

# DESIGN THINKING



## DESIGN **THINKING**



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## DESIGN **THINKING**

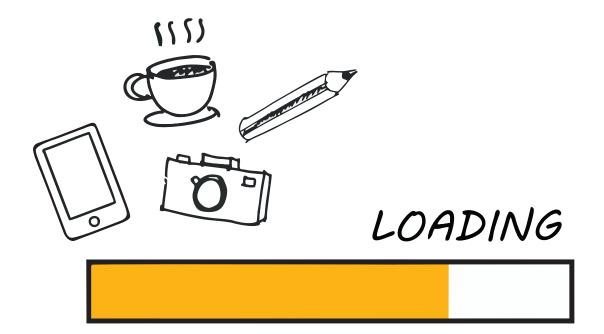


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Engineering, Medicine, Business, Architecture, and Painting are concerned not with the necessary but with the contingent - not how things are but how they might be-in short, with design... Everyone designs who devises courses of action aimed at changing existing situations into preferred ones.

Herbert Alexander Simon, Nobel Laureate

## DESIGN THINKING





While working to be a good designer, you can think like a designer and design the way you lead, manage, create and innovate. Design should be such that the way of thinking can be applied to systems, Preamble procedures, protocols, and user experiences.

> The purpose of design, is to improve the quality of life. Design begins with setting a strategic intention. If you are mapping out a strategy, you are designing.



# What is Design Thinking?

Design Thinking is more than a methodology. It's a mind set and a culture that the designers embrace to solve complex problems, and find desirable solutions for clients. Design culture is about empowering individuals in an organization that promotes understanding and respect for customers, lays emphasis on careful and intentional decisions, has high degree of tolerance for failure and rediscovers the paradigm of human centered business.

Design Thinking draws upon logic, imagination, intuition, and systemic reasoning, to explore potential possibilities and create desired outcomes that benefit the end users.

## DESIGN **THINKING**



# The five key stages of **Design Thinking** approach include:



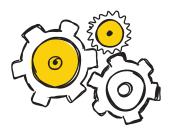
**Empathize & Discover** 



Define & Interpret



Design & Ideate



**Develop & Experiment** 



Scale & Evolve

#### **EMPATHIZE & DISCOVER**



- » Research audience
- » Ask right set of questions
- » Uncover unmet needs

# DEFINE & INTERPRET

- » User view, research and insights to identify outcomes
- » Question Status quo
- » Unique POV with user stories, innovations
- » Communicate POV through storytelling
- » Experiment, Explore new avenues
- » Brainstorm user centric themes/ideas
- » Communicate, Show your ideas
- » Refine ideas based on user feedback

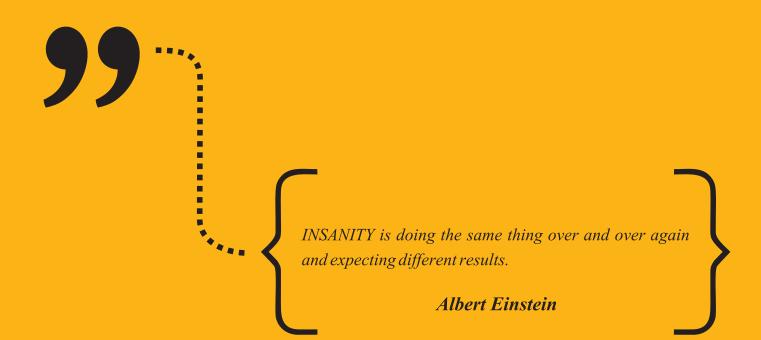




- » Build a pilot/prototype
- » Simulate real user conditions & interactions
- » Incorporate Prototype feedbacks from users
- » Evaluate, Feedback
- » Measure impact
- » Make necessary changes



