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Design Thinking & Innovation

Industrial Innovation Gap: Importance vs. Performance

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- In the 2015 BCG survey, 70% of executives replied that innovation was either the company's top priority or among the top three.

  Surveys by KPMG, IESE, and The Conference Board confirms

- Executives consider innovation as the most critical capability for the future success of their companies. But when asked about their satisfaction with the performance of innovation, less than 20% of the executives was happy based on a survey of our clients."

  —London School of Economics and Political Science, 2016

Firms are accelerating efforts to change their cultures, foster innovation, and serve customers more effectively.

A definition of Innovation:

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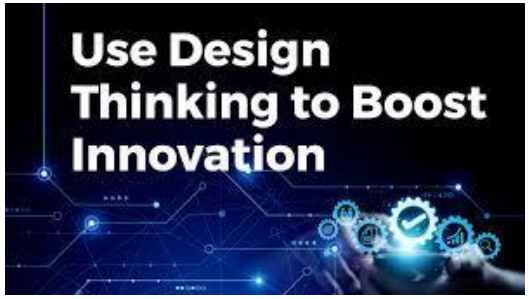
Executing an **idea** which **addresses a** specific (real) **challenge** and **achieves value** for both the **company** and **customer**

(summarised by N. Skillicorn)



Design Thinking: An enabler of Innovation

Hasso Plattner Institute of Design (Stanford University) model:

Design Thinking encourages firms to focus on the users they are creating for, which leads to better products, services, and internal processes.

The model consist of E-D- I -P-T

Industry adoption of Design Thinking

- Design Thinking for innovative problem solving has been trusted by an array of Industry leaders like;













[to name just a few]

McKinsey: companies adopting design as a business practices is more resilient — innovating, analysing, and strategising to solve complex problems during hard times.

Innovation: A tool for Entrepreneurs – Peter Drucker
(Extended to Intrapreneurship)

- Entrepreneur Is **one who always searches for change, responds to it and exploits it as an opportunity.**

- **Innovation is the specific tool of entrepreneurs**, by means of which they exploit change as an opportunity for a venture.

- **Systematic innovation** means **monitoring seven sources for innovative opportunity**. The first four lie within the enterprise; and three are due to changes outside the enterprise.

  - The lines between these sources are blurred and often overlap, however, each requires separate analysis

Monitoring of sources for innovative opportunity (that lie within the enterprise)

- **Unexpected success or failure:** IBM's Univac, designed for scientific work, became popular in business applications such as for payroll.
- **The incongruity between what actually happens and what was ought to be:** If things are not happening as they should, there is scope to innovate.
- **The deficiencies in a process, that are taken for granted:** If a process is inefficient and suffers from a big performance gap, there is scope to innovate. An innovator, with an out of the box thinking, may come up with a new idea that removes this deficiency.
- **The changes in industry or market structure that catch everyone unawares:** The emergence of new areas provides scope for innovation. For example, the success of the small floppy disk drive manufacturers had much to do with the emergence of new customer segments that preferred smaller and lighter disk drives.

Monitoring of sources for innovative opportunity (that lie outside the enterprise)

- **Demographic changes:** This result in new lifestyle, preferences and wants that call for new products or solutions. In recent years, the ageing population of Japan and Europe has created obligation for governments to control healthcare expenses.
- **Changes in perception:** For example, capitalizing on people's awareness and concern for health and fitness, an industry has emerged for gym equipment.
- **The changes brought about by new knowledge:** New knowledge can be used to develop innovative products, usually by combining many sorts of knowledge or technology. Such innovations are risky, because there is usually a gap between the emergence of new knowledge and its conversion into usable technology in a product for the market.

However, Drucker delineated that "Contrary to almost universal belief, new knowledge is not the most reliable or most predictable source of successful innovations. For all the visibility, glamour and importance of science-based innovation, it is actually the least reliable and least predictable one."

Entrepreneurial (Intrapreneurial) Mindset

- There are similarities between Intrapreneurship and entrepreneurship (while there are differences also).

- Intrapreneurs are those who think and act like entrepreneurs, while working for a corporate organization.

- An entrepreneur (intrapreneur) requires putting his/ her creativity/ individuality (originality) to develop innovative ideas for new solutions (services/ products) that can benefit the organization; referred to as 'Entrepreneurial (Intrapreneurial) Thinking'

- To be a successful innovator it calls for certain mindset with a focus on **Creating Value, Building Relationship Network** and **Creating Innovation Ecosystem** (Forbes).

Creating Value

- Measure of innovation success is whether the ideas being work upon end up creating value for customers and the organization.

- Successful intrapreneurs have the yearning for value creation and spend time designing and testing value propositions and business models.

- To them success means the value flowing back to the company in exchange of the offering, despite some failures along the way.

- Value creation is converting inputs into outputs inholding enhanced worth than their components. ‘Value’ is the perceived worth of an entity and may be viewed as how much customers (or internal next user) will pay (or benefit) for a that entity (product / service or system) relative to what is spend in producing it.

Building Relationship Network

- Building collaborative relationships with people in a corporate environment that work in key functions such as sales, marketing, production & operations, finance and legal, is important.

- without the support of such entities the ultimate goal (creation of the value proposition and business model/ to have products and services that end up in the market) it is not possible to achieve the goal and innovations to succeed.

Creating Innovation Ecosystem

- A focus on innovation as a repeatable process necessitates an ecosystem mindset; that is the learning from a successfully completed project can now be applied to future projects to help them move smoothly and faster.

- This ecosystem mindset is in a way an extension of the focus on building relationships and deepening connections into commitments to support innovation teams on continuing basis.

- Organisations with innovation ecosystems have distinct competitive edge in the current business environment.

Innovation environment

- Innovation cannot be enforced per se, however, one can create an environment in which innovation can take effect.

- **Innovation environment is the combination of** (Iske, 2015):

  - process/ organisation space (relates to agreements, incentives, organisation structure, etc.)
  - social/ cultural space (relates to behaviour, norms, values)
  - digital/ virtual space (internet, systems, social media, mobile infrastructure, etc.), and
  - physical/ real component (buildings, offices,..)

FIG: THE HYPE INNOVATION BLOG

Environment:

Playfulness and innovation - Research Studies and Findings

Liang-Hung Lin et al (IEEE Conf. 2010)…….Caitlin Quarrington (Masters Thesis, University of Massachusetts Boston, 2020)……..Eugene L. Pohancsek Jr. (Masters Thesis, State University of New York 2010)…….. Xiangyou Shen (The Journal of Creative Behavior, 2023) ……**Gist of Exegeses**

- Multiple studies have shown playfulness preferably not be excluded from work rather can be utilized to facilitate work efficiency and innovation creativity.

- Team Members' creativity can deftly be inspired in a joyful atmosphere and greater contribution of organizational innovation can come from it as well.

- Empirical research has been conducted involving many organisations, and it examines the relationship among personal playfulness, employee creativity, organizational playfulness climate, and organizational innovation.

