular, this method is used to understand the five human factors (physical, cognitive, social, cultural, or emotional) around behaviors and create new value added concepts to support and improve those behaviors.

HOW IT WORKS

STEP 1: Identify the situation to be simulated.

Review your concepts to identify a specific situation in which a better understanding of user behaviors will be valuable for developing concepts. Determine what key behaviors you want to study. Plan a simulated situation. Include the necessary elements—actors, artifacts, props, and so forth in the simulated situation.

STEP 2: Prepare the environment for simulation.

Find or build a physical or virtual environment where participants can engage freely in the activity and exhibit the key behaviors you seek to understand. Use props to represent your concepts and to support participants' interactions with them.

STEP 3: Engage users in the simulated situation.

Invite participants to the simulation, determine if you want them to engage individually or in groups, and guide them through interacting with the environment.

STEP 4: Observe, document, and query.

Observe participants engaged in the activity. Note the physical, cognitive, social, cultural, and emotional factors that affect participants' engagement. Record their behaviors with video and note taking. Conduct a post-activity interview with participants to clarify questions you may have about why they chose to act in a certain way or how they felt about certain aspects of the situation.

STEP 5: Analyze and iterate.

Gather observations from video or notes, and analyze them for patterns of behavior. Review the findings in light of your concept. Consider adjustments to your concepts that encourage or support certain kinds of behaviors. Then, repeat the steps above until key user behaviors are supported well by your concepts.

BENEFITS

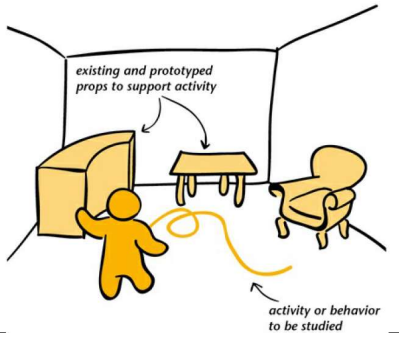
Builds empathy

Encourages iterations

Makes abstract ideas concrete

Promotes collaboration

WHEN TO USE



INPUT

Key behaviors and related concepts to be studied

OUTPUT

Refined concepts adjusted for user behaviors

12. Concept Prototype

Embodying concepts in tangible forms to get feedback from users

WHAT IT DOES

A Concept Prototype is used to assess the adoptability of an early concept among teams and with potential users by giving it physical form that can be experienced. Concept Prototypes embody the principle of "building to learn" in that the process of giving a physical form to a concept facilitates discoveries about it that often cannot be foreseen until it is made tangible. What emerges from the method is a kind of "reality check" that helps teams make well-informed decisions about the direction a concept needs to evolve."

HOW IT WORKS

STEP 1: Identify concepts to be prototyped.

Review concepts to identify those that will benefit most from testing in tangible form. Determine the kinds of readily available materials you will need to create a rough embodiment of the concept. Determine what kind of prototype—appearance prototype, performance prototype, or a combination of both—will be most useful at that stage of the process.

STEP 2: Create a prototyping space and build to learn.

It is a good idea to identify or create a space where your team can build and test Concept Prototypes. Assemble the kinds of materials and tools you will use for building, modifying, and testing prototypes.

STEP 3: Review prototypes, test, and discuss.

Present Concept Prototypes to your team in a review session and to a group of users. Test these prototypes and discuss each one in light of the stated design principles, user needs, form factors, human factors, and other dimensions. How does it feel to hold the prototype? Is it intuitive? Comfortable? Does it make sense?

STEP 4: Modify prototypes and iterate.

Build on existing prototypes, modify them, or create new ones to reflect input gathered through the review process. Iterate and continue to incorporate feedback into the prototype.

STEP 5: Summarize key learning.

Use the conclusion of the review sessions to record the key learning and results from testing. Summarize how the prototype evolved from an initial manifestation to a final desired state. Share this information among team members and stakeholders to reinforce decisions about further development.

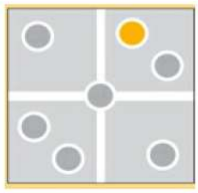
BENEFITS

Encourages iterations

Makes abstract ideas concrete

Promotes collaboration

WHEN TO USE



INPUT

Concepts that can benefit from testing in tangible form

OUTPUT

Refined concepts adjusted around how potential users interact with prototypes

13. Concept Sketch

Visualizing concepts as sketches to show how they work in abstract terms

WHAT IT DOES

Concept Sketches convert ideas into concrete forms that are easier to understand, discuss, evaluate, and communicate than abstract ideas that are described in words. Sketches powerfully augment written descriptions and help ideas be communicated more rapidly and effectively. Since sketching is about making an abstract idea concrete, it makes us think through the issues of embodying the idea in reality, and it gets us closer to refined concepts.

HOW IT WORKS

STEP 1: Assign sketching tasks to team members. To ensure a smooth work process, assign some team members as designated sketchers, while others focus on verbal ideation and communication.

STEP 2: Gather early descriptions of concepts already generated. Collect the description of concepts suggested by the analysis frameworks, design principles, opportunity mind map, value hypothesis, ideation session, and other methods. Sketches may be prepared beforehand and distributed as a prop for discussion or drawn live as an augmentation to discussion. Often both approaches are used.

STEP 3: Sketch out the core idea.

One idea, one sketch. Force yourself to capture the idea in a single representative image. Communicate only the core idea under discussion through this sketch. A high degree of artistry or realism is rarely necessary. Sketches can be very rough at this stage and can be drawn by anyone; no drawing skills are needed. In fact, if sketches have too many features or details present, it may hinder communication at this early stage.

STEP 4: Move from rough figurative sketches to more detailed ones.

Initially make rough figurative sketches that are good for quick visualization ("What if we did something like this?"). Later on you can move on to detailed figurative sketches that are good for seeing the concept as more real ("What would that idea really look/feel like?").

STEP 5: Capture every sketch and discuss.

Capture every sketch, from paper or from the whiteboard. Document every sketch with small descriptions. A concept sketch that may seem unimportant at this stage may have more value later in the process when concepts are combined into solutions.

BENEFITS

Facilitates discussion

Helps refine ideas

Makes abstract ideas concrete

Reveals relationships

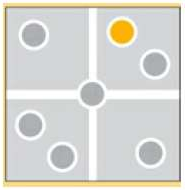
INPUT

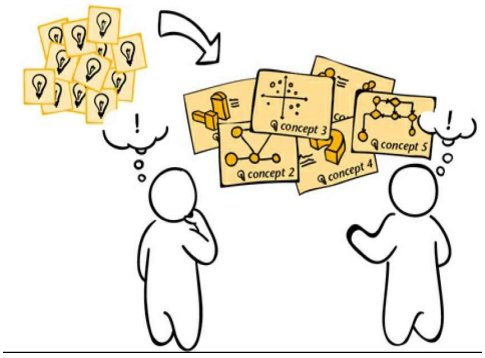
Concepts that can be explained by sketches

OUTPUT

Visualizations that show what concepts look like and how they work

WHEN TO USE





14. Concept Scenarios

Illustrating concepts as real-life stories featuring users and context

WHAT IT DOES

While exploring concepts it is useful to visualize them working in the real world. One way to do this is through visualizing real-life scenarios or stories. Teams generate short scenarios as a series of sketches, illustrations, or photo collages to express how that concept will be used by potential users in proposed situations. These scenario sketches are great places to have discussions among team members.

HOW IT WORKS

STEP 1: Select concepts for scenario making. Go through a set of already generated concepts and identify ones that you think will get better clarity by "imagining" them in real-life situations.

STEP 2: Imagine a scenario to show how a concept works. Take your concept, understand it well, and then think of possible situations in which that concept will work. Imagine the people involved and the context. Imagine the key interactions or instances that you want to show as a strong demonstration of the selected concept. Figure out what happens in between. Tie together all instances into a story.

STEP 3: Rethink the concept during scenario making.

While imagining the users and the context you might realize that the original concepts need to be rethought. Modify or enhance the concepts.

STEP 4: Illustrate the scenarios.

Make a series of illustrations to show the imagined situations. Include users and other people related to the concept in these illustrations. Ensure that the illustrations just touch on the main aspects of the concept only. Avoid extraneous details that could confuse or take away from the main flow of the story.

STEP 5: Discuss the scenarios and build on the concepts.

Express the concept scenarios to one another in team sessions as well as to other stakeholders. Discuss how the concept is adding value to the imagined situations—its users and the context. Think about ways to enhance that value and move to further concept building.

BENEFITS

Facilitates discussion

Facilitates storytelling

Helps refine idea

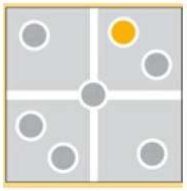
Improves communication

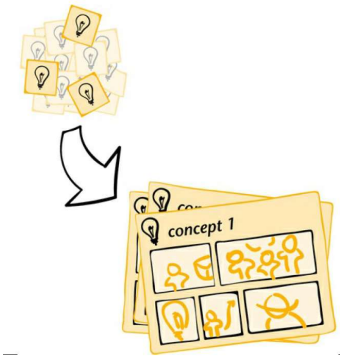
Inspires ideation

INPUT

Concepts generated in Ideation Sessions

WHEN TO USE





OUTPUT

A set of scenarios illustrating how concepts will exist in real-life situations

15. Concept Sorting

Combining, normalizing, and organizing concepts into related groups

WHAT IT DOES

Concept Sorting is a disciplined effort to go through a collection of concepts, rationally organize them, and categorize them into groups. The concepts are most often generated during focused ideation sessions. But, concepts may also originate during any point in the innovation process, during Frame Insights, Know People, Know Context, or Sense Intent.

HOW IT WORKS

STEP 1: Collect generated concepts.

Collect all concepts, originated from ideation sessions and all other methods and modes in one place.

STEP 2: Normalize the concepts.

Since concepts come from many methods and modes they will be differently conceived and expressed. Some concepts may be about a fine detail and some others about a complex system.

STEP 3: Sort the concepts.

Decide if you want to make a list and sort them using software or if you want to use sticky notes and sort them on a wall surface. Sort the concepts based on a rationale agreed upon by the team. Similarity between concepts is the most common rationale. Start with sorting concepts into a large number of smaller groups. Then, combine these smaller groups into larger groups forming the next level in the hierarchy.

STEP 4: Refine concepts and/or generate new concepts.

As discussions take place during sorting, new concepts surface. Capture these new concepts, describe them as others, and include them in the sort. Refine the existing concepts too as discussions suggest.

STEP 5: Review concept groups and discuss.

Name the groups in such a way that the name reflects the true essence of the grouped concepts. Use jargon-free words so the names are easily understood by all team members. Discuss the resulting groups, and think of ways to refine the groups by moving concepts around or adding new ones. Are the groups independent or codependent? What are the themes emerging from the groups? Are there obvious themes missing?