Fig 1:5 Key Stages in Design Thinking Process







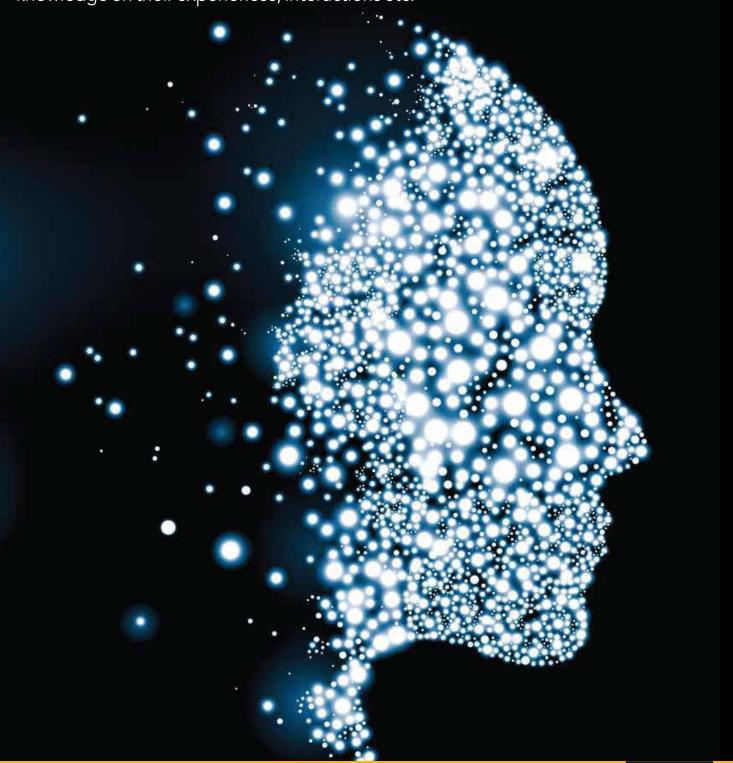


# **EMPATHIZE & DISCOVER**



## **EMPATHIZE & DISCOVER**

During this phase, we need to pit ourselves into end user's shoes, deep dive into learning their needs, uncover the problem that we are trying to solve. The team talks to key stakeholders and users through brainstorming sessions and interviews to develop sound knowledge on their experiences, interactions etc.



Empathize & Discover Define & Interpret Design & Ideate Develop & Experiment Scale & Evolve

#### **Activities**

- User Interviews
- Hallway discussions
- Brainstorming sessions
- Informal Chats

#### **Tool Used**

- O Checklists Interview
- ⊙ Observation & Writing Tools
- ⊙ Flip cards/Flip charts & Paper
- O Camera

Empathize & Discover

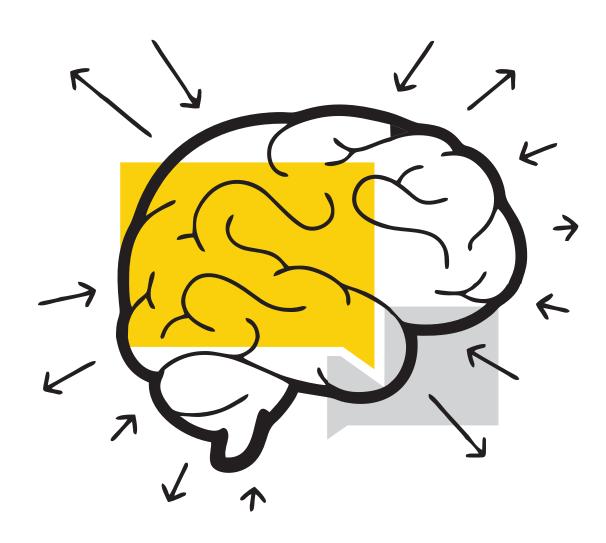
#### **Deliverables**

- O Personas & Empathy Map
- User feedback & Comments
- Crisp, Concise problemDefinition

Fig 2 : Activities, Tools & Deliverables (A.T.D) in Empathize & Discover



# **DEFINE & INTERPRET**



### **DEFINE & INTERPRET**

We derive key insights, formulate hypotheses and informed decisions from the inputs in <u>EMPATHIZE & DISCOVER</u> phase. The goal here is to develop clarity on the problem by asking relevant questions to stakeholders and users.

The team challenges status quo by asking intriguing questions like:



#### What is the problem we are trying to solve?

Have we identified the problem and is it a real one?



#### Where are we moving?

Are we moving in the right direction and we have all the relevant information like problem definition, constraints, impact etc.



#### Who are we helping here?

Identify the users/user groups who would get benefitted



#### What is the differentiator and value proposition?

If the problem is solved, what are the benefits and advantages for the user/user groups



#### What are the various scenarios and situations?

Identify all use cases and interactions that lead to various emotions like happy, angry, sad, fear, surprise etc.



#### How and When does a scenario/incident occur?

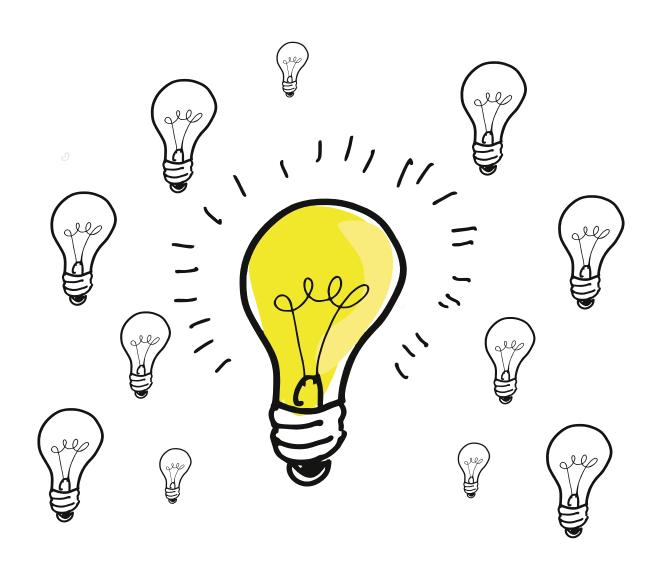
Analyze different user scenarios (timing and sequence of events) that lead to users' emotional highs and lows