Courtesy: Terri Klass Consulting

Environment:

Playfulness and innovation - Research Studies and Findings ……..(Contd.): **Findings**

- The findings demonstrate that personal playfulness has positive influence on employee creativity, organizational playfulness climate, and organizational innovation
- Employee creativity and organizational playfulness climate have positive influence on organizational innovation
- Employee creativity and organizational playfulness climate mediate the relationship between personal playfulness and organizational innovation

Courtesy: Creative Sensei

Value Creation and Innovation: Innovation is Value Creation

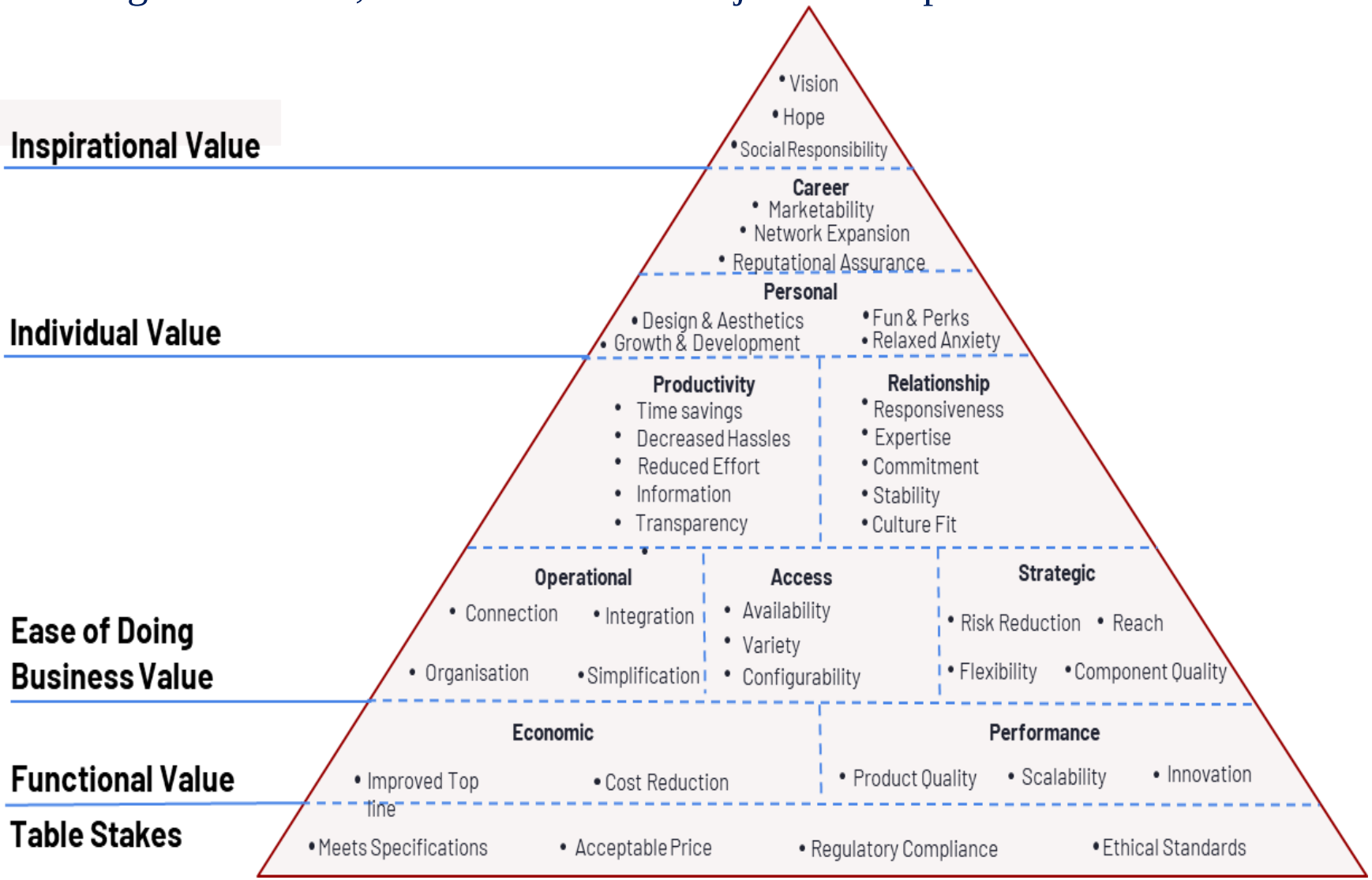
- Innovation, in essence, is the business of value creation; it is a process by which value is created by applying knowledge in conjunction with a context that was not realized until now.

- The statement can delineate three words namely, process, value and conjunction. It not necessarily endure for new knowledge, it can be a by a new way of applying the available ones.

- Design thinking has been an effective approach in driving innovation in a variety of contexts and its precepts guide the development team; beginning with getting tokens from users to ‘engineering’ the value creation.

The Value Pyramid - published in HBR (2018)

Bain & Company has structured 40 (forty) distinct types of value (in offerings to customers) into a pyramid with five levels. The most objective types of value are at its base, and the higher a level is, contains the more subjective and personal kinds of value.



Levels in Value Pyramid: [1- **Table Stakes**] & [2 **Functional Value**]

- **[1]** At the base of pyramid are **Table Stakes** (minimum requirements):

  - *meeting specifications* at an *acceptable price* while *complying with regulations* and adhering to *ethical standards.* [Given]

- **[2]** Immediate higher level is for **'Functional Value'** that address companies' performance (economic or service/ product) needs, under two sub-categories, namely, 'Economic' and 'Performance'.

  - 'Economic' category include elements as 'Improved Top Line' and 'Cost Reduction', while the Performance category entails 'Product Quality', Scalability and 'Innovation'.

  - Companies' primacy, be it buyers or sellers, is 'functional elements'.

Levels in Value Pyramid: [3- ‘Ease of doing business Value]

- [3] Elements in the third level are regarding convenience **(‘Ease of doing business Value**) under five sub-heads; ‘Productivity’, ‘Operational’, ‘Access’, ‘Relationship’ and ‘Strategic’.

  - Here, some are objective types of value, such as, increasing customers’ work productivity (*time savings, reduced effort*) or improving its operations (*simplification, organization*).

  - Nevertheless, the first set of elements that involve subjective judgments from customers are spotted here, including elements like ‘C*ultural fit’* that enhance relationships between parties, or a company’s ‘C*ommitment’* to the buyer organization.

Levels in Value Pyramid: [4 - Individual Value]

- The next level provides some other types of subjective value elements, concerning **individual buyers' priorities**, be they are under 'Personal' sub-head (*reduced anxiety,* appealing *design and aesthetics, growth and development and fun & perks*) or career (profession) sub-head (increased *marketability* or *network expansion or reputational assurance*)

- Here the elements of value can address issues related to emotional aspects, such as fear of failure when spending a big amount, or making decisions that may hit revenues, or a matter concerning a large group of employees.

- This is the reason that some suppliers design 'R*isk Reduction'* in their offerings to benefit from, and provide 'R*eputational Assurance'* to decision making individuals who are ultimately accountable.

Levels in Value Pyramid: [5 - Inspirational Value]

- Under the category ‘Purpose’ at the apex of the pyramid are **inspirational elements**:

  - those guide the customer’s ‘V*ision’* (serving a company envisage changes in its markets/ environment),

  - provide ‘*Hope’* for the future to customers (Say, scope to upgrade to the next generation of technology easily and affordably),

  - heighten a company’s ‘*social responsibility’.*

Some salient Notes on Value Pyramid

- Elements at the base of the pyramid, objective in nature, are easier to measure, and competing on them has been clear-cut.
- The emotional elements, subjective in nature, more at the middle and upper levels have always been tricky to pinpoint and quantify and, therefore, harder to implement.
- Requirement for differentiation, however, is shifting toward these less assignable (transactional) aspects.
- For a strategist (or a product manager), becoming versed with the intangibles that forms customer's total experience from the offering consisting the service, support and interactions is much harder than designing an offering of just based on functional considerations, such as to make it faster, cheaper, or more durable.