BENEFITS

Builds higher-level systems

Encourages comprehensiveness

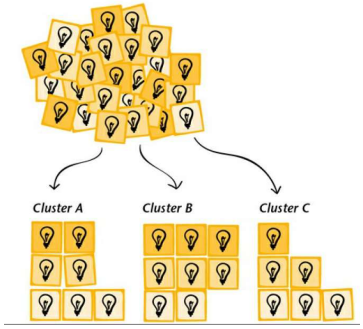
Facilitates discussion

Gives focus to the process

Reveals relationships

Structures existing knowledge

WHEN TO USE



INPUT

All concepts generated to this point

OUTPUT

Groupings of concepts organized around commonalities

16. Concept Grouping Matrix

Scoring relationships between concepts and revealing concept groups

WHAT IT DOES

A Concept Grouping Matrix is a method for scoring relationships between concepts and sorting them into groups based on the collective strength of one-to-one relationships. It is a Symmetric Matrix with the same list of concepts plotted on both axes. Cells in the matrix represent the interaction between two corresponding concepts. Teams assign scores in these cells that represent the strength of the relation between the two concepts.

HOW IT WORKS

STEP 1: Compile a list of concepts.

Gather all the concepts generated from various activities and compile them into a single list. They should be named in a standardized way and should be at about the same level of scale and scope.

STEP 2: Set up the matrix and score relations between concepts.

Create an interaction matrix with the same list of concepts on both axes. Score each concept against all the others in the matrix by entering a relationship strength value in the corresponding cell. This involves giving each pair of concepts either a low score (not similar) or a high score (very similar). The granularity of the scoring scale is important.

STEP 3: Sort the matrix and identify groups of concepts.

For small matrices (up to 30 × 30), you can do a manual sort of the matrix by shifting the position of columns and rows in the matrix so that two rows or columns having similar scores are kept next to each other. After a few shifts of columns and rows this way, you can see that the entities are reordered to reveal groups. For larger matrices (more than 30 × 30), it is better to use available statistical algorithms to sort the matrix for efficiency.

STEP 4: Define and label the concept groups.

Discuss the logic behind the visible groups in the matrix. Define and describe these groups as a team. Are there overlaps? Are there gaps? Are they comprehensive? Think of good titles for each of the concept groups.

BENEFITS

Enables systematic analysis

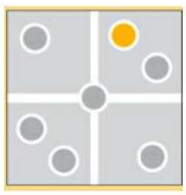
Encourages comprehensiveness

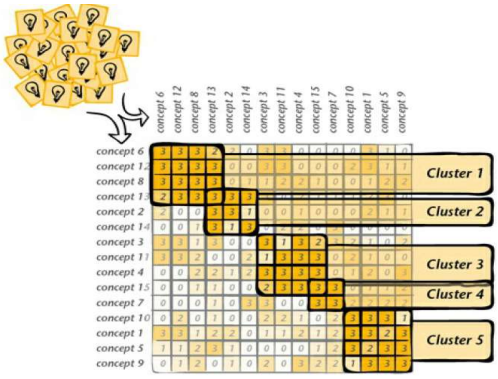
Handles large sets of data

Reveals patterns

Reveals the unexpected

WHEN TO USE





INPUT

A list of all previously generated concepts

A matrix tool for scoring and sorting

OUTPUT

Concept groups based on individual relationship strengths

17. Concept Catalog

Organize key information about concepts in a central location for searching and browsing

WHAT IT DOES

The Concept Catalog is a central repository that collects and organizes all relevant information of concepts generated during a project in one location. For small projects, the catalog could be thought of as a simple spreadsheet in which the concepts and the key information are organized in rows and columns, respectively.

HOW IT WORKS

STEP 1: Set up a base for creating a catalog.

Set up a base for recording key information about concepts, depending on the size and scope of the project—for example, a spreadsheet for small projects and a relational database for more complex projects.

STEP 2: Gather and enter basic information.

Gather all the concepts generated from ideation sessions and other activities. Input all basic information about the concepts, including name, description, source, illustrations, annotations, links, and any other relevant tactical details.

STEP 3: Select and apply tags for each concept.

It is generally best to select tags from a predetermined list that is relevant to the project, team, or organization, so that tags are consistent within and between projects. The tags may be project-specific such as design principles, user value, business value, or user activities supported. The tags may also be generic such as the Ten Types of Innovation.

STEP 4: Search and recall concepts during the project.

Use the catalog throughout the project to search for and recall details about specific concepts, or for groups of concepts related to a specific project task or team exercise (e.g., “Show us all the concepts related to the user activity ‘Finding information about the National Parks’”). Use the catalog as a reference for other projects as well.

BENEFITS

Builds knowledge base

Builds for future reference

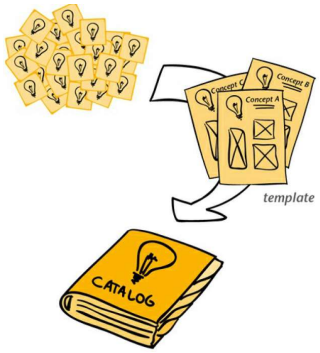
Handles large sets of data

Organizes information for easy access

Promotes shared understanding

Supports transition

WHEN TO USE



INPUT

Set of refined concepts (generated in previous methods)

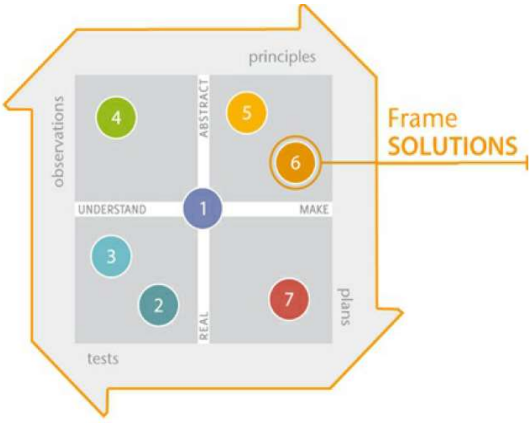
OUTPUT

Organized and searchable archive of concepts

mode **6**

FRAME SOLUTIONS

- Concept explorations produce a rich set of concepts.
- The next challenge is to combine compatible and valuable concepts into reliable and systemic solutions that are actionable for future successful implementation.
- It is clear that a single concept generated during the exploration mode alone is unlikely to satisfy all principles or design criteria.
- Potentially valuable concepts need to be integrated with one another for arriving at synergic solutions.
- Careful evaluation is critical to find out which concepts are promising and worth pursuing.



FRAME SOLUTIONS
mindsets

The Frame Solutions mindset is about building on the concepts created in the Explore Concepts mode, connecting them with each other to make systems-level solutions that meet desired design criteria or principles. In this mode, the mindset is also about integrating concepts into synergic solutions, compared to Explore Concepts in which the mindset is about creating new concepts independent of each other.

Mindsets

- Conceiving Holistic Solutions
- Conceiving Options
- Making Value Judgments
- Envisioning Scenarios
- Structuring Solutions

Mindset: Conceiving Holistic Solutions

- Just as a painter working on a detail of a canvas steps back to gauge its effect on the whole, innovation teams often step back from individual concepts and begin to look for holistic systems-level solutions.
- In this mindset, the focus of the team shifts from parts to the whole. Looking holistically at the pool of individual concepts, generated during the earlier modes, the team begins to think about how some of those individual concepts might be combined to form systems or constellations of complementary offerings.
- The mindset is to see the value of the whole synergic system as opposed to what individual concepts entail.
- Teams talk through different possible configurations of concepts and evaluate which systems of concepts are optimal for the given context.
- It is like experiencing the whole painting as a work of art, a full expression, compared to seeing what the individual brush strokes have done on the canvas.

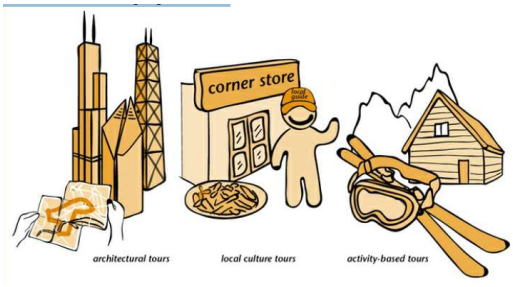
Boeing Company, one of the largest aircraft manufacturers in the world, excels in practicing synergic and coordinated teamwork in building their aircrafts. Researchers, engineers, designers, information technologists, psychologists, interior architects, fuel technologists, economists, instrumentation engineers, and meteorologists, all come together to build Boeing aircrafts as holistic solutions.

While the attention to detail is crucial to the safe functioning of aircrafts, the synergy with which all the parts fit together is as crucial. Boeing employs thoughtful practices to bring together a multidisciplinary team to design, build, test, and maintain such a complex product like an aircraft.

Mindset: Conceiving Options

- In the Explore Concepts mode, innovation teams are primarily focused on generating concepts, whereas in the Frame Solutions mode, teams start to pay attention to the space in between concepts, the relationships, or the connections that tie them together.
- The mindset is about sensing affinities among concepts and thinking of those connected concepts as a cohesive group.
- A manageable number of such cohesive groups are created, and each of them meets the defined innovation intent in a different way.
- Such cohesive groups, when combined, become a set of options to choose from for further refinement. The objective is to form a rich set of options, each option being a specific synergic combination based on complementary relationships.
- It is also about recognizing the right set of options that fits well within the context and meet peoples' needs.

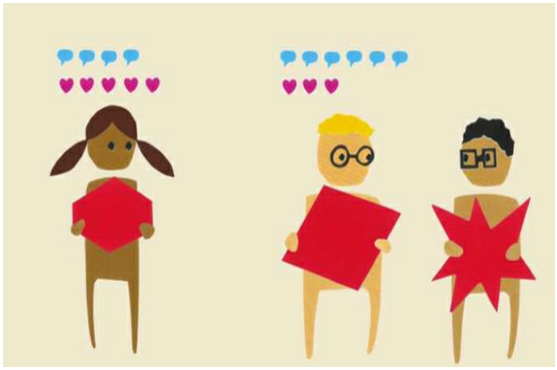
Peoples' travel and vacation expectations are no longer place-driven. Travel behaviors are changing, evidenced by the rapid growth in personalized tours, cultural tours in local areas, activity-based vacations like skiing, interest-based tours like cooking, and extreme experiences. The travel industry has been responding to these changing behaviors well by providing a variety of option packages for their customers tailored to their preferences.



Mindset: Making Value Judgments

- Thinking about important measures for evaluation is closely entwined with conceiving options.
- At the same time that individual concepts are being combined into solutions, it is natural to consider their pros and cons in light of various criteria.
- The key is to identify criteria that have the most bearing on the given situation and to judge how different solutions align across those criteria.
- For example, someone working on concepts for a fast food restaurant might develop solutions that optimize speed of service at the expense of ambiance.
- A different solution for an intimate dining restaurant might reflect an inversion of such criteria, with ambiance emphasized over speed of offering. Therefore, calibrating and analyzing the relative benefits of solutions in light of important criteria can help in conceiving optimized solutions.