## **Tool Used Activities** Drawing and Writing Tools Workshops ⊙ Post-it Stakeholder Meetings • White-board, Flip cards, Charts User Feedback templates Define & Interpret **Deliverables** Design Brief O Stakeholder map O Context Map Customer Journeys Opportunity map

Fig 3: Activities, Tools & Deliverables (A.T.D) in Define & Interpret

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# **DESIGN & IDEATE**



### **DESIGN & IDEATE**

This is the critical and the most celebrated phase of Design Thinking. The team will be challenged to think out of the box and brainstorm on myriad of ideas. The team will suspend arriving at judgements and solutions since all ideas are accepted whole heartedly with a simple premise that no idea is imaginative.

This is the most fun and enjoyed activity. The teams involved are encouraged to come up with maximum number of ideas in a single session (quantity is key here. More is always better). The team members involved here wear the hats of dreamers, thinkers and future visionaries.



Empathize & Discover Define & Interpret Design & Ideate Develop & Experiment Scale & Evolve

#### **Activities**

- O Ideation
- Brainstorming Workshops
- Mind maps
- ⊙ Sketching and Drawing

#### **Tool Used**

- Drawing and Writing Tools
- ⊙ Post-It
- Flipchart and Whiteboard
- Personae (from EMPATHIZE & DISCOVER)
- O Design Brief (from DEFINE & INTERPRET)
- Brainstorming Tools

Design & Ideate

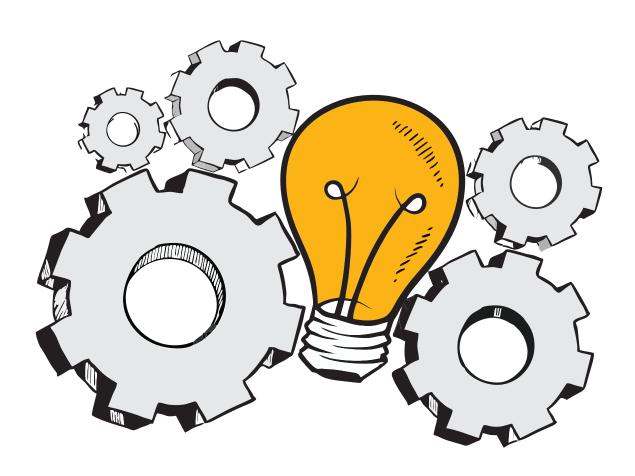
#### **Deliverables**

- ⊙ Ideas/Concepts
- ⊙ Sketches
- Priority Maps
- ⊙ Affinity map
- Idea Evaluation

Fig 4: Activities, Tools & Deliverables (A.T.D) in Design & Ideate



# **DEVELOP & EXPERIMENT**



## **DEVELOP & EXPERIMENT**

A prototype can be a paper model, story board, Wireframe or a cardboard box. It allows us to quickly visualize and identify the best solution among several concepts.

Through prototypes, the idea is conveyed and shown to users. The fidelity of the prototype does not matter as the goal here is to quickly show the model and collect user feedback.

The fundamental aspect of prototype phase is to Experiment, Fail often and Early.

Empathize & Discover Define & Interpret Design & Ideate Develop & Experiment Scale & Evolve

#### **Activities**

- Space Prototyping
- Physical Prototyping
- Paper Construction
- Wireframe Building
- ⊙ Storyboards & Role plays

#### **Tool Used**

- O Paper
- Cardboard
- Construction Materials
- Cutting & Writing Tools
- ⊙ Space & Props