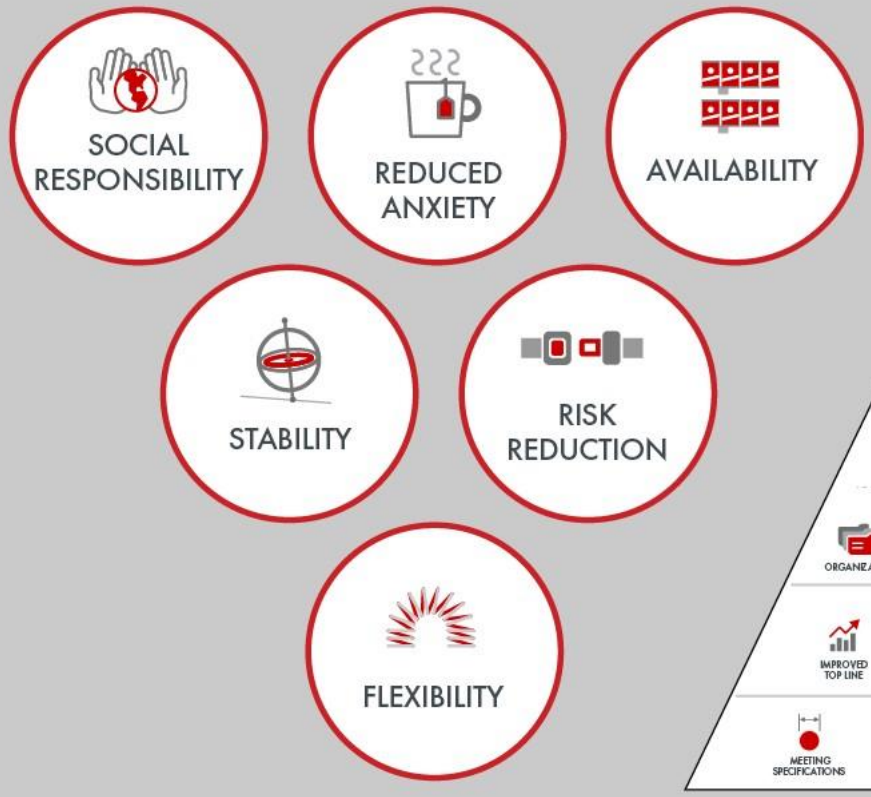
Value Perspective for Strategy Leaders and Managers

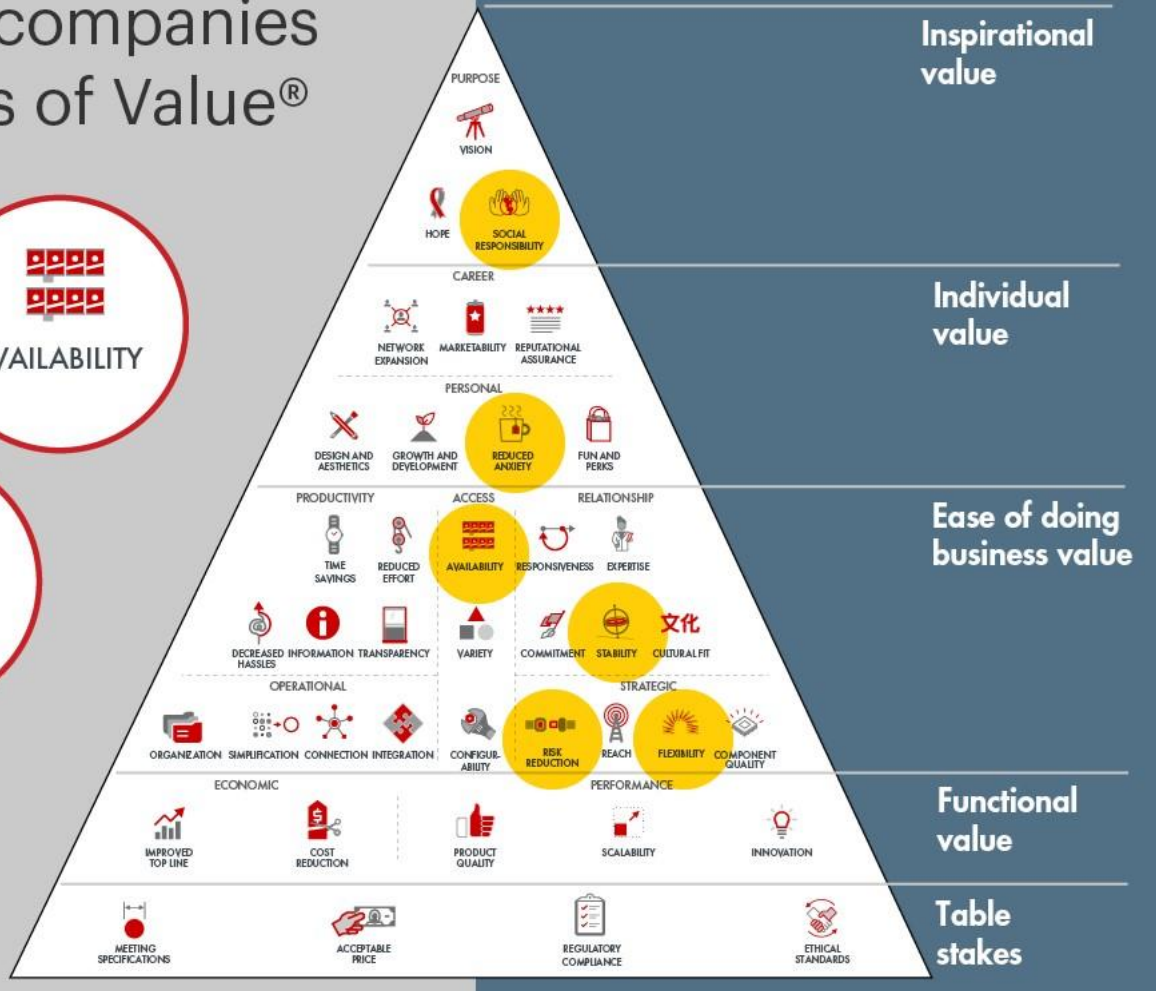
- Strategy leaders can gain insight about what the customers truly value by using modern survey/ research and statistical techniques to quantify all the elements on a consistent basis, and ascertain which aspects of an offering merit investment.