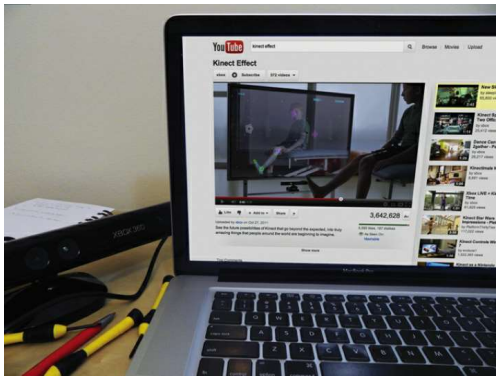
OpenIDEO is a platform built on the idea of open innovation and it takes up social reform challenges and opens them out widely for ideas and participation. Anyone can post their inspirations, ideas, and opinions about how to solve these challenges. People can build on each other's ideas and develop their own solutions and post them. Making judgments about the value of these solutions is also done in an open way in which people rate and comment on the solutions that they think best solve the problem according to the given criteria. Value judgments come from people, and collectively they become a reliable measure to select and further develop promising solutions.



Mindset: Envisioning Scenarios

- While trying to find out the best possible solutions, a big part of the mindset in this mode is about envisioning what an overall solution might look like or how it might operate in the world.
- Creating stories about the future is also about translating systems-level solutions into narratives that can help others understand how the different components will work together.
- For doing this, innovators are always trying to enhance their ability to narrate possible future scenarios in compelling ways. Envisioning the future is often most effectively imagined through visualizations expressed in diagrams, comic strips, animations, videos, slide stacks, and similar media.
- Even thinking about how to enact possible future scenarios helps here. The stories that innovators conceive ought to be different for different audiences like clients, outside experts, end users, and investors.
- Thinking about what to emphasize in stories for different audiences is useful for making the solutions actually work for them.

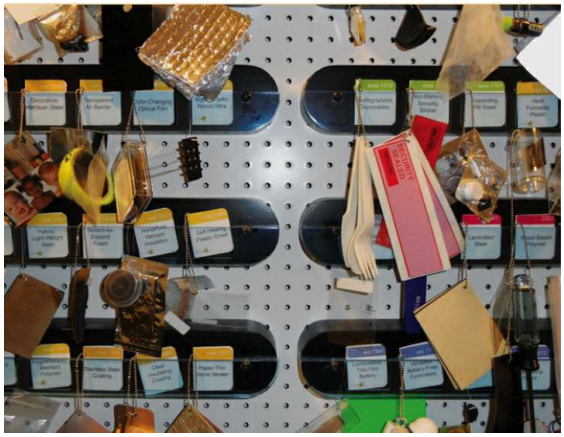
Creating vision videos is one way for organizations to envision future scenarios. Kinect is a gaming device that works with Microsoft's Xbox 360® and uses sensors to turn peoples' voice and motion to actions on the screen. The team went beyond perfecting the gaming solution, to getting to know how people are creatively using the device—helping children with autism, supporting doctors in their surgery rooms, helping people play music without instruments, and in other unexpected ways. Calling this "Kinect Effect," the team created vision videos based on such evidence to show future scenarios, to help teams conceive new possibilities, and to communicate Kinect's potential to the world.



Mindset: Structuring Solutions

- In the Explore Concepts and Frame Solutions modes, teams generate a number of ideas at varying levels of organization—from granular concepts to systemic solutions.
- This mindset is about gathering all these ideas and creating organizing structures, most often, arranged in hierarchies. Another way to imagine this organizing structure is using matrix thinking in which selected systemic solutions are on one dimension and a number of their attributes are on the other.
- Examples of attributes include intended users, user needs, related principles, user value, provider value, and strategic importance, among others. Looking at the interactions in the matrix, we can start to see how similar attributes cause solutions to group together.
- The organizing structure for imagining the system of solutions could also be in the form of catalogs, in which solutions are classified under categories just as books are organized in libraries. A third way is to imagine solutions being organized in relational databases, where browsing, searching, sorting, and other interactive sessions are possible.

Understanding that it is difficult for innovators, do-it-yourselfers, artists, inventors, and designers to source materials, Inventables built an innovative online store to support their needs. Inventables does this by selling a wide variety of materials in small quantities in well-organized retail channels. Color-coding and labeling systems have let the organization structure their offerings in engaging and compelling ways.



FRAME SOLUTIONS

methods

1. Morphological Synthesis
2. Concept Evaluation
3. Prescriptive Value Web
4. Concept-Linking Map
5. Foresight Scenario
6. Solution Diagramming
7. Solution Storyboard
8. Solution Enactment
9. Solution Prototype
10. Solution Evaluation
11. Solution Roadmap
12. Solution Database
13. Synthesis Workshop

1. Morphological Synthesis

Organizing concepts under user-centered categories and combining concepts to form solutions

WHAT IT DOES

Morphological Synthesis is a method for solution generation that comes from the engineering discipline. As a design method it starts with a set of categories under which concepts are organized. You can use this method to organize already generated concepts or generate new ones.

HOW IT WORKS

STEP 1: Select user-centered categories to organize concepts.

Make a list of user-centered categories that you want to organize your concepts. These categories could be a list of user needs, user activities, product functions, or even a list of design principles.

STEP 2: Create a morphological chart with concepts filled in.

List the categories in the first row. Show the related concepts below each category.

STEP 3: Combine complementary concepts into solutions.

Select concepts from each category, or column, and combine them with complementary concepts from other columns to form combined concepts, called solutions. Write a brief description of how the solutions are systemic in nature.

STEP 4: Compare and evaluate the different solutions.

Rank and order your solutions according to their ability to meet as many of your user-centered criteria as possible.

STEP 5: Move to evaluation and refinement of solutions.

Document the solutions and discuss them. How can these solutions be evaluated for further development? How can they be refined as a complete solution?

BENEFITS

Builds higher-level systems

Creates options

Encourages comprehensiveness

Structures existing knowledge

INPUT

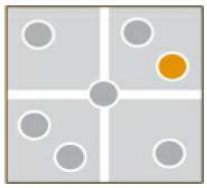
User-centered categories to organize concepts

Previously generated concepts

OUTPUT

Holistic solutions composed of complementary concepts

WHEN TO USE



2. Concept Evaluation

Rating concepts according to their value to users, providers, and other stakeholders

WHAT IT DOES

Concept Evaluation is a method for evaluating concepts according to how much value they bring to users and providers. Concepts are evaluated with a user-value and a provider-value score. The two scores are translated into coordinates so that the concepts could be plotted on a scatterplot diagram.

HOW IT WORKS

STEP 1: Assemble a list of concepts to be evaluated.

It is not uncommon to generate hundreds of concepts through ideation. Through discussions, careful considerations, combining, and recombining concepts, it is possible to define a finite number of concepts for evaluation.

STEP 2: Create your user-value and provider-value criteria.

Refer to insights and principles from user research to determine what benefits matter most to your targeted users. Examples of user value include statements such as easy to use, reduces carbon footprint, or promotes community. Refer to findings from context research to determine what benefits matter most to the provider.

STEP 3: Create a concept evaluation matrix.

Create a spreadsheet with your concepts listed in the first column and your user-value and provider-value criteria listed in columns to the right as two separate sections. Add a total value column for each user-value and provider-value sections.

STEP 4: Score concepts.

Select a scale to score each concept against the two different criteria—user value and provider value. In most cases, a 5-point scale will be sufficient. Add up the scores for each concept and record it in the "Total" columns at the end of each criterion.

STEP 5: Plot concepts onto a map.

Create a map with user value and provider value as the vertical and horizontal axes. Plot the concepts in this map based on each concept's total user-value and provider-value scores.

STEP 6: Analyze the concept distributions.

Draw a diagonal line connecting the high end points of the two scales. This diagonal divides the map into two triangular areas. The concepts in the high user value and high provider-value triangular area are to be considered high priority. These are concepts that need more attention for further development.

STEP 7: Share these findings and discuss the next steps.

Discuss the next steps based on these evaluations. Although the immediate focus for further development should be on high-value concepts, the concepts in the low value triangle in combination with high-value concepts will also be desirable to pursue for further development.

BENEFITS

Balances user and business needs

Enables systematic analysis

Facilitates comparison

Gives focus to the process

Keeps grounded on research

Supports decision making

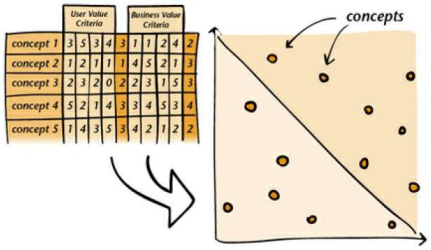
INPUT

List of most relevant concepts

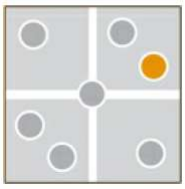
User and business criteria

OUTPUT

Map of concepts based on the assessment of user and provider value



WHEN TO USE



3. Prescriptive Value Web

Showing how value will flow among stakeholders as new concepts are introduced in a system

WHAT IT DOES

A Prescriptive Value Web is a network diagram showing all the stakeholders in the system as nodes. The values that are exchanged through the system are shown as links connecting the nodes. It shows new relationships among stakeholders if a possible concept is to be implemented. Unlike Descriptive Value Webs, Prescriptive Value Webs show how the value will flow when new nodes or links are introduced or existing nodes or links are modified or delinked. The Prescriptive Value Web is a generative tool that helps us think of possible future states in the system.

How it works

STEP 1: List stakeholders and key concepts.

List all the stakeholders that would be affected by the implementation of key concepts that you want to visualize. The stakeholders include customers, your organization, partnering organizations, competing organizations, suppliers, distributors, retailers, relevant government agencies, and any other entity that may be introduced by the new concept you are considering.

STEP 2: Describe the relevant value flows.

Consider the full range of values that will be exchanged as the result of your concepts. Beyond common values like money, information, materials, and services, consider other values that you want to track, such as goodwill and customer loyalty.

STEP 3: Create a draft Prescriptive Value Web.

Draw a network diagram with nodes representing stakeholders and links (arrows) representing value flows. If new nodes are introduced as part of your key concepts, show them too. If a current link is deleted from the value web, indicate that on the diagram.

STEP 4: Compare Prescriptive and Descriptive Value Webs.

Refer to your Descriptive Value Web created in the Know Context mode and juxtapose it with this Prescriptive Value Web to see how your concepts will alter the existing system by adding new value.

STEP 5: Review and refine the value web.

Discuss the value web with team members and experts to test and challenge the underlying assumptions. Does the Prescriptive Value Web rightly reflect the impact of your concepts on the system? What are the implementation challenges to achieve the new value flows in the system?

BENEFITS

Facilitates discussion

Makes abstract ideas concrete

Promotes shared understanding

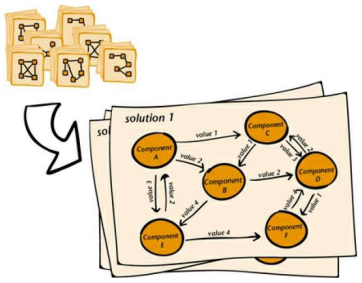
Reveals relationships

INPUT

Concepts and list of all stakeholders in the system

OUTPUT

Visualizations of new value exchanges caused by concepts



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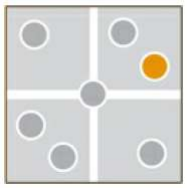


4. Concept-Linking Map

Linking and combining complementary ideas to form a concept system or solution

WHAT IT DOES

Concepts generated through ideation address specific aspects of a topic, but rarely does one concept meet all requirements. Moreover, the concepts explored bring different levels of value to the project. Complementary and high-value concepts need to be combined to form desirable systemic solutions. The Concept-Linking Map is a method for identifying high-value concepts and combining those that complement each other. The resulting solutions meet a broader set of needs and principles in a holistic way.