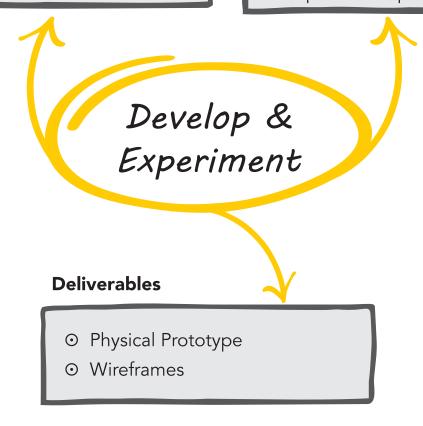


Fig 5 : Activities, Tools & Deliverables (A.T.D) in Develop & Experiment

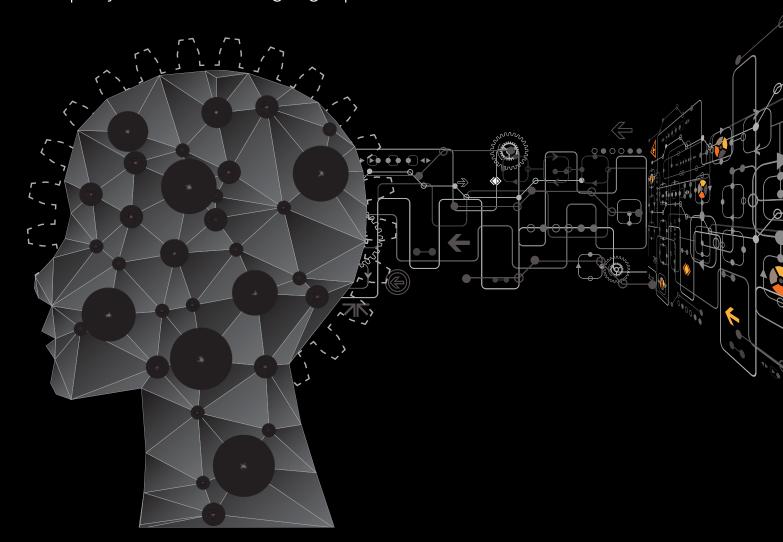
# 5 SCALE & EVOLVE



## **SCALE & EVOLVE**

This is an iterative phase of the Design thinking process and provides the team with user feedback based on rigorous testing of the prototype. The primary goal of the testing is to learn what works, what does not and then iterate and improve.

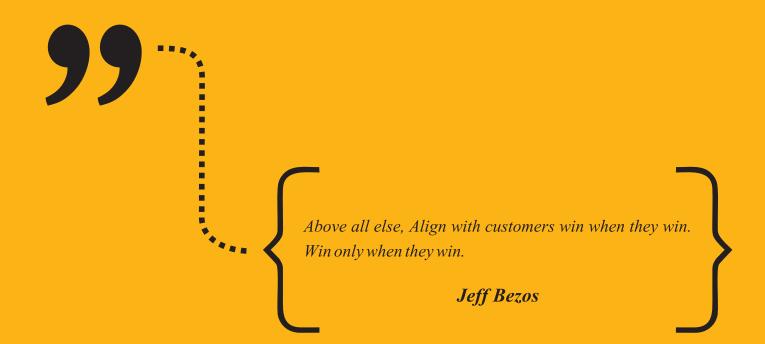
This phase ensures that the team comes back to the essential core of the design Thinking i.e. empathy with users and designing as per their needs.



Empathize & Discover Define & Interpret Design & Ideate Develop & Experiment Scale & Evolve

## **Activities Tool Used** O User Testing Briefing Checklist Observations ⊙ Interviewing Checklist O Picture-Taking Observation Checklist Evaluation & Discussion Prototypes to Test Scale & Evolve **Deliverables** O User feedback Observations Evaluation Map Proposed Refinement & Improvement

Fig 6 : Activities, Tools & Deliverables (A.T.D) in Scale & Evolve



# Why

## do we need Design Thinking?

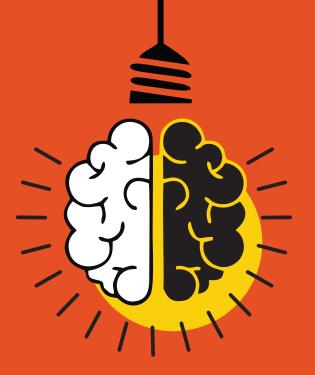
In today's marketplace, the mantra to survive is innovation. Innovation distinguishes between a leader and a follower. Enterprises and companies who innovate continuously and smartly, understand consumers better to create competitive advantage over their competitors to win the game.

Design thinking allows companies to innovate and explore opportunities, address unmet consumer demands and help them develop a better customer journey and context awareness.

Companies like 3M and Apple adopted design thinking in most of their projects to achieve and record stupendous success.

Design thinking serves as a swiss knife to address any kind of problems that:

- Are Poorly defined
- O Lack insights & data points to arrive at a solution
- Have strong impact on human needs
- O Change based on context and situation



# What

## makes Design Thinking Unique?

In psychology, the left part of the brain controls and performs tasks related to logical and analytical reasoning such as mathematics and science, whereas the right hemisphere controls and performs creative, imaginary and visualization activities such as creative arts and design.