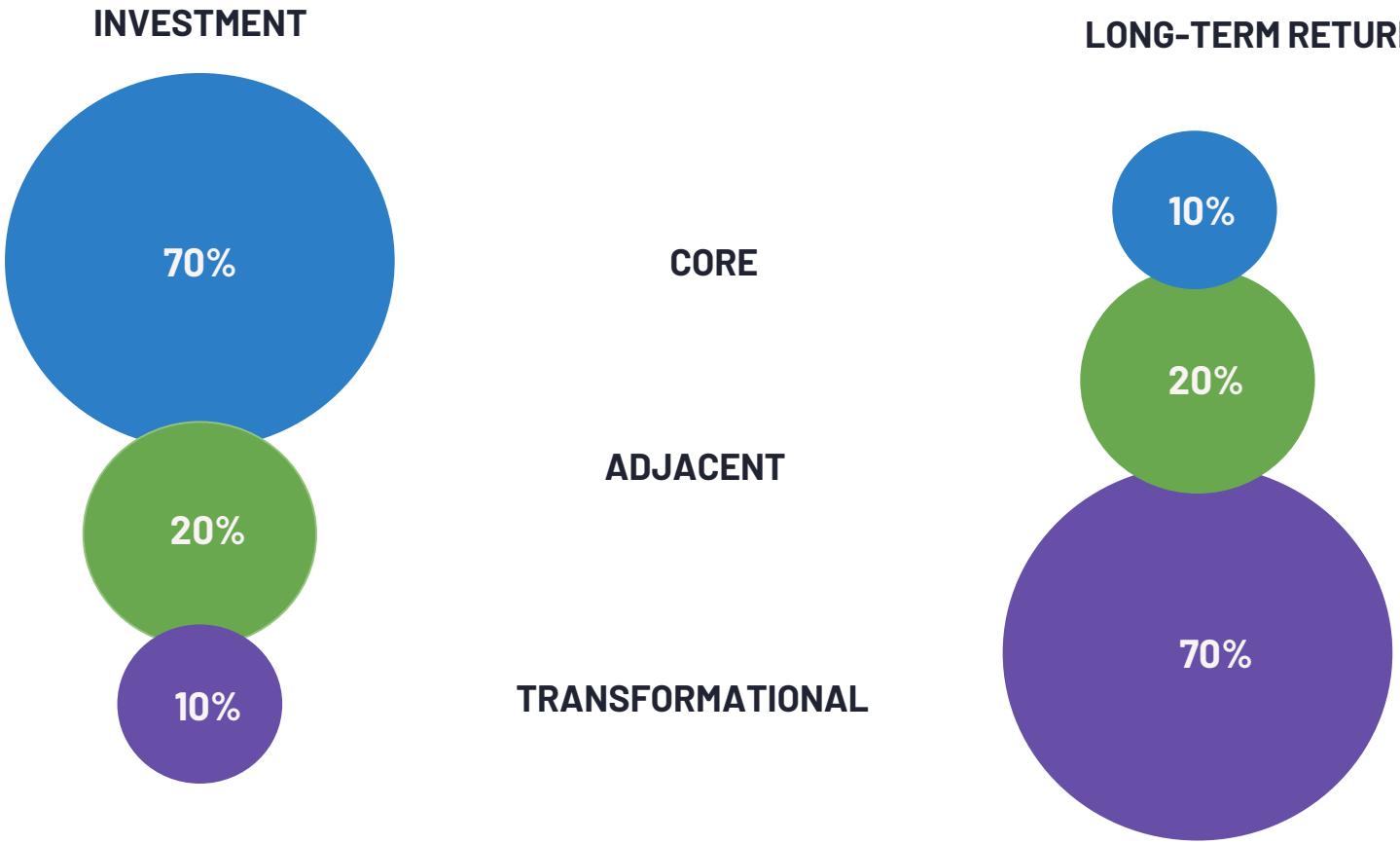
- Mangers can bring scientific rigor to a previously used intuitive approach in decision making, like someone in design domain.

The Value Pyramid : Priority example during Covid

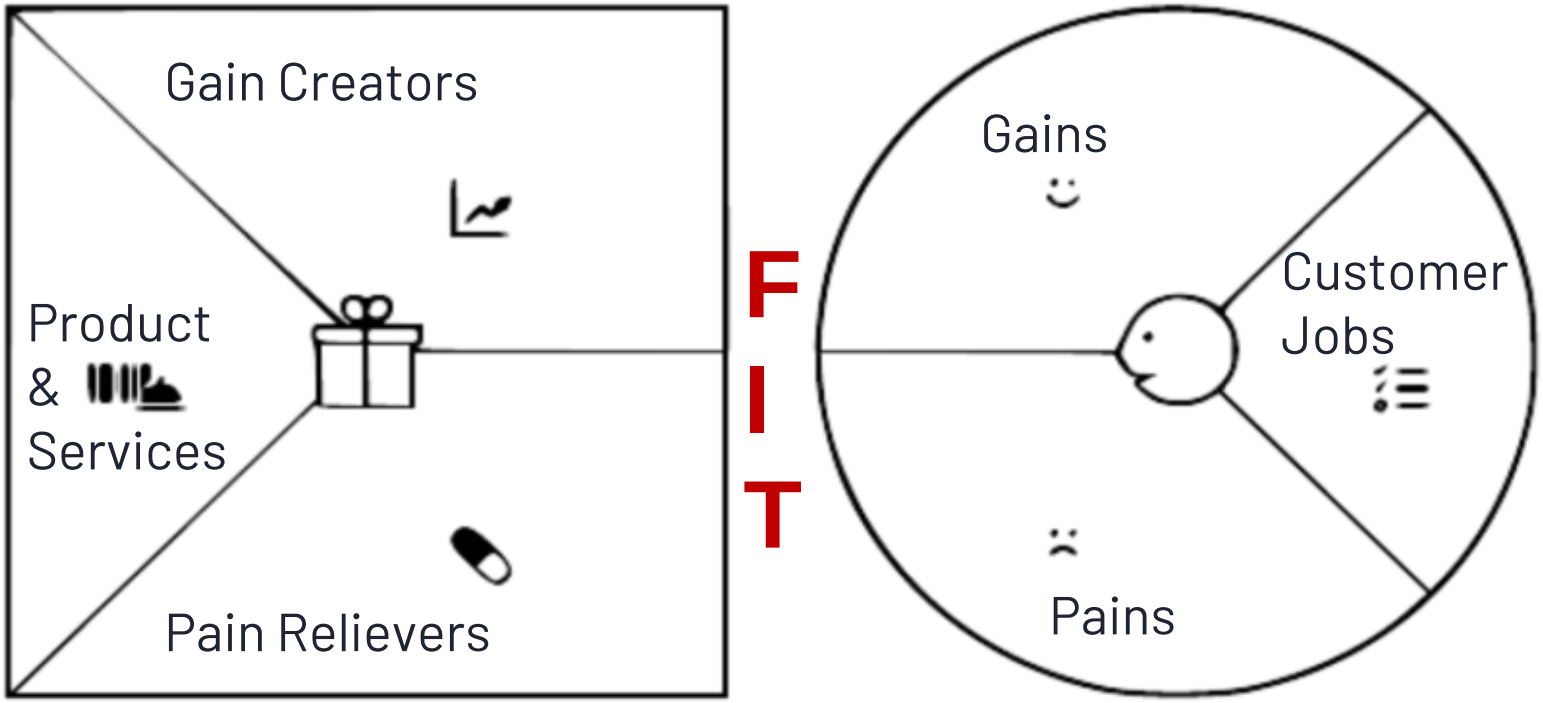
This is the time for B2B companies to focus on six Elements of Value®