HOW IT WORKS

STEP 1: Score user and provider values of concepts.

Based on the results from users and context research, determine a list of important user-and provider-value criteria that your concepts should have. Create a spreadsheet with the concepts listed in the first column and the user-value and provider-value criteria listed in columns to the right as two separate sections.

STEP 2: Plot concepts onto a map.

Create a map with user values and provider values as the vertical and horizontal axes. Plot the concepts in this map based on each concept's total user-and provider-value scores.

STEP 3: Observe patterns on the map.

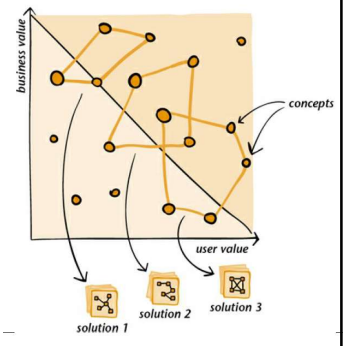
Compare the relative positions of concepts. For this, draw a diagonal line connecting the high end points of the two scales. This diagonal line divides the map into two triangular areas. The concepts in the high-user-value and high-provider value triangular area are to be considered high priority. These are concepts that high priority and need more attention.

STEP 4: Combine concepts into solutions.

Start with the high-value concepts. Pick each concept and see if it can be combined with other complementary concepts. Even though it is logical to focus on the high-value concepts, pick even the concepts in the low-value side of the map because they might be more valuable in combination with others.

STEP 5: Describe each solution, share, and discuss.

Write a brief description of how the various concepts work together as a unique solution. Sometimes it is helpful to think of solutions as themes that can be summarized with a brief descriptive title. Discuss further explorations. How can these solutions be improved or extended?



BENEFITS

Balances user and business needs

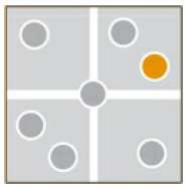
Builds higher-level systems

Creates options

Helps select options

Keeps grounded in research

WHEN TO USE



INPUT List of most relevant concepts, User and business criteria

OUTPUT Solutions composed of different concepts that create user and business value

5. Foresight Scenario

Creating solutions by foreseeing possible alternative future situations

WHAT IT DOES

Foresight Scenario is a method for considering hypothetical futures based on emergent trends and then formulating alternative solutions designed to meet those possible situations. In this method, we often use 2 × 2 position maps to write about scenarios, possible future situations. The two dimensions of the position map are based on the emergent trends (social, cultural, technological, economic, and business) identified to be critical for the project and to have maximum impact on users and the context.

HOW IT WORKS

STEP 1: List trends and select the most important.

These trends may come from earlier efforts through a Trend Matrix or other methods. Score each trend on the basis of its importance to your project. Select the two most important trends.

STEP 2: Make a 2 × 2 map using selected trends.

Consider the selected trends and interpret future possibilities. Think of extremes that could happen based on these trends and convert these extremes into a set of scales. Create a 2 × 2 map using these scales.

STEP 3: Write a scenario in each quadrant of the map.

Each scenario describes the conditions of a possible future state if the two extremes happen. Write a descriptive title for each scenario.

STEP 4: Plot concepts in each scenario.

If your team has already developed concepts using other methods like Concept Matrix, just plot those concepts according to their fit with the four scenarios in the four quadrants.

STEP 5: Combine concepts within quadrants.

Combine concepts in each scenario to form synergic solutions. Generate permutations and then select the strongest combinations.

STEP 6: Write brief summaries for each solution.

Describe how solutions work in the possible future scenarios and how the various concepts complement one another. Share these stories with the team. Which scenarios are most likely to happen in the future? How will we adapt our solutions when scenarios actually happen differently? What optional solutions do we have to respond to those eventualities?

BENEFITS

Broadens mindset

Builds higher-level systems

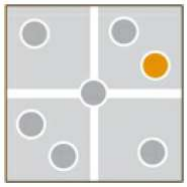
Considers future context

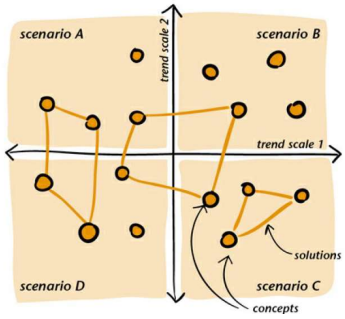
Facilitates discussion

Gives focus to the process

Inspires ideation

WHEN TO USE





INPUT- List of emergent trends critical to projects; Previously generated concepts

OUTPUT- Holistic solutions that address multiple future scenarios

6. Solution Diagramming

Diagramming to think through solutions and to show how solutions work

WHAT IT DOES

Diagrams are visual tools to explain and communicate information in rational and universally understandable ways. They are neither as abstract as the words that we use in our language system nor as real as a photograph or a scale model that we use to represent something realistically. It is because of this that diagramming is a very powerful tool to work with your concepts and solutions. Solution Diagramming translates solutions into visual representations.

HOW IT WORKS

STEP 1: Determine the type of diagram.

Determine what aspects of the solutions will benefit most from what type of diagram. For example, to show complex relationships among components of the solution, a network or map diagram is most relevant.

A few examples of how various aspects of the solution can be matched with diagram types:

Relations among the components of the solution: ***network, matrix, map***

Groupings showing how components are distributed: ***Venn, tree, matrix, map***

Hierarchies showing how solution components are structured: ***tree, Venn***

Process or ***sequence*** showing how solutions work: ***flow, time series***

Locations showing physical arrangement of components: ***map***

Quantities showing numbers related to solutions: ***bar, pie, time series***

STEP 2: Make diagrams and refine solutions.

Make diagrams to visualize those aspects of the solution you want to show. For example, if you are showing how your solution is going to work as a compelling user experience, sketch out a flow diagram with events shown as nodes (graphic elements like circles or icons) and flows shown as arrows (with attached descriptions).

STEP 3: Document and share.

Construct a well-thought-out and concise narrative to accompany diagrams. Do the diagrams fully explain the solution? Do the diagrams tell engaging stories? Are the visualizations universally understandable? Do you want it to be permanent or temporary, central or supplemental to your overall project?

BENEFITS

Helps refine ideas

Improves communication

Makes abstract ideas concrete

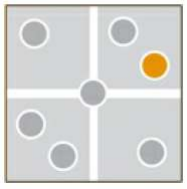
INPUT

Solutions that can benefit from structured visualizations

OUTPUT

Diagrams of refined solutions and accompanying descriptions

WHEN TO USE



7. Solution Storyboard

Constructing narratives that explain how system solutions work

WHAT IT DOES

The Solution Storyboard is a set of sketches (in both image and words), arranged in sequence, outlining the scenes of a story describing how all the parts of the concept system work together in situations. A solution storyboard uses narrative elements of character, action, and plot to build stories about what a user's experience might be as the user moves through an imagined situation. It begins by mapping a hypothetical journey.

HOW IT WORKS

STEP 1: Start with a good understanding of the solution to be illustrated.

Review your system solutions and related concepts. Discuss and have a clear understanding of how all the concepts in the system ought to work together.

STEP 2: Create characters and describe their experiences.

Create characters that represent typical users. Describe their experiences as they go through the journey. Describe the change in their state of mind as a result of their experiences and engagements with your solution.

STEP 3: Map out journeys.

Map out user journeys through imagined situations. Indicate on the map, the points along the journey where the user will encounter your concepts. Write short descriptions about what will happen at each encounter. Write about the nature of the interactions. Describe how value is being created by your concepts during those interactions. Introduce an element of drama into your narrative to hook your audience and draw them into your vision of a possible future.

STEP 4: Create Solution Storyboards.

Illustrate scenarios with frame-by-frame storyboards. Distill narratives to the minimum number of words to convey the story. Use sketches to visualize concepts embedded in the solution.

STEP 5: Review and rehearse the story.

Share and review these stories with stakeholders for feedback and use this feedback to further refine your concepts. Are the stories compelling enough? How are the embedded concepts helping the characters and the overall story? How can the solution be modified or improved for better uptake?

BENEFITS

Encourages iterations

Facilitates discussion

Facilitates storytelling

Makes abstract ideas concrete

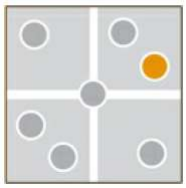
INPUT

Solutions that can benefit from being explained as a story

OUTPUT

Stories that show how the parts of a solution work together

WHEN TO USE



8. Solution Enactment

Acting out solutions to demonstrate how they work and create value

WHAT IT DOES

Solution Enactment is a method for presenting design solutions to an audience in order to demonstrate how they work and how they create value for the stakeholders. Enactment, like storytelling, is a powerful communication tool for translating abstract ideas into terms that connect with audiences on a human level. Enactments are most often used in conjunction with Solution Storyboards to show how the various components of the solution work together. The method is most effective in demonstrating details of a system solution rather than the system as a whole.

HOW IT WORKS

STEP 1: Envision the user's journey.

Imagine a future situation in which your solution exists. Visualize the user's experience at various interaction points. Focus on those interactions where there is the clearest indication of value being created and exchanged.

STEP 2: Explore a range of possible encounters.

Once the basic journey and the interaction points are defined, explore a range of scenes to consider different experiences that could arise. Record the alternative scenes. Discuss and decide which ones you want to focus on for enactment.

STEP 3: Rehearse your dramatization.

As you practice, keep in mind the target audience. Anticipate and prepare alternative dialog to address audience member concerns. Video tape the session to study later and refine.

STEP 4: Present your enactment to stakeholders.

Enact the future scenarios to emphasize the value the solutions bring. Keep dramatizations brief and document key points. If necessary, reenact the scene inserting audience suggestions.

STEP 5: Capture feedback and discuss next steps.

Capture feedback from the audience during the enactment. Extract insights from audience responses about the relevance of various concepts embedded in the scenes. Which specific interactions or concepts are more valuable based on audience feedback?

BENEFITS

Builds empathy

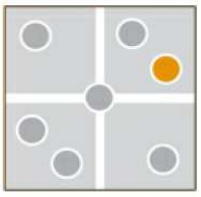
Focuses on details

Focuses on experience

Improves communication

Makes abstract ideas concrete

WHEN TO USE



INPUT

Interaction points of solutions that can benefit from being acted out

OUTPUT

Stakeholders' feedback on how the solutions can be improved

9. Solution Prototype

Simulating experiences around proposed solutions to explore how people engage in them

WHAT IT DOES

A Solution Prototype is a method in which users are observed engaging in planned activities around prototypes of proposed solutions. Two types of Solution Prototypes are used in this method: (1) Appearance Prototype, which simulates the appearance of the intended offerings, and (2) Performance Prototype, which primarily simulates the functions of the intended offerings.

HOW IT WORKS

STEP 1: Identify proposed solutions and experience to be prototyped.

Review design solutions to identify those you want to prototype and study. Determine which combinations of concepts and experience of the solution you seek to learn through the prototype.

STEP 2: Build prototypes and prepare an environment to test.