Some of the key characteristics of Design Thinking that make it unique include:

- Anyone can use design thinking
- O It is fun
- Advocates empathy with people
- Seeks to define the problem actively as finding the solution
- Ideates and explore options
- Collaborative and involves iterative prototyping
- Solves problems of diverse types

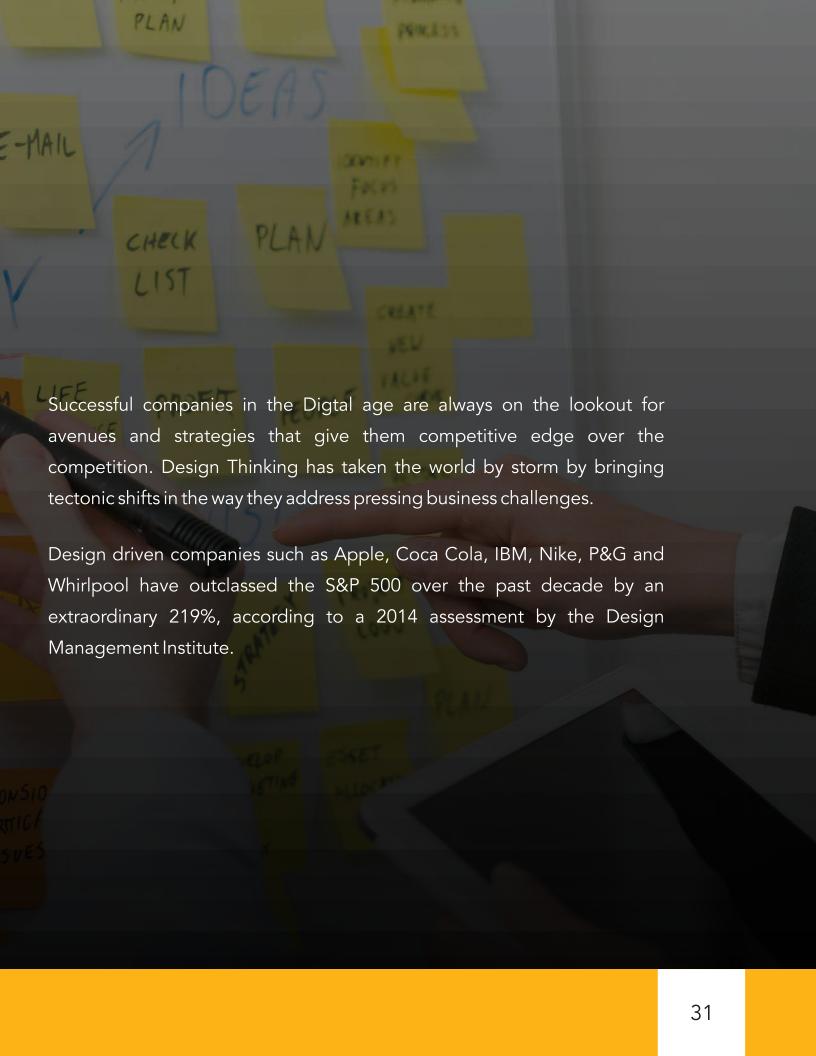


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I cannot count the number of clients who have marched and said 'Give me the next iPod'; But it's probably same as the no of designers I have heard respond 'Give me the next Steve Jobs'

Tim Brown, CEO IDEO





## **DESIGN THINKING**

## Design

## Conscious Companies



The Design Value Index(DVI) Study shows 10 year returns of 2.19 times (219%) that of the S&P 500

Chart 1 : Design Value Index Study Results













StanleyBlack&Decker







Brilliant design in products and services appeals users and brings in "a-ha" moments. Leading global corporations like P&G, GE, IBM, Pepsi and SAP have adopted Design Thinking to re-invent, re-imagine and re-launch their successful products.

With Design Thinking, the innovation compass in these companies has shifted from R&D driven to design-driven, from product/service-centric to customer-centric.

Design thinking approach in successful companies demands the leadership team embrace a growth oriented mind-set, since the crux of the design thinking centers around Experimenting, Learning & Scaling.

Carol S. Dweck, a noted psychology professor, who believes in the power of continuous improvement quotes, "The growth mind-set with its willingness to embrace mistakes ultimately fosters greater creativity, innovation and achievement."