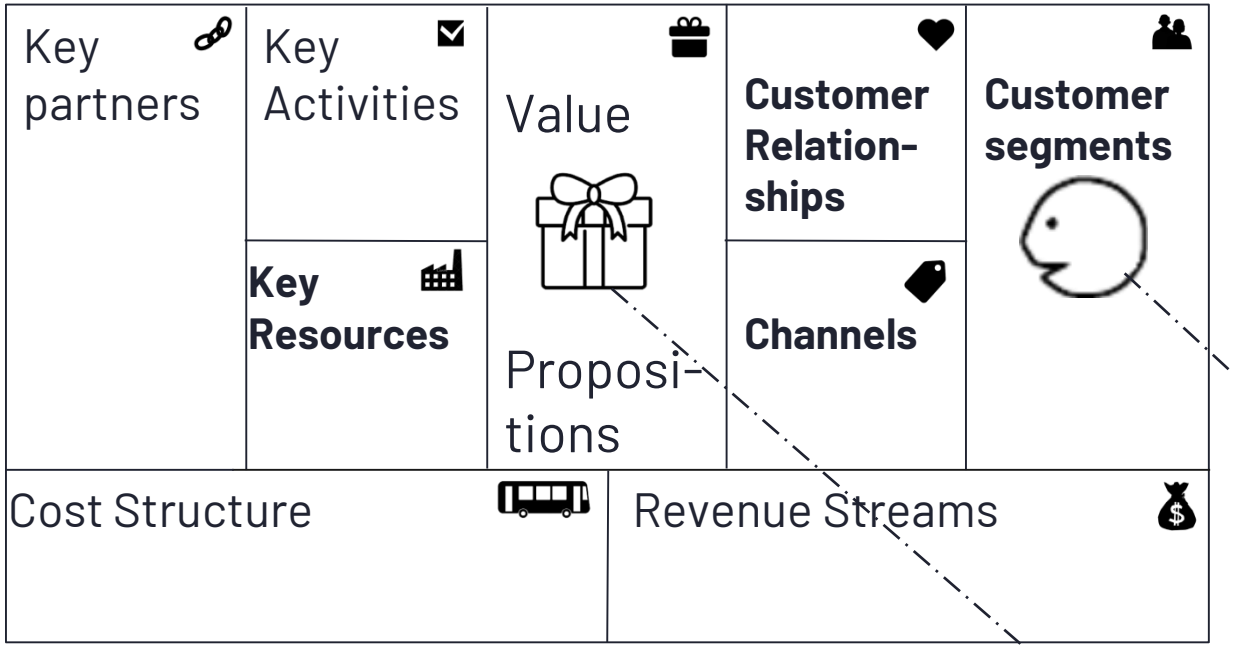


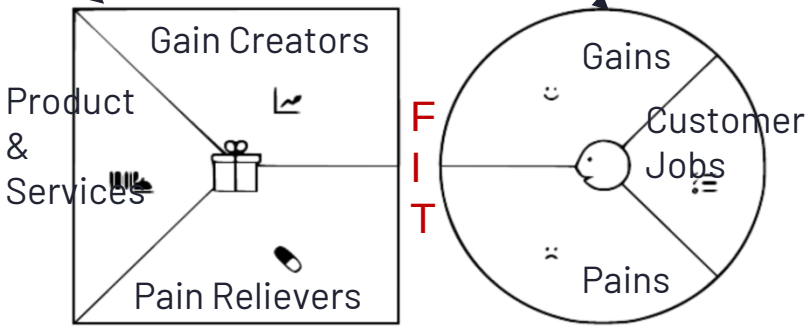

INVESTMENT
70%
20%
10%
CORE
ADJACENT
TRANSFORMATIONAL
LONG-TERM RETURNS
10%
20%
70%

Value Proposition Canvas



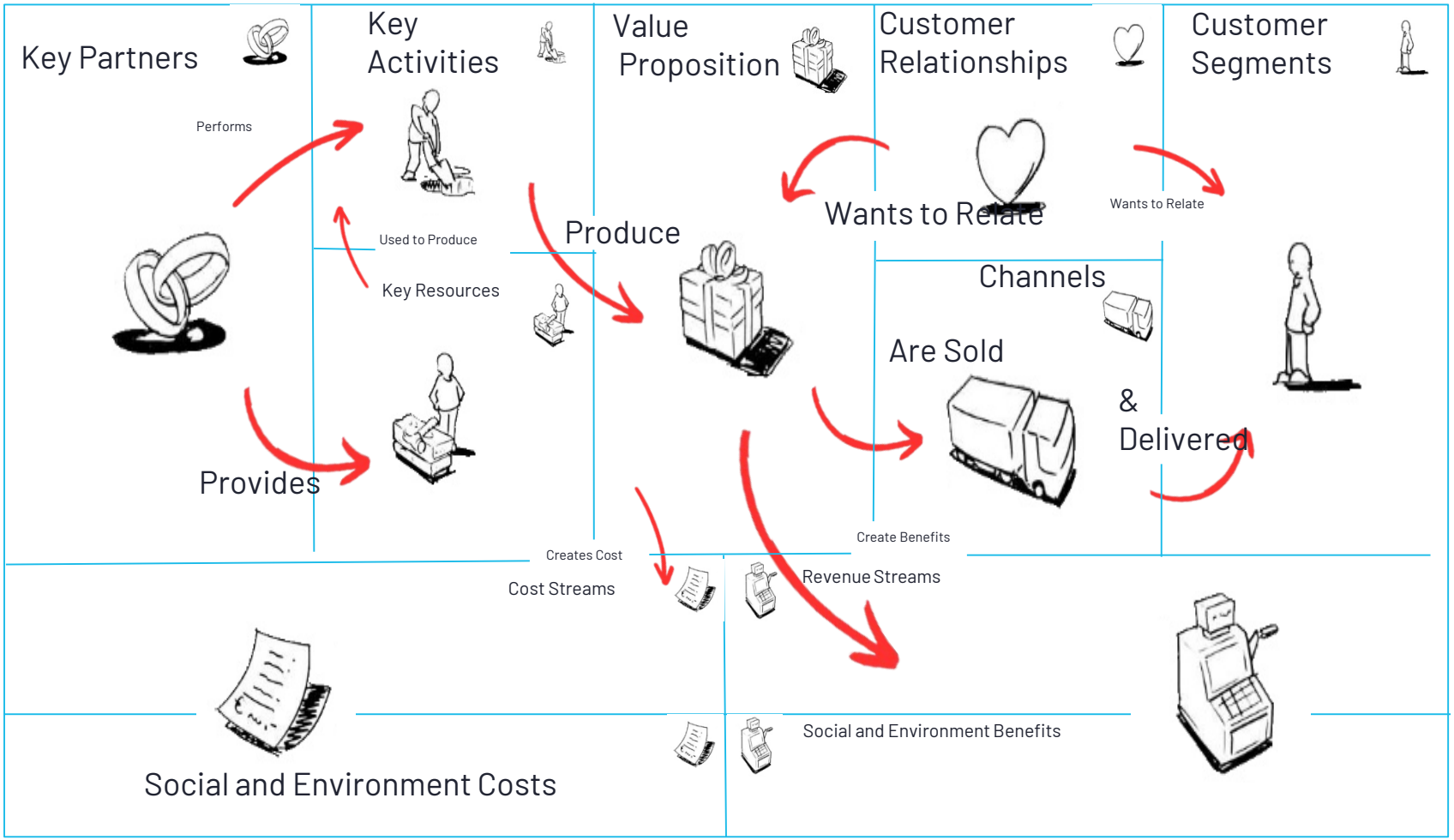
Business Model Canvas



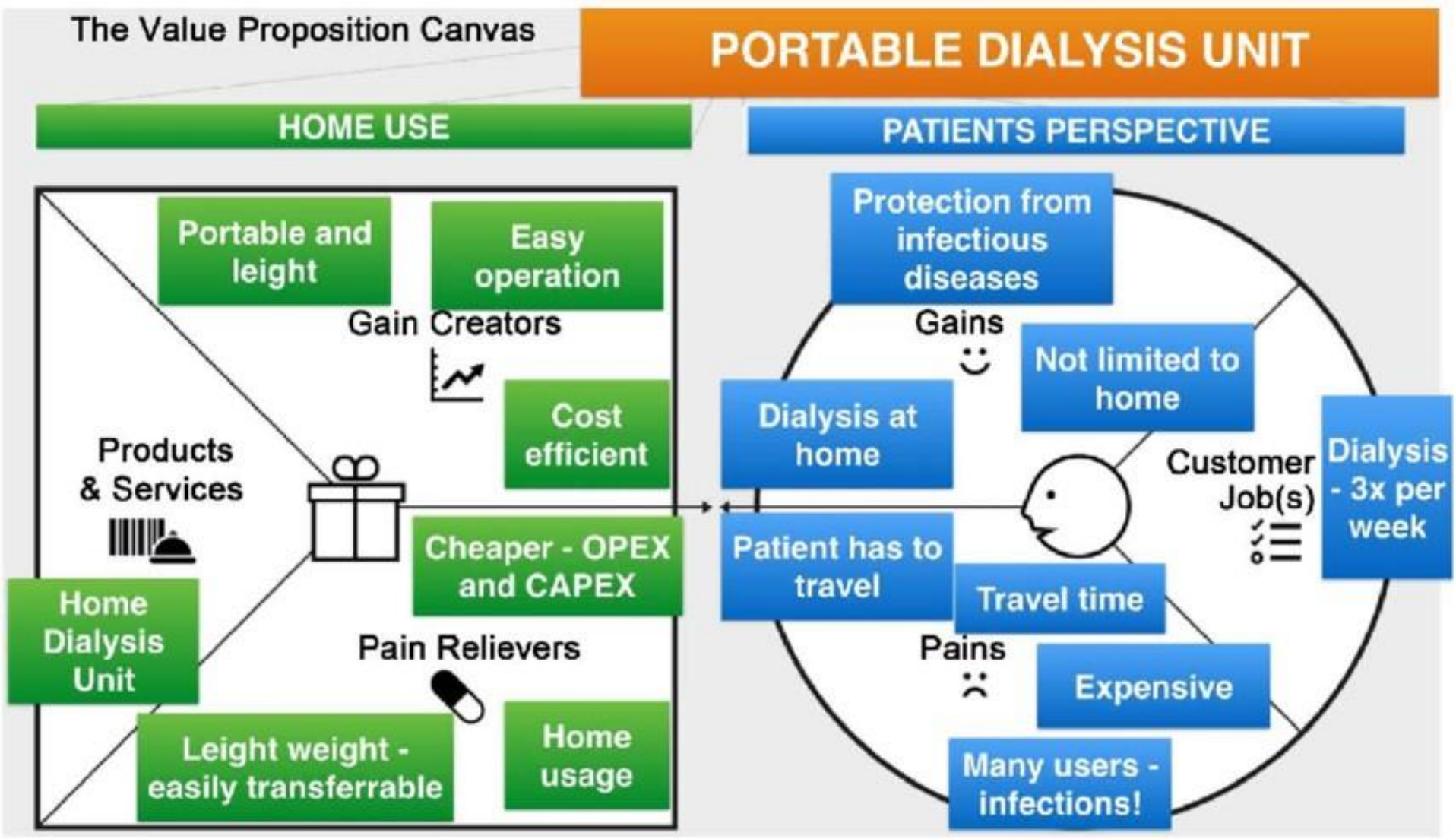


Value Proposition Canvas

Activity Flow in Business Model Canvas



Courtesy: Michael Friebe (2017)



Design Thinking