Build prototypes of the many concepts that make up solutions. These prototypes could be appearance or performance prototypes. Find a space where participants can engage freely with these prototypes and exhibit the key behaviors you seek to understand about the experience.

STEP 3: Engage users in interacting with prototypes.

Invite users as participants to the simulation. Explain what they will be doing and why they have been invited to participate. Have the participants engage individually or in groups as needed. Guide participants in going through the prototypes and the experience.

STEP 4: Observe and document interactions with prototypes.

Observe participants' interaction with the prototypes. Note the cognitive, physical, social, cultural, and emotional factors that affect participants' engagement with the prototypes. Record activities with video and note taking.

STEP 5: Analyze and iterate prototypes.

Gather observations from notes or video and analyze them for patterns of behaviors. Discuss and review observations in light of your findings from the simulation. Consider adjustments to the concepts embedded in your solution based on the feedback from participants.

BENEFITS

Encourages iterations

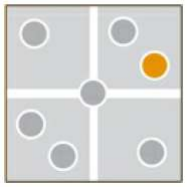
Focuses on experience

Helps refine ideas

Makes abstract ideas concrete

Supports decision making

WHEN TO USE



INPUT

Selection of solutions to prototype that can benefit from user feedback

OUTPUT

Refined solutions based on direct user feedback and observations of their experience

10. Solution Evaluation

Rating solutions according to their value to users, providers, and other stakeholders

WHAT IT DOES

The Solution Evaluation method helps evaluate solutions once they have taken a tangible form. Solutions are plotted on a map with a user value score and a provider value score. The map reveals patterns of distribution and helps us evaluate prototypes based on their combined user and provider values. The method provides comparisons that can help us decide which prototypes to pursue and which to modify.

HOW IT WORKS

STEP 1: Create your user-value and provider-value criteria.

Refer to principles and insights from user research to determine the features and benefits that matter most to your targeted users. Examples of user value criteria include easy to use, easy to store, and aesthetics.

STEP 2: Create a Solution Evaluation matrix. Create a spreadsheet with the solutions listed in the first column and user-value and provider-value criteria listed in columns to the right as two separate sections. Add a total value column for each user-value and provider-value sections.

STEP 3: Score solutions. Select a scale to score each solution against the two different criteria—user value and provider value. In most cases, a five–point scale will be sufficient. Add up the scores for each solution and record it in the total columns at the end of each criterion.

STEP 4: Plot solutions onto a map. Create a map with user value and provider value as the vertical and horizontal axes. Plot the solutions in this map based on each solution's total user-value and provider-value scores.

STEP 5: Analyze the solutions distributions. Draw a diagonal line connecting the high end points of the two scales. This diagonal divides the map into two triangular areas. The solutions in the high user value and high provider-value triangular area are high-priority solutions that need to be paid more attention to for further development.

STEP 6: Share these findings and discuss next steps. Discuss the next steps based on these evaluations. Although the immediate focus for further development should be on high-value solutions, the solutions in the low value triangle in combination with high-value solutions can also be good to pursue.

BENEFITS

Balances user and business needs

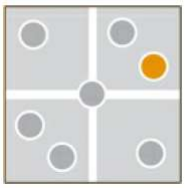
Facilitates comparison

Gives focus to the process

Keeps grounded on research

Supports decision making

WHEN TO USE



INPUT

Prototyped solutions

User and business criteria

OUTPUT

Map of solutions based on the assessment of user and business value

11. Solution Roadmap

Planning how solutions will be implemented in phases

WHAT IT DOES

The Solution Roadmap shows how to plan for implementing solutions. The roadmap helps explore how solutions are to be built up, with short-term initiatives serving as a foundation on which long-term solutions are based. It also shows which solutions are more suitable for short-term implementation compared to the ones that are more appropriate further ahead in the future.

HOW IT WORKS

STEP 1: Develop an initial timeline.

Estimate the length of time required to implement your various solutions. Tactical short-term solutions tend to be those that happen within the next 12 to 24 months, strategic mid-term solutions take place 2 to 5 years out, and long-term visionary solutions occur more than 5 years from now.

STEP 2: Plot solutions onto the timeline and create visualization.

Review your entire collection of solutions and plot them onto the timeline. Give thought to the full range of activities that must happen in order for a solution to be implemented.

STEP 3: Align the solutions with the organization's overall goals.

Review your initial ordering of solutions. Does the sequence reflect the organization's stated goals? Do the solutions align with the organization's capabilities, finances, and resources? Do they align with the required sequence of activities to begin implementation?

STEP 4: Describe the roadmap.

Describe the nature of the relationship among various solutions. Do solutions build upon one another in a logical order? Write a brief summary explaining the logic of the order and why certain solutions precede or follow other ones and why it is the preferred path. Describe the various branches off the main timeline.

STEP 5: Share the map, discuss, and move to implementation details.

Share the roadmap visualization and the descriptions among stakeholders. Discuss the viability of the roadmap based on the goals of the organization. Which solutions are to be detailed out for near-term implementation? Determine how to allocate resources based on the roadmap.

BENEFITS

Builds alignment in the organization

Creates plans

Helps select options

Promotes shared understanding

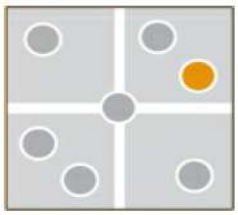
INPUT

All generated solutions

OUTPUT

Timeline for implementation of solutions

WHEN TO USE



12. Solution Database

Organizing all concepts and solutions in a searchable relational database

WHAT IT DOES

The Solution Database method is a disciplined and systematic approach to organizing, archiving, and reviewing the system solutions generated during the Frame Solutions mode. The method takes all of the key information accumulated during this mode—descriptions, narratives, sketches, diagrams, evaluations, and so forth—and inputs them into a database that can be searched by keyword. The method results in a comprehensive archive for the project.

HOW IT WORKS

STEP 1: Gather key information generated during synthesis modes.

Gather all concepts and solutions developed along with descriptions, narratives, sketches, diagrams, and evaluations related to them. Review all digital and physical files to pull together a comprehensive and exhaustive list of everything that you have generated related to your concepts and system solutions.

STEP 2: Define a set of attributes for organizing information.

Determine a set of attributes that you want to use to organize concepts and solutions in the database. Sample attributes include: design principles; user types; user value; provider value; short-term, mid-term, and long-term solutions; partners; complementors; and strategic intent. You may also use existing frameworks like the Doblin's Ten Types of Innovation to organize the concepts and solutions.

STEP 3: Build a database.

Use readily available and user-friendly software to construct a searchable database. It could be as simple as a spreadsheet with search functions. Organize concepts under their related solutions. Enter information about your concepts and solutions into the database.

STEP 4: Search the database from different perspectives.

Using keywords, retrieve specific sets of concepts or solutions. Review and explore the relationships among various concepts and solutions. Compare them for reference, reevaluation, and inspiration. Be sure to note any large patterns that may emerge that you did not recognize during the concept-generation phase. Summarize your findings to share and discuss with team members.

BENEFITS

Builds knowledge base

Handles large sets of data

Organizes information for easy access

Reveals patterns

Supports transition

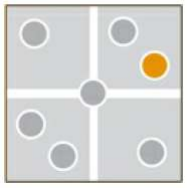
INPUT

All material from generated concepts and solutions

OUTPUT

Searchable database of concepts and solutions

WHEN TO USE



13. Synthesis Workshop

Conduct short, intensive sessions to generate system solutions.

WHAT IT DOES

The Synthesis Workshop is a method of structured brainstorming focused on generating concepts that can then be organized into systemic solutions. The method brings together a team of people with the purpose of using defined design principles to guide concept development. It is effective for producing a large number of concepts in a short amount of time.

HOW IT WORKS

STEP 1: Plan for the workshop.

Create a workshop goal statement and outline. The objective is to generate and evaluate concepts and synthesize them into solutions. Make a schedule that divides up the workshop into an initial ideation phase, an evaluation phase, and a synthesis phase. Create guidelines describing the rules of engagement. Choose participants with a variety of expertise.

STEP 2: Gather design principles and concepts already created.

Gather all the design principles and concepts you have developed in the earlier modes. Create a document describing each. Share it with participants to be used as a basis for the workshop session.

STEP 3: Facilitate the workshop.

Establish an environment that is conducive to creativity. Provide a space where teams of three or four can work comfortably. Make sure the basics are covered, such as sticky notes, pens and paper. Include graphic organizers or worksheets that will enable teams to capture their ideas and organize their work.

STEP 4: Review concepts and generate more if needed.

Use the first part of the workshop to review all the previously generated concepts. Gain a shared understanding among all workshop participants. Allocate a short period of time for participants to reflect on the concepts and generate more concepts or revise some. Time constraints can foster efficiency. Record all new concepts.

STEP 5: Evaluate concepts and organize them.

Review concepts with a critical eye. Rank them according to how well they address design principles. Sort them according to user and provider value. Recognize them as short-term, mid-term or long-term solutions.

STEP 6: Synthesize solutions.

Identify complementary concepts and combine them to form system solutions. Write brief descriptions that highlight key features of the solutions. Identify those that come closest to optimal combinations. Prepare brief write-ups to explain why you consider them to be optimal solutions.

STEP 7: Capture and summarize workshop output.

Compile the write-ups into output documents that can be shared with stakeholders. Discuss how these solutions will be further refined and evaluated. Discuss how solutions can be prototyped for further development.

BENEFITS

Brings in new perspectives

Facilitates discussion

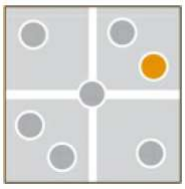
Gives focus to the process

Inspires ideation

Keeps grounded in research

Promotes collaboration

WHEN TO USE



INPUT

Participants and lists of design principles and previously generated concepts

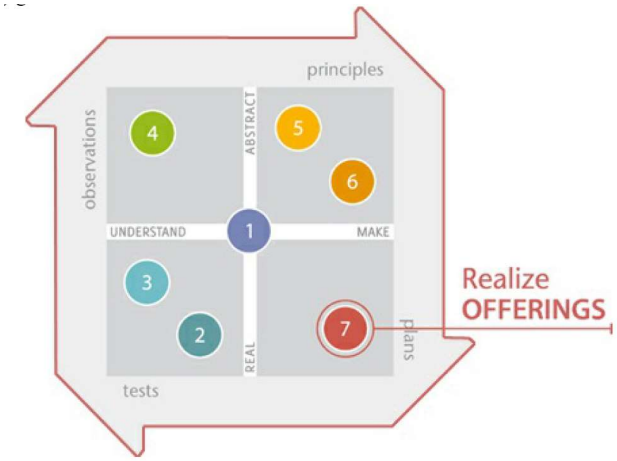
OUTPUT

Collection of system solutions

mode 7

REALIZE OFFERINGS

Realize Offerings is about making ideas tangible and planning how they get realized in the world.



REALIZE OFFERINGS

mindsets

The mindset in the Realize Offerings mode is pragmatic, evaluative, and strategic. Pragmatism governs thinking about the practicality of making ideas real and devising the reliable tactics to make that happen. The evaluative mindset in this mode is concerned with doing multiple iterations of prototypes, repeatedly testing them, and demonstrating their value, and to ensure their final adoption in the real world.