## FIXED MINDSET

Intelligence is static



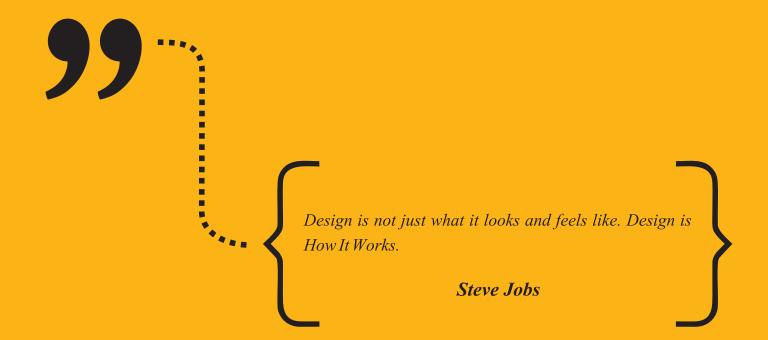
Fig 7 : Fixed mindset characteristics

## **GROWTH MINDSET**

Intelligence can be developed



Fig 8 : Growth mindset characteristics







## **VISUALIZATION**

A potent tool in bringing clarity and purpose using images in understanding customer requirements. The focus here is to push the boundaries beyond words and language to communicate with the users. It's all about visual thinking and stimulating the grey matter in the brain for empathizing with users (understand user anxieties and emotions).

When we explain ideas verbally we tend to make our own mental schema for the idea, usually influenced by our background and work experience.

For e.g. when we say, "We need a new digital platform" the IT team envisions physical servers and tools to manage them, while a marketing guy thinks it as a means for marketing automation to drive leads and revenue. If instead, the team used picture, visual models to represent an idea, then we would be successful in removing the mismatch in mental patterns and pictures.



## **JOURNEY MAPPING**

A powerful ethnographic research technique that depicts the entire story (comprising perspectives, emotions, opinions, and views) from a user's association with an organization, product/brand, service, over a period across all the channels.

Experience mapping is generally represented in visual and graphical form emphasizing the important common traits between user expectations and business requirements. It throws light on a user journey: the paths they take, trails they leave during their interaction with special attention to emotional ebbs and troughs.

This technique is very helpful in identifying and articulating the needs of the customers that are difficult to be expressed.

### The steps involved in Customer journey mapping include:

- Synthesize a hypothetical view of what a specific customer group's journey pans out
- Conduct interviews with identified number of customers
   (small sample preferred) to validate customer journey and make
   sure that all steps and goals are captured correctly
- Discover key moments of truth and themes from customer interviews and identify multiple dimensions that the team believes are helpful in realizing the differences in the data points that you have identified
- Generate set of hypotheses for testing



3

# VALUE CHAIN ANALYSIS

Value chain analysis examines how enterprises interact with value chain partners to, market new offerings and ideas. Analysis of the value chain offers ways to create better value for customers along the chain and uncover important clues about partners' capabilities and intentions. It helps cross functional teams, value chain partners satisfy heightened customer expectations and create new value propositions for the business.

It describes foundational building blocks of customer experience for stakeholders regardless of their functions, departments. It identifies desirable customer outcomes and provides a guideline to align those outcomes with strategic business goals.

## MIND MAPPING

Mind mapping represents how innovative ideas or items are linked to a central core idea and to each other. Mind maps are used to generate, visualize, structure and classify ideas in search for patterns and insights that provide key design inputs and considerations.

This is done by displaying the data and asking users to cluster them in ways that allow themes and patterns to be emerged. It should be noted that mind mapping is a team sport, where team members try to visualize, represent key learnings and display them as clearly as possible.

The teams create posters that capture themes and data trends/patterns, later they invite a target audience comprising of thoughtful users for an interactive design tour/workshop to seek feedback and learn from them. Any new learnings found during the workshop are clustered and incorporated as themes and an updated mind map is released.



## **RAPID CONCEPT DEVELOPMENT**

Helps us in generating hypotheses about potential new business opportunities.

Firstly, we consider design criteria and premises, customer personas and pain points along with value chain insights unearthed during research phase to generate innovative ideas. Secondly, we put together the ideas into a manageable chunk of exciting ideas/concepts. Finally, we elaborate on the business design and rationale behind those identified concepts. This technique helps us to generate ideas and let the customers evaluate and provide feedback on them as soon as possible.



## **ASSUMPTION TESTING**

Focuses on identifying key assumptions around the prospect of identifying the solution for a business problem or opportunity.

The team aggregates all available data points and connects them to assess the likeliness that these assumptions will turn out to be true and valid. These assumptions are then subjected to mental assessments/experiments, followed by on the field experiments. Once the team determines which assumptions are critical to the potential attractiveness of new concept or opportunity, they sort and arrange the data points into following 3 categories viz., what you know, what you don't know and what you can't, and what you don't know now but could uncover in future.



# RAPID PROTOTYPING



Includes techniques that enable us to transform abstract ideas into tangible value propositions to potential customers. These include storyboarding, scenarios highlighting user motivations and goals, experience mapping and journey elicitation and business idea representations — all of which advocate complete involvement by key stakeholders to provide feedback.