Innovation or ‘Design Thinking’ is something truly important and enduring

- According to Tim Brown of IDEO Design Thinking is “a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.”

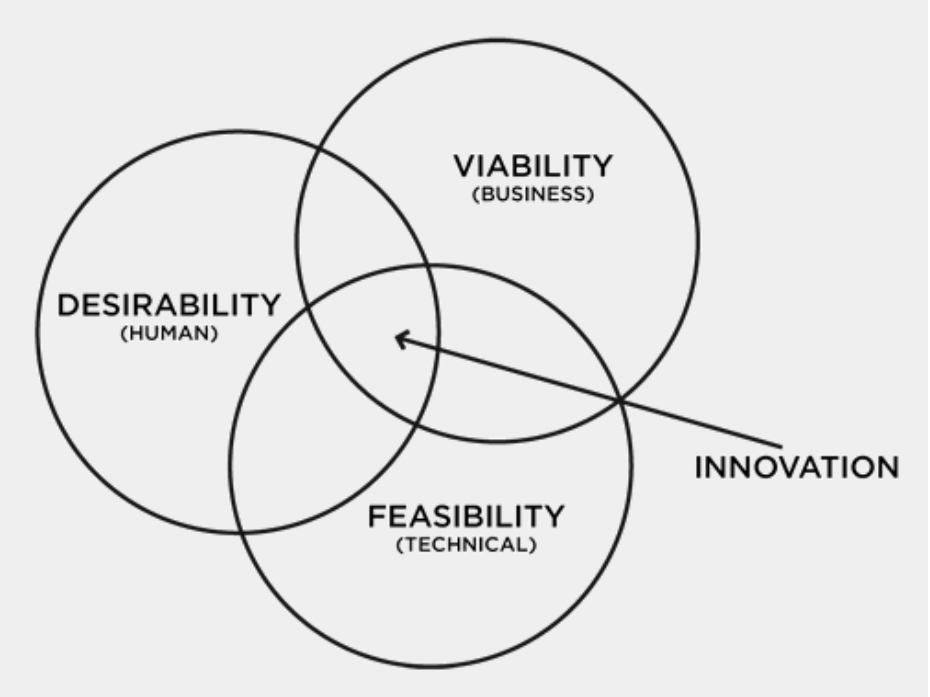
- *Thinking like a designer can transform the way you develop products, services, processes—and even strategy.*

  - DT is a methodology that imbues the full spectrum of innovation activities with a human-centered design ethos.