Mindsets

- Reiterating Prototypes
- Evaluating in Reality
- Defining Strategies
- Implementing in Reality
- Communicating Vision

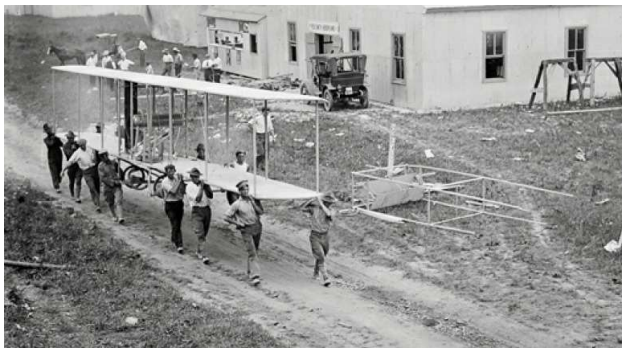
REALIZE OFFERINGS

methods

1. Strategy Roadmap
2. Platform Plan
3. Strategy Plan Workshop
4. Pilot Development and Testing
5. Implementation Plan
6. Competencies Plan
7. Team Formation Plan
8. Vision Statement
9. Innovation Brief

Mindset: Reiterating Prototypes

- Turning our concepts and solutions into reality requires iterations of prototyping and evaluating until the value an offering brings to the real world can be demonstrated.
- Prototyping is the translation of an intangible idea into a tangible form that users can experience. During the early part of the innovation process, prototypes tend to be more abstract and may even lack physical embodiment like behavioral prototypes.
- As we go through the process, prototypes get more and more refined and real. Rigor and discipline are needed to repeat the process of prototyping until all the challenges have been met to ensure the successful uptake of the new offering.
- As a result of reiterative prototyping, we should be able to demonstrate the value our innovations bring to the real world.



A classic example of the mindset may be seen in the efforts of Orville and Wilbur Wright to build the first fixed-wing aircraft. Unlike the prevailing theory of the time, the brothers believed that the key to flying was a reliable method of pilot control in order for an airplane to maintain its equilibrium. In the years leading up to their first flight, they created a number of gliders to learn about pilot control and how wing shapes provided optimum lift. The gliders were not ends in themselves, but acted as prototypes for learning and demonstrating the value, informing future iterations of aircraft design. In this same way, innovation teams benefit from thinking of prototyping as experimentation and demonstration in reality.

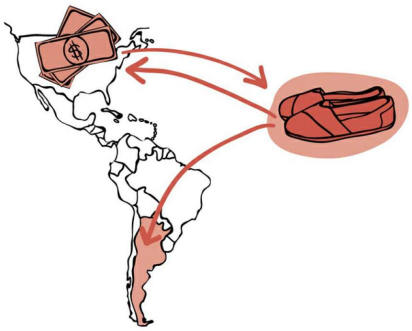
Mindset: Evaluating in Reality

- A concept is just a captured thought until it takes the form of a prototype that can be experienced. Moreover, a prototype is nothing more than a conjecture until it can be validated through testing.
- Modern science is built upon the scientific method in which a hypothesis is formulated and then an experiment is designed to either confirm or disprove it. A willingness to embrace and learn from failure informs the scientific outlook that progress is achieved primarily through trial and error. Design teams benefit from embracing this same perspective when prototyping their concepts.
- By treating prototypes not as final implementable solutions, but as tools for learning, teams remain open-minded and receptive during user testing. Maintaining an inquisitive frame of mind allows teams to capture insights that can then serve as the basis for improving their design solutions or conceiving entirely new ones.
- After iterations of such testing and reconceiving, solutions can get closer to implementation. The mindset is to pursue this refinement to successfully implement the innovation.

McDonald's Innovation Center is a test lab that is built to implement and evaluate the concepts and solutions the company's innovators create. With highly flexible interior systems that allow the spaces in the lab to be manipulated and reconfigured quickly, the lab is able to rapidly implement concepts, for example, on new dining and ordering systems, and evaluate them, even involving potential users during the process.

Mindset: Defining Strategies

- Realizing offerings is similar to hosting a dinner event. It can be a lot of work. Depending on the kind of tone the host wants to set, the event could be formal or informal, sophisticated or casual, or large or small. Some require more work than others, but may offer greater rewards in exchange.
- All of these factors must be weighed against one another when considering what to do. Like party planners, design teams envision possible desired end states, think about the effort required to get there, and then weigh each against the others to arrive at the best possible option.
- In its most basic sense, the Strategizing mindset is about trying to answer the question, "Where should we play?" It is about cultivating a big-picture perspective —one that encourages broad thinking about design concepts in the context of larger organizational goals.
- To summarize, the Strategizing mindset involves using design concepts as the basis for imagining possible directions for the organization.



TOMS Shoes Company has taken a philanthropic strategy to promote the organization. "Giving Pair" is a strategic program the company has initiated; when you purchase a TOMS shoe, another pair is given by TOMS to a child in need anywhere in the world. The company works with partners to determine the sizes and quantities needed for the children they serve and the shoe they give is usually a black, unisex canvas slip-on with a sturdy sole.

Mindset: Implementing in Reality

- The success of a dinner party lies in the details: cleaning, decorations, place settings, and perhaps even making seating arrangements.
- A menu needs to be planned and ingredients purchased so that food can be prepared. All of these activities require effort and attention in order to ensure they come together in a coordinated fashion. The frame of mind one brings to these details is tactical in nature. The same can be said for design teams contemplating how their solutions might be implemented. If the prior Strategizing mindset is about where to play, then the Implementing mindset is about, "how to win."
- Thinking in this phase benefits from a narrow focus on the specific steps necessary to realize offerings. However, each one needs to work in conjunction with the others if success is to be achieved. Consideration of broad Initiatives benefits from thinking through their requirements and the available resources to meet them.
- Options are explored at each step in the larger implementation plan as teams are assembled, financing organized, and implementation prepared. The work culminates in the formulation of a roadmap that directs efforts toward implementation.

- To summarize, the thinking in the Implementing mindset is directed toward getting a clear sense of "how to get there." In this way, it is an essential transitional step from design ideas to real products and services.

Mark Zuckerberg cocreated Facebook, an online social networking platform from his Harvard University dorm as a local personal profiling site. It soon expanded as a friends-networking tool at the university level, and to the Ivy League universities, and then to most universities in the United States and Canada. It further expanded to Europe and soon became a universally used social-networking platform. Facebook, thus, had a fairly linear but dramatic growth path driven by a strong Implementing mindset the leaders in the organization exhibited.

Mindset: Communicating Vision

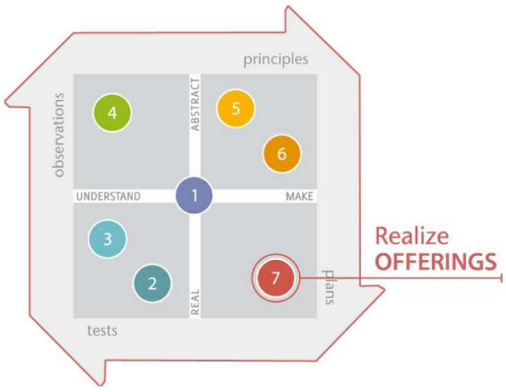
- Once solutions are conceived, strategies formulated, and plans developed, consensus and support for the initiative need to be built. This calls for creating a vision that can be shared with all stakeholders to guide activities and bring focus to the entire organization's efforts.
- Thinking about how to move to action is all about effective communications. It requires an empathetic frame of mind, one that seeks to understand stakeholders' values and points of view. It needs crafting messages that will inspire a wide number of people in an organization to work toward a shared goal.
- Cultivating foresight is important for anticipating challenges and being able to counter them with reasons for moving forward with initiatives.
- Ultimately, the Communicating Vision mindset is really about leadership. It is about giving consideration to how everyone involved in implementation can embrace the ideas as his or her own.

In 1960, U.S. President John F. Kennedy announced to the world that by the end of the decade, America would put a man on the moon. The statement inspired and brought focus to the efforts of the National Aeronautics and Space Administration (NASA), so that by the end of the decade, NASA was able to realize Kennedy's vision.

REALIZE OFFERINGS

methods

1. Strategy Roadmap
2. Platform Plan
3. Strategy Plan Workshop
4. Pilot Development and Testing
5. Implementation Plan
6. Competencies Plan
7. Team Formation Plan
8. Vision Statement
9. Innovation Brief



1. Strategy Roadmap

Planning innovation solutions for short-term, mid-term, and long-term strategies

WHAT IT DOES

The Strategy Roadmap is a method for mapping the future strategic direction of the organization by prioritizing the order of implementation among innovation offerings. It is employed after all the solutions have been fleshed out, reviewed, compared with one another, and clustered along a timeline. Using the distribution of solutions on the timeline as guidance, distinct strategic goals for the short term, midterm, and long term are formulated.

HOW IT WORKS

STEP 1: Review solutions and map on a timeline.

Gather and review all the solutions generated during the Frame Solutions mode. Place each solution along a timeline that is divided into three time segments as columns—short term for those to be implemented in the next one to two years, midterm for those planned for two to five years out, and long term for those conceived for more than five years of development and planning. Add a label that describes the set of solutions in each time segment.

STEP 2: Write strategies for each time segment.

Understand the commonalities among the set of solutions in each time segment in terms of how they will collectively add value to the organization. Write descriptions summarizing strategies for the short-term, mid-term, and long-term segments in the first row. For example, solutions that are in the short-term segment may relate to the organization's existing brands. Their strategy could be summarized as: "Strategy focused on the core business by redesigning existing products." Prepare similar statements for mid-term and long-term solutions.

STEP 3: Describe how the organization will support the strategies.

In the second row, under each time segment, describe what your organization needs to do to support the corresponding strategies. It is useful to include your organization's strengths, weaknesses, and competencies. Discuss how to construct a business rational for the successful implementation of the strategies.

STEP 4: Describe how the market will respond to the strategies.

In the third row, under each time segment, describe the opportunities and risks that exist in the market for the corresponding strategies. Discuss who might be the competition and how to identify partners to make the strategies work in each of the time segments.

STEP 5: Visually communicate the strategies.

Make road map diagrams to show how strategies relate to each other. Review the Strategy Roadmap with your team and the major stakeholders of the organization.

BENEFITS

Considers solutions over time

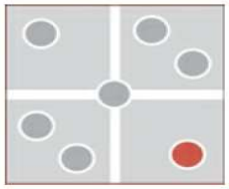
Creates plans

Defines direction

Defines strategies

Promotes shared understanding

WHEN TO USE



INPUT

Collection of solutions to be implemented

OUTPUT

A plan aligning solutions to strategies and tactics over time

2. Platform Plan

Planning solutions as platforms using platform principles and attributes

WHAT IT DOES

This method allows us to frame our solution as a possible platform. A platform is an innovation strategy that provides a common base (a set of standards or an infrastructure) that enables a variety of options as offerings. A platform strategy is to build an entire constellation of offerings by allowing its users and participants to gain value in different ways. For example, Facebook is a platform that is used by people in a variety of ways: to share their activities, to make social connections, to stay in touch, to play games such as Mafia Wars or Farmville, to promote brands, or for companies to gain exposure. Any platform will need to consider four basic principles:

Core with options—the basic set of offerings on which things can be built, for example, the core tools, interfaces, space, account, and so forth that Facebook provides for people to build, connect, and share.