The goal of the prototyping is to minimize the investment (I in ROI) for the project sponsor.

Business idea/concept prototypes are best depicted in visual and narrative forms i.e. through images and stories. They can even include role-plays and skits. The end users should be allowed to play and explore the prototype with the sole intention of validating.

# CUSTOMER CO-CREATION



Comprises of methods that allow design thinking team engage customers in the process of generating and developing new business ideas of mutual synergies.

These techniques enhance value, reduce risk and propel growth and innovation. The team closely works with customers to get feedback on unfinished, working product to learn their feedback and comments. The key to innovation here is to learn and hear from customers by getting a workable product in front of them that they can interact, react and assimilate.

The team assembles diversified and candid group of customers by providing them visual appeal and stimulus - nevertheless not a fancy looking product at this stage. Leaving a few threads and dots unconnected is a wonderful way to elicit the customers' creativity and competence.

## **LEARNING LAUNCHES**

Focus on "Build Fast, Fail Early & Learn Quickly". The quick learning launches are included to test the underlying value proposition and assumptions, hypothesis for a potential high growth opportunity.

In contrast to a full-blown product rollout, a learning launch is an experiment conducted quickly and inexpensively to gather market and consumer data. These could be termed as soft launches, as they are targeted towards real users and live market scenarios to gather reliable and authentic data to validate the launch. The users act as cocreators in the entire process who at a later stage could be converted into potential customers. The soft launches or learning launches are a true test bed to validate the product idea and customer's willingness to purchase the final product.



## **STORYTELLING**

A strategic tool which weaves together facts and findings, user persona, challenges and interactions, anxieties etc. to create a visual representation.

It's very much like visual story telling – a story laden with user journeys, challenges that enable design thinkers to find new avenues and ideas to develop compelling solutions. To make impactful change, a key skill to develop is to learn how to deliver a persuasive story filled with data, design, analytical thinking. Stories filled with pictures and images allow us to feel the emotions, leverage creative visualizations, liberty and underline experiences. They build a context awareness and enable us to present a problem along with a solution.

Remarkable stories have few key common traits: they connect and engage the audience. It is imperative to have a strong storyline with lot of attention given to the plot and sequences that are interwoven, linked to keep the audience captivated. A story set in the backdrop of a dynamic, challenging business scenario, with key story characters(stakeholders) play around to work out the plot (find innovative solutions). As the story unfolds, there would be tension, mysteries unraveled, keeping the audience on tenterhooks - here is where as a Design Thinking expert, you need to connect all the dots (data points, research findings, user feedback and creative visualizations) to drive home pivotal pointers (business results). During the climax, the mystery is solved (resolution unveiled).

The solution revealed must be compelling laced with metaphors and analogies to add a tincture of life to your story!

"

The main tenet of design thinking is empathy for the people you're trying to design for. Leadership is exactly the same thing - building empathy for the people that you're entrusted to help

David M. Kelley



The key elements of a design driven culture include a better understanding of the customer, bring in empathy, designing in real time with customer experience as the top priority, acting swiftly based on user feedback.

Here are some of the best practices to develop a design driven culture in your organization.

- O Expand the horizons, inculcate growth oriented mindsets in designers
- Develop a common language and framework for design thinking as an innovation catalyst
- O Learn practical tools and techniques you can use on the job
- Equip team members with design thinking action plan, activities, tools/templates, and checklists
- O Decisions should be taken around user's anxieties, challenges
- Establish standard set of rules to govern team collaboration and customer co-creation
- O Develop an integrated design thinking model with business processes that improves innovation outcomes
- Establish a clear guidelines and rulebook about when NOT to use design thinking





Design Thinking strongly relies on empathy to put customers and end users at the center of the problem-solving journey. With end users at the center, Design becomes a magic wand to achieve agility and change, disrupt business models and approaches with a human touch, attract and nurture talent, build competitive advantage, and a strong brand.

Leadership in an organization should foster a culture that rewards risk taking and teamwork, encourage experimentation and advocate the principle of "Fail safe and early". Failures should be treated as opportunities for learning

### References

https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

https://www.brainpickings.org/2014/01/29/carol-dweck-mindset/https://hbr.org/2008/06/design-thinking

https://designthinking.ideo.com/

https://dschool.stanford.edu/

Mapping Experiences: A Complete Guide to Creating Value through Journeys, Blueprints, and Diagrams by James Kalbach



ACL Digital Lean Digital Practice enables large enterprises rearchitect and reengineer their front, middle and back office operations, helps prevent costly mistakes by assuring technology decisions are aligned with the business and that those decisions result in the right business outcomes in line with organization vision.