Design principle

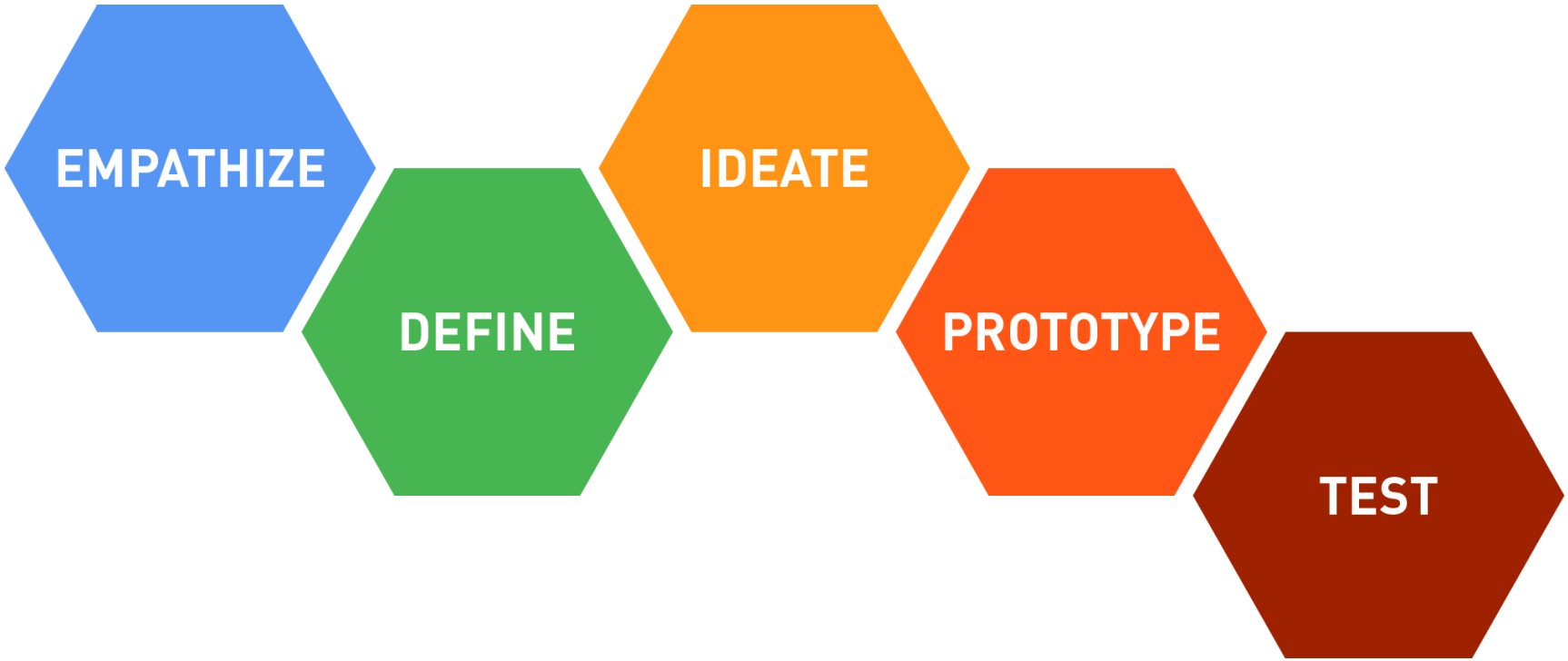
- **Phases:**

0) Understand/observe
1) Visualize/Realize
2) Evaluating/Refining
3) Implement (detailed engineering)
4) Implement (manufacturing liason)

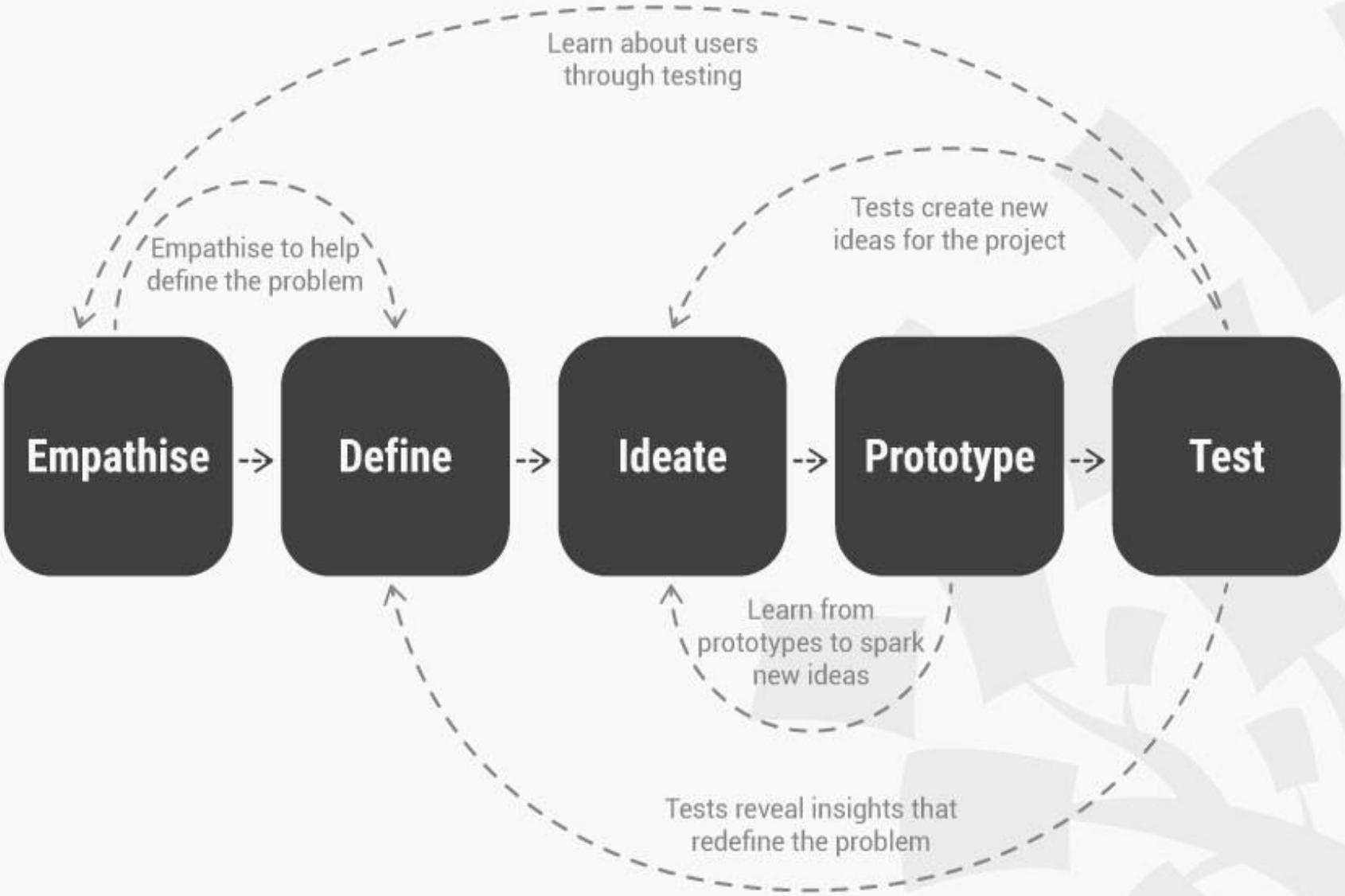


Design Thinking Steps to Innovation

- The five steps



DESIGN THINKING: A NON-LINEAR PROCESS



Stage 1: Empathize

What is empathizing?

- It is putting aside ones learning, culture, knowledge, opinions, and worldview purposefully in order to understand other peoples' experiences of things deeply and meaningfully.

- It requires a strong sense of imagination to be able to see through another person's eyes.

Why to empathize? – for absorbing and understanding the raw information.

- Because we are trained — whether consciously in our schools or workplaces, or subconsciously from our prior experiences — to form judgements and opinions about others rather than absorbing and understanding the raw data.

How to be an Empathic Observer?