Sticky users—peoples' use of the platform grows over time, and they become more invested in the platform. For example, in Facebook, peoples' social networking and friends circle expand over time, and this expanding collection becomes an important asset that people value.

Distributed owners—platform providers have only part ownership of the platform, only the basic infrastructure and core support. The "owner" is widely distributed. For example, in Facebook, the company only provides basic tools, interfaces, databases, and servers to allow users to generate and share content. Other stakeholders take ownership of their own offerings.

Open partners—the base provides an environment to attract partners to participate in the platform. For example, in Facebook, external entities, such as companies or game developers, proactively participate and grow on the platform with benefits of their own.

HOW IT WORKS

STEP 1: Discuss key attributes of successful platforms.

Discuss and reach a common understanding about platforms as an innovation strategy. Use platform examples from the real world to understand their key attributes.

STEP 2: Identify solutions/initiatives that have a potential to be a platform over time.

Can a platform strategy work for your solution? Using your team's collective understanding about platforms and your in-depth knowledge about how you have framed your solutions, determine if your solutions have the potential to grow as a platform.

STEP 3: Use the four platform principles to review solutions.

Use the four principles—core with options, sticky users, distributed owners, and open partners—to think of a platform strategy for your solutions. Model your solution system as platform with these four components. Discuss how to conceive your solutions to fit with the platform definition.

STEP 4: Use the key platform attributes to review solutions.

List platform attributes such as potential for networking, connectivity, participation, sharing, growth, accessibility, business collaboration, trust, and loose controls among others. Think of which attributes are "must have" and "nice to have" for your solutions. Rethink your solutions by relating them to the platform attributes.

STEP 5: Create a plan for platform implementation.

Create a plan on a timeline (with short-term, mid-term, long-term goals), and show how your reconceived solutions will grow as a platform. Describe details like strategies, actions needed, partners involved, technologies needed, key drivers, risks, and investments needed.

STEP 6: Share the plan with stakeholders and discuss next steps.

Share and discuss this platform plan. How driven would the target users be to engage in the platform over a long time? How viable is the platform plan in the context of competitors and partners? What are the barriers for implementation of the platform? What are the most uncertain parts of the plan?

BENEFITS

Considers solutions over time

Creates plans

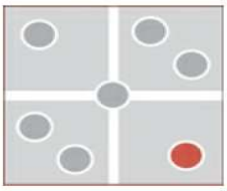
Defines strategies

Maps change over time

Creates options

Builds higher-level systems

WHEN TO USE



INPUT

Collection of planned solutions

Platform principles, attributes, and examples

OUTPUT

A plan showing reconceived solutions as platforms

Discussions among stakeholders about how to implement the platform solutions

3. Strategy Plan Workshop

Creating organizational strategies and aligning around them for realizing proposed solutions

WHAT IT DOES

The workshop brings together key stakeholders from different parts of the organization to develop a strategy plan for realizing a proposed innovation. It engages participants to think through all of the potential ramifications for realizing the innovation offerings. The workshop gives people operating in different parts of the organization an opportunity to work through potential challenges and align on an overall plan. It is an effective vehicle for inviting participation in the innovation process and giving stakeholders a sense of ownership to start their initiatives

HOW IT WORKS

Participants review summaries of all key findings about solutions that have been pieced together earlier. They think through how the innovation solutions and strategies defined in the Frame Solutions mode might be realized and supported by different competencies within and outside the organization. Alternative approaches and paths are considered through dialog and discussion.

STEP 1: Plan the workshop.

Build an outline of how the day will proceed. Decide what kind of participants will bring most value to the strategic planning. Then, pick the right people to participate in the workshop.

STEP 2: Prepare workshop materials.

Piece together the key findings related to the innovation solutions defined in the Frame Solutions mode. Create a presentation, focused on these defined solutions, to be introduced in the workshop. Be prepared to offer supporting evidence such as concepts, principles, and insights that led to these solutions.

STEP 3: Prepare for the workshop activity.

Establish an environment that invites dialog, critiquing, and input. Provide a space where breakout teams of three or four can work comfortably. Make sure team spaces have paper, pens, sticky notes, and any other required supplies that will enable participants to capture and share thoughts. Include templates or worksheets that will enable teams to capture their ideas and organize their work.

STEP 4: Discuss the defined solutions and concepts.

Share the preprepared presentation on proposed solutions. If your team has already prepared a Strategic Roadmap, share that too; it will provide additional information about how solutions are distributed on a timeline. Discuss, and capture participants' comments for later review.

STEP 5: Build a matrix to show how solutions grow over time.

Build a matrix with the solutions as row headings. Enter three time segments as column headings—short-term (one to two years), mid-term (two to five years), and long-term (five-plus years). State the strategies (e.g., launch new offerings, build brand) for each of these time segments also in column headings. In the cells, describe what needs to be done to make the solutions work in their corresponding time segments. Include strategic challenges, implementation issues, or other challenges that teams find useful for building a plan.

STEP 6: Extend the matrix with other considerations for successful implementation.

A common framework that is most often used to extend this matrix has three parts—challenges for creating user value, challenges for creating provider value, and the organization's responses to these challenges. Add these three as columns to the right of the matrix. Fill the cells with descriptions of user-value and provider-value challenges and list specific ways in which the organization will take action to meet those challenges. Discussions on the matrix provide a good opportunity for the stakeholders to align around what needs to be done at an organizational level to realize the innovation solutions.

STEP 7: Review the matrix and plan for a detailed implementation plan.

Participants review the whole matrix and discuss how to schedule time and resources and begin to formulate ideas on how to make these strategies real.

BENEFITS

Builds alignment in the organization

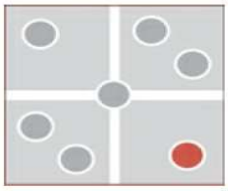
Creates plans

Defines strategies

Identifies challenges

Promotes collaboration

WHEN TO USE



INPUT

- ❑ Collection of solutions to be implemented and supporting documentation
- ❑ Stakeholders key to implementation process

OUTPUT

- ❑ A strategic plan showing how solutions align to the organization's goals, the steps to be taken, and challenges to be faced
- ❑ Alignment among stakeholders on how to bring solutions to market

4. Pilot Development and Testing

Placing offerings in the marketplace to learn how they perform and how users experience them

WHAT IT DOES

- ❑ Pilot Development and Testing is a method for testing innovation solutions by placing them in contexts where they function as real offerings. The development of a pilot requires tactical planning no different than the launch of an actual offering (product or service). It varies only in terms of scale.
- ❑ Instead of a new offering being piloted to an entire market, it is usually piloted in a test market so that it can be studied to inform modifications prior to full launch. Thought is given to where a pilot will be implemented and how easily findings from the pilot testing can be generalized for the larger market.
- ❑ Pilot testing consists of measuring marketplace acceptance (sales), user feedback, and observed engagement with the offering. Findings are analyzed and used to determine whether or not modification to the piloted offering is required or if it can be rolled out as is.
- ❑ The method is also particularly effective for understanding the impact of the offering on organizational resources, and what additional requirements might need to be in place prior to a full-scale roll out.

HOW IT WORKS

STEP 1: Select solutions to be piloted.

As a team review the set of solutions that you have developed and organized as a Strategic Roadmap. Look for the most significant solutions that you are most uncertain about regarding their potential in real markets.

STEP 2: Prepare a pilot development plan.

Draft an initial plan that identifies all parts of the organization that need to be involved in a launch. Cocreate a pilot introduction plan by involving key people from marketing, finance, engineering, sales, and other relevant departments. The plan should function much like a scaled-down product launch. Include a budget, timeline, team, and indication of required resources in the draft plan.

STEP 3: Identify a test market and get approval.

Identify a specific target market where the offering will be piloted. Include a rationale for why the market has been chosen. Get approval from key decision makers.

STEP 4: Establish the performance metrics.

Select qualitative and quantitative performance measures and put mechanisms in place to measure them in the test market.

STEP 5: Launch and monitor the pilot.

Get launch approval, assemble interorganizational management team, launch, and monitor the pilot.

STEP 6: Analyze performance and revise offerings.

Take note of the variables that may affect users' experience of the offering. These variables can include time of year, location, venue, adjacent offerings, and so forth. This information will help assess performance. Capture use/sales data, conduct intercept interviews, and gather in-depth feedback. Gather as a team to analyze findings and revise subsequent iterations of the offering.

BENEFITS

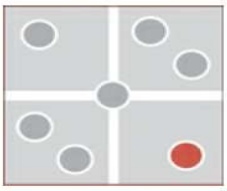
Creates plans

Encourages iteration

Makes abstract ideas concrete

Provides evidence

WHEN TO USE



INPUT

Selected solutions and their development plans

Access to key stakeholders in the offering launch

OUTPUT

Results based on assessment and analysis of offerings in the pilot market

5. Implementation Plan

Addressing implementation issues and creating a plan to realize solutions

WHAT IT DOES

The Implementation Plan matrix is a method for making the Strategy Roadmap actionable. With a good understanding of all the strategies defined using other methods, this method helps to avoid misalignment between organizational competencies and implementation goals. The Implementation Plan helps teams think through such challenges and generate appropriate responses. A well-designed plan provides a structure for implementing innovation solutions, lays out the specific actions needed, and makes the process clear to all parts of the organization.

HOW IT WORKS

STEP 1: Review the defined organizational strategies and the proposed solutions.

Gather the output from other methods like Strategy Roadmap and Strategy Plan Workshop. Review how solutions are planned to evolve over three time segments (short, mid-, and long term) and the broad organizational strategies planned.

STEP 2: Write a description of the changing context.

Refer to your contextual research to find out what are the trends in the industry and adjacent ones during these three time segments. Describe at a high level how your offering will address the users' changing needs, the nature of competition in the market, and relevant changes happening in social, economic, political, and cultural aspects. Aim to make the descriptions high level and provide citations to your earlier findings.

STEP 3: Create a matrix of innovation solutions versus challenges.

Create a matrix with innovation solutions as the row headings and the implementation challenges as column headings. The implementation challenges most often used in the matrix are market, operational, management, and financial.

STEP 4: Think through key implementation challenges.

Discuss and describe how your organization will address key implementation challenges in the matrix cells. Make sure that you include representatives from the most appropriate departments (marketing, engineering, research, finance, etc.) in the discussions.

The following will be useful as a guide to think through implementation challenges for each innovation solution.

- ❑ Market challenges, which include strategic positioning, relations with partners, and existing and emerging competitors
- ❑ Operational challenges, which include processes, communications, structures, and culture of the organization
- ❑ Management challenges, which include leadership, champions, teams, and schedules
- ❑ Financial challenges, which include ROI, expenses and investments, revenue and profit growth, and market share

STEP 5: Discuss and include stakeholder feedback.

As a group, view the whole matrix and discuss the biggest challenges and most significant actions that your organization needs to take. Identify areas where external expertise needs to be brought in. Use this matrix to further flesh out implementation details such as teams, schedules, resources, and others. Share this plan with the key stakeholders in your organization responsible for implementation and incorporate their feedback as part of the Implementation Plan.