We are committed to deliver continuous value to our clients leveraging our unique Lean Digital framework derived from helping more than 100+ clients to innovate, integrate and transform their business process operations. Our Lean Digtal framework comprises three distinct phases viz., Innovate, Launch and Scale

### **INNOVATE**

Minimize risks by fully exploring the definition of the problem across business, customer and technology stakeholders

### LAUNCH

Minimize the risk of complex technology execution and successful roll out

### **SCALE**

Extract long-term economic benefits by reducing operational costs and scaling with more customers achieve measurable impact such as growth, cost efficiency, and business agility.

Our Lean **Digital Transformation framework** combines comprehensive digital perspectives with an accelerated lifecycle to help organizations mitigate risks in their transformation journey. Our digital perspectives led by experts combine business leaders, customer-experience designers and technology evangelists under one roof to minimize gaps in understanding the true nature of the business problem and close the knowledge gap.



# SERVICES

Our Digital Transformation Services span across full spectrum of Advisory & Consulting, Product Design, MVP development, Rapid Prototyping, Unified Customer Experience, Digital Marketing.



### UI/UX

Brand Strategy, Creative design, Interaction design, High Fidelity Prototypes, Rapid Prototyping



### **Mobility**

Hybrid & Native Apps, Device Mgmt., Access Mgmt., Enterprise Mobility Apps, Oracle, SAP Apps, UI/UX, Mobile Integration & Testing



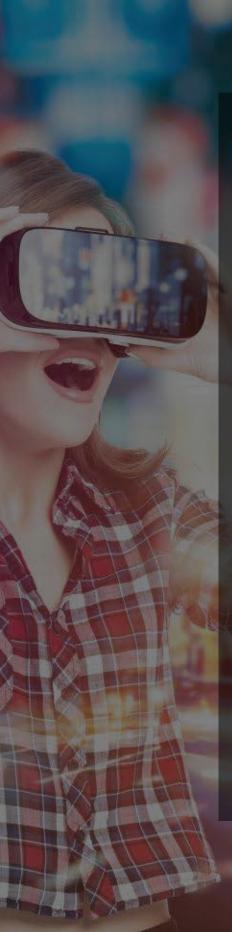
### **Design Thinking**

User Research, Empathy Map, Customer Journey Map, Lean UX



### **Robotic Process Automation**

Business Process automation for Healthcare, Higher Education, Manufacturing, Retail industries





### **Security**

Identity & Access Management, GRC, Data Protection & Privacy, Cloud Security, Network Security and Managed Services



### **Big Data & Analytics**

Data Management, Governance, Data Warehouse design, ETL, Dashboards, Alerts & Prompts, Reports Factory, Data visualization, Predictive Modeling, Data Science, Analytics as a Service



### Cloud

Consulting (AWS, Azure), SaaS/Cloud Build – Private, Public & Hybrid, Infrastructure Management, Application Management, Architecture & Integration, Cloud Migration Factory



### IoT

Integrated Asset Management, Connected Manufacturing, Connected Health, Digital & Connected Learning, Connected Customer, Connected & Smart Vehicle, E2E Platform Consulting & Services



## Some of the key Digital Transformation projects delivered by ACL Digital Includes:

- Integrated workflow apps to enhance value from health IT systems to improve revenue consolidation, operational efficiency for a leading health services company
- Comprehensive BI assessment, strategy to focus on Enterprise CRM, Mobile BI programs for a professional American football club
- Azure Cloud Integration and Management for a leading global advisory, broking and solutions company
- A native mobile app with real-time view of inventory directly on associate mobile devices, thus ensuring on-time inventory replenishment for a retailer
- A native mobile app focused on providing engagement channels around fitness, workout experience for a global athletic footwear and apparel company
- Fully responsive flash sales portal leveraging APIs, microservices for seamless customer experience for a global mobile handset manufacturer
- Responsive dealer portal for providing personalization and effective price prediction for an automobile auctioneer
- Cloud-based Virtual Learning app for one of the world's largest online university
- Real time Supplier Connect app for a leading Hotel consolidator in India
- HIPAA compliant patient payment portal for a healthcare payment company in USA
- DDoS attack protection and mitigation software for a leading cloud security solution provider

# Our Global FOOTPRINT

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Ravi is a Design thinking enthusiast who is a strong proponent of integrating empathy and imagination, the core principles of design with a pragmatic approach to drive innovation and solve business problems to help companies drive deliver results.

He has rich experience in Digital Transformation, Outsourced product engineering, Customer value creation, User centred design solutions for Healthcare, Retail, Education & Travel industries. His areas of interest and research include Digital customer Experience, Customer Journey maps and Digital Strategy & Consulting. You can reach him at ravi.raichur@acldigital.com

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