- **Abandon Ego:** In order to empathize with others deeply one needs to tame and put aside our egos.
- **Adopt Humility**: Through humility one elevates the value of others above oneself, and in turn becomes more empathic.
- **Be a Good Listener:** One has to stop listening to ones inner conflicting voices and allow others voice to resonate. We need to train ourselves to control our natural tendency to formulate our own opinions and voice in order to listen which uncovers deeper meaning and experience.
- **Hone Observation skills:** For close reading of other's behavior, subtle indications, their non-verbal expressions, body language, and environments – to be able to experience the full range of sensations of others within context and we can have a deeper and more meaningful empathic experience. By this we can fill many of the gaps, leading to a deeper understanding of someone else's experience.
- **Care:** One needs to overcome our own needs and wants and seek to understand others. One must build a sense of care, a deep concern and desire to want to help, nurture, and provide assistance.
- **Be Curious:** Curiosity leads ourselves to naturally incline, dig into unexpected areas, uncover new insights, and explore all aspects of people's lives.
- **Be Sincere:** Nothing kills empathy more than a lack of sincerity. When one approaches people with a superficial agenda, superiority complex, or any mindset that may undermine one's sincere intention to understand their experience deeply, one is placing a barrier between oneself and those one seeks to understand.

How to Gain Empathic Understanding of People

Divide your observations into three categories What - How –Why

We can ask questions to ourselves about our observations based on these three types of questions to understand people and derive deeper levels of understanding. Note down details of all your observations in following categories:E.g.

What (note down the details of what is happening)	**How (describe how the person is doing what he or she is doing)**	**Why (**try to interpret the scene**)**
What is the person doing?	Is the person putting in a great deal of effort?	Why is she/he doing what she/he is doing?
What is happening in the background?	Is the person frowning or smiling while doing the task?	Why is she/he behaving so?
What is the person holding?	Does the person use many ad-hoc tools to make the task easier?	Why is she/holding or using a particular tool? What is the driving factor behind it?

Stage 2: Define the Problem by Synthesizing Information

What is 'Defining'?

- **Collection** of information gathered in the 'empathy phase' followed by **analyzing** and **synthesizing** the observation.
- **Analysis**: Breaking down complex concepts and problems into smaller and easy-to-understand elements.
- **Synthesis**: Creatively putting together research output and analysis data to construct whole ideas. Steps followed respectively are organizing, interpreting and making sense of the data gathered to create a problem statement.

Why it is needed?

- In the 'define phase', a variety of methods are used to crytallalise the essential findings from the 'empathy phase'.
- To create an innovative and significant result, one should define a specific and captivating problem statement which will lead to a specific desired solution.
- It is essential to define a meaningful and actionable problem statement and to bring clarity and focus into the design space to start 'ideation' in the right direction.

Stage 2: Define the Problem by Synthesizing Information

How it is done?

There is a lot of effective methods which helps to analyze and synthesis all the gathered data. Some of those are as follows:

- Telling the most significant and surprising **user stories**
- **Mapping** all the gathered data brought out open to the fellow team members
- Developing **empathy map** and **personas** based on research
- **Immersing** your **personas** in stories and flesh out the **scenarios** in which user find themselves
- **Point of view,** a bold problem statement after understanding the full scope of user's world

Stage 3: Ideate

What is ideation?

This stage brings out the best of ideas for solving a defined problem, through ***Brainstorming*** and ***Worst Possible Idea*** activities.

Creativity and *Innovation* are two driving forces behind developing solutions.

Why ideation?

- To ask the right questions and innovate.
- To step beyond the obvious solutions and therefore increase the innovation potential of your solution.
- To bring together perspectives and strengths of team members.
- To uncover unexpected areas of innovation.
- To create volume and variety in your innovation options.
- To get obvious solutions out of your heads, and drive your team beyond them.

Steps to Ideate

Ideation sessions demand a lot of preparation and team member concentration in order to be fruitful. People need guidance, inspiration and activities, in a physical and cognitive manner, in order to get the process started.

How to ideate? Steps.

1. ***Active Facilitation:*** Provide an environment that facilitates free, open, and is non-judgmental for involved people.
2. ***Idea Generation Techniques:*** E.g. Brainstorming, follow certain rules for particular technique:
    a. Set a time limit
    b. Start with a problem statement, point of view, possible questions, a plan, or a goal and stay focused on the topic
    c. Defer judgement or criticism, including non-verbal
    d. Encourage weird, wacky and wild ideas
    e. Aim for quantity (number of ideas)
    f. Build on each others' ideas
    g. Be visual
    h. One conversation at a time

Stage 4: Prototype

What is prototype?

An early, inexpensive, and scaled down version of a product.

It offers developers the opportunity to bring their ideas to life, test the practicability of the current design, and to potentially investigate how a sample of users think and feel about a product.

Types of Prototyping

Low-Fidelity Prototyping: It involves the use of basic models or examples of the product being tested. It may be incomplete and uses a few features of the final intended design. It may be made of different material rather than the selected material in design.

Example: Card sorting, Storyboarding etc.

a. Quick and inexpensive.
b. Possible to make instant changes and test new iterations.
c. Disposable/throw-away.
d. Enables the designer to gain an overall view of the product using minimal time and effort, as opposed to focusing on the finer details over the course of slow, incremental changes.
e. Encourages and fosters design thinking.
f. An inherent lack of realism.
g. Such prototypes often remove control from the user

Stage 4: Prototype

2. High-Fidelity Prototyping: A prototypes that look and operate closer to the finished product.

- Engaging: the stakeholders can instantly see their vision realised and will be able to judge how well it meets their expectations, wants and needs.
- Testing will allow the evaluators to gather information with a high level of validity and applicability. By doing so, the confidence the design team will have in how people will respond to, interact with and perceive the design.
- It takes much longer time to develop than to develop a low-fi prototype.
- Testing is more inclined to focus and comment on superficial characteristics.
- Change in design takes longer time.

Guidelines for Prototyping

- Just start building
- Don’t spend too much time
- Remember what you’re testing for
- Build with the user in mind

Step 3: Create relevant prototypes quickly and iteratively.

PROTOTYPES:

- **Must evoke an emotional response**
- **Must be technically relevant**
- **Fail early, fail cheaply**
- **Communicate the vision**
- **Become a model for realization**

- **Prototypes are effective for communicating intent & feedback with everyone.**

Stage 5: Test

What is Testing?

- Testing in design thinking means getting feedbacks from the users about the developed prototype. These feedbacks helps to understand the users more deeply.

Why Testing?

- Getting feedback is crucial in design thinking, with out understanding the needs of the user the iterative process will fail. If the users facing any problem in the present solution then the design team must rethink and develop some alternative solution.

Testing Methodology

How to perform Testing?

- Testing can be undertaken throughout the progress of a Design Thinking project, although normally it is done concurrently with the prototype stage. Get users to be using the prototype as they would in real life, as much as possible.

Improve Your Test Results by:

a. Testing your prototype not the user.
b. Recreating the scenario in which they will be using your prototype.
c. Explaining about your prototype-testing and not the prototype development to the users.
d. Obtaining the feedback of the prototype such that interaction between the user and the prototype is not hampered.

Guidelines when Planning a Test:

a. Let your users compare alternatives
b. Show, don’t tell: let your users experience the prototype
c. Ask users to talk through their experience
d. Observe
e. Ask follow up questions

Design Thinking Process, Methods & Tools

- Empathize: Understanding Customers/ Users (Getting to the right problem)
  * *methods:* User Feedback on need, Persona and Empathy Map