STEP 6: Create a master Implementation Plan.

Compile all of the findings from the previous steps into a single sharable document. Include a spreadsheet as a Gantt chart that lays out the master sequence and allows for the presentation of simultaneous activities. Assign implementation responsibilities to teams.

BENEFITS

Creates plans

Defines direction

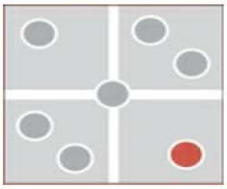
Encourages comprehensiveness

Gives focus to the process

Identifies challenges

Promotes shared understanding

WHEN TO USE



INPUT Strategy Roadmap and/or Strategic Plan from Workshop

OUTPUT Implementation Plan identifying actions, timeframe, and resources needed to overcome expected challenges/issues

6. Competencies Plan

Planning for competencies needed to make innovation initiatives successful

WHAT IT DOES

The Competencies Plan seeks to provide an alternative planning structure, one based on competencies needed for innovation initiatives rather than time. The competencies needed for each initiative must be mustered from internal resources of an organization, newly developed, or gained through acquisition or partnership. For planning this, a competencies matrix is used in which the initiatives are listed on the vertical axis and the required competencies are listed on the horizontal. The cells in this matrix are used to describe how organizations can ensure the competencies needed to support various initiatives—develop, partner, acquire, or use existing. The cells also show the critical importance of a competency for making an initiative successful.

HOW IT WORKS

STEP 1: List the initiatives to pursue.

"Initiatives" are solutions translated into initial projects for implementation. Review your previous efforts in translating solutions into initiatives for implementation. If initiatives are not yet defined, then create projects around your solutions by adding resources, schedules, people, and an overall plan for implementation. List these initiatives.

STEP 2: Identify competencies needed.

Go through each initiative and figure out what competencies are needed for their successful implementation. For example, an initiative that offers new digital tools for interaction will need competencies like software development, user interface design, and even technology trend expertise in some cases.

STEP 3: Set up an initiatives versus competencies matrix.

Set up a matrix and enter the names of initiatives as row headings and competencies as column headings.

STEP 4: Describe the plan of action in the cells.

In the cells in which competencies are required for an initiative, describe how that competency will be ensured by the organization for the successful implementation of that initiative. If that competency already exists in the organization, determine whether it will be enough to support the initiative. If not, describe how that competency will be developed internally or gained through partnerships or acquisitions. Additionally, describe if the competency is of major or minor importance to the initiative. This will provide a sense of the amount of resources to be allocated for implementation.

STEP 5: Discuss and share the plan for taking action.

Share this Competency Plan matrix among the key stakeholders in the organization to ensure that implementation actions are taken and the competencies are made available and the initiatives are launched.

BENEFITS

Creates plans

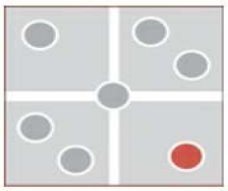
Manages resources

Builds alignment in the organization

Encourages comprehensiveness

Gives focus to the process

WHEN TO USE



INPUT

List of initiatives to pursue

Understanding of current competencies of the organization

OUTPUT

Organized matrix of initiatives showing how the required competencies are going to be developed

7. Team Formation Plan

Planning initiatives based on innovation solutions and forming teams around them

WHAT IT DOES

This method helps to create a plan for forming teams to implement innovation initiatives. "Initiatives" are solutions translated into initial projects for implementation. Teams are formed by carefully thinking about the most appropriate knowledge and skills needed for each of the initiatives. Multidisciplinary teams are created by tapping into various existing departments of the organization such as engineering, marketing, research, and finance. The Team Formation Plan asserts the importance of starting projects that are directly based on human-centered solutions, carefully developed using disciplined processes and thinking.

HOW IT WORKS

STEP 1: Translate proposed solutions as initiatives.

Translate solutions as "initiatives" by describing them as initial projects to start implementation. This translation is done to understand solutions as action items but not to reframe or change the content of solutions.

STEP 2: Create a matrix of "initiatives" versus "departments."

Set up a matrix with the initiatives listed as the row headings. The various departments of the organizations, such as engineering, marketing, research, and finance, relevant to the initiatives, are listed as the column headings.

STEP 3: Define capabilities needed for initiatives.

Review the solutions to be implemented in each of the initiatives, and determine what kinds of capabilities are needed for their successful implementation—for example, engineering design, software development, financial planning, branding, and marketing.

STEP 4: Choose appropriate people for the team.

Identify departments where the capabilities needed for each initiative may be found. Look for potential team members. Ensure that the whole team is multidisciplinary in nature. Fill the matrix with names of selected team members and describe the capabilities they bring.

STEP 5: Assign roles and leadership.

The different departments of the organization contribute to the initiative at different levels of criticality and their roles vary in importance. Indicate each team member's contribution as primary, secondary, or tertiary in the matrix cells. If possible, indicate which team member will take the leadership role for executing the project. Describe the team goals and deliverables.

STEP 6: Discuss and extend the plan.

As a group, discuss all the initiatives and think of ways in which they could be launched. How will teams coordinate across initiatives? How will the initiatives change over time? How will the team composition change as the project evolves? How can external capabilities be brought in?

BENEFITS

Creates plans

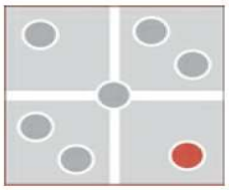
Encourages comprehensiveness

Gives focus to the process

Manages resources

Promotes collaboration

WHEN TO USE



INPUT

Generated solutions

Understanding of existing talent in the organization

OUTPUT

A matrix of initiatives/solutions and the necessary capabilities across departments needed to execute them

8. Vision Statement

Showing and telling what the offering will be as a comprehensive illustration

WHAT IT DOES

A Vision Statement is a method for describing the result of an innovation project as an overview, showing how the innovation offering is implemented by the organization. Part of the method is to express the innovation intent and its realization in only a minimum set of words or visuals, for example, a title statement as brief as, "We will eradicate breast cancer in the next twenty years." It contains no specifics, but grounds all innovation efforts. The method aims to distill all of the research, analysis, and synthesis into a concise expression that summarizes the fulfillment of the innovation intent in an easy to grasp format, especially making it clear to any stakeholder. It expresses the value proposition, targeted users, key activities, performance, channels, resources, cost structure, revenue streams, strategy, and similar key factors. The Vision Statement is often developed during the process of crafting a Strategy Plan.

HOW IT WORKS

STEP 1: Review the project and summarize the key results.

Go through the whole innovation process (research, analysis, synthesis, realization) and summarize the key results such as insights, principles, innovations, prototypes, strategies, plans, roadmaps, and others.

STEP 2: Create an outline for the vision statement.

Based on a good understanding of the project, outline a short Vision Statement that best communicates your innovation to the stakeholders. Distill the innovation process and the results down to just the most essential parts. This outline may be based on a revision of the innovation Intent Statement written earlier in the process. It has parts such as customers, needs, opportunities, new values, and risks.

Alternatively, consider these three parts for the Vision Statement:

A compelling title and a supporting phrase

Short descriptions of challenges and solutions

Illustration of key benefits

STEP 3: Write a title and a supporting phrase for the innovation.

Create a distinctive and compelling title for the proposed innovation. Just as in a slogan, in a few words, write a short supporting phrase to concisely express the essence of the innovation.

STEP 4: Write short descriptions of challenges and solutions.

Write a short description about the challenges (problems) being addressed by your project. In parallel, write about how the innovation solutions respond to these challenges and what benefits (value) they bring to face those challenges.

Step 5: Illustrate key benefits of the solutions.

Using key images, captions, and descriptions, illustrate key benefits of your most valuable solutions. For this, create three to ten illustrations with diagrams, screen shots, research settings, prototypes, scenarios, strategies, implementation issues, and others.

STEP 6: Visualize as an overview.

Create an overview visualization of the Vision Statement. Embody the overview as a presentation (up to ten slides), a poster, a brochure, or a short document (one to five pages).

Step 7: Review with stakeholders and revise.

Share the Vision Statement with stakeholders. Get feedback and revise as needed.

BENEFITS

Creates overview

Organizes information for easy access

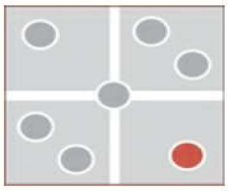
Builds alignment in the organization

Defines direction

Improves communication

Structures existing knowledge

WHEN TO USE



INPUT

Key results like insights, principles, innovations, prototypes, strategies, plans, roadmaps from project

OUTPUT

Overview visualization showing the key aspects of the solution and the project

9. Innovation Brief

Making the vision for innovation offerings understandable for all stakeholders

WHAT IT DOES

The Innovation Brief is a method for translating innovation plans into messages and images that make them understandable to stakeholders and end users. It divides all communications into three aspects: the message, the intended audience, and medium through which it is delivered. Empathy, metaphor, analogy, visualization, and emotional design are all employed in conjunction with planning activities to think through how we will present our offerings. The method is a structured approach to communication that promotes consistency of message in various forms. It also involves delivering messages differently to diverse audiences like finance managers, marketing researchers, engineers, or end users.

HOW IT WORKS

STEP 1: Review your Strategy Plan and Vision Statement.

Identify key messages presented in the Strategy Plan, Vision Statement, and other similar explorations and choose the core ideas that you need to communicate.

STEP 2: Consider the audiences.

Think of different audiences to be addressed in order to implement your innovation solutions. In addition to key messages, determine what kind of detailed information is needed to engage the audience and engender their buy in. Consider how conversations are framed with this audience so that they understand the offerings and the role they need to play during implementation.

STEP 3: Explore different methods of delivery for different audiences.

Think about various presentation formats for your different audiences. Will the content be presented through factual data, illustrations, visualizations, stories, or expressions that appeal to emotions? In most cases, it will consist of a combination of formats. Select modes of delivery that help emphasize points that matter most to the particular audience. For example, quantitative points of reference may give a finance-minded audience a sense of comfort and readiness to engage with your message.

STEP 4: Develop an Innovation Brief for each audience.

Discuss the role a particular audience plays in the implementation. Identify what matters to that audience, and determine how you will engage them in your communications. Based on this understanding, review all your findings from the whole innovation process and extract the key pieces that communicate best to the audience. Compile all these pieces into an effective communication document or presentation for delivery.

STEP 5: Test, refine, and deliver the Innovation Brief.

Review the communication documents and presentations. Test them with audience representatives, obtain feedback, and refine. Based on the feedback, deliver the Innovation Brief as a compelling communication experience.

BENEFITS

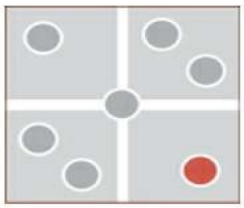
Builds alignment in the organization

Encourages comprehensiveness

Improves communication

Supports transition

WHEN TO USE



INPUT

Strategy Plan, Strategic Roadmap, and Vision Statement

Key audiences relevant to implementation

OUTPUT

A communication plan identifying different audiences and respective communication strategies and tactics for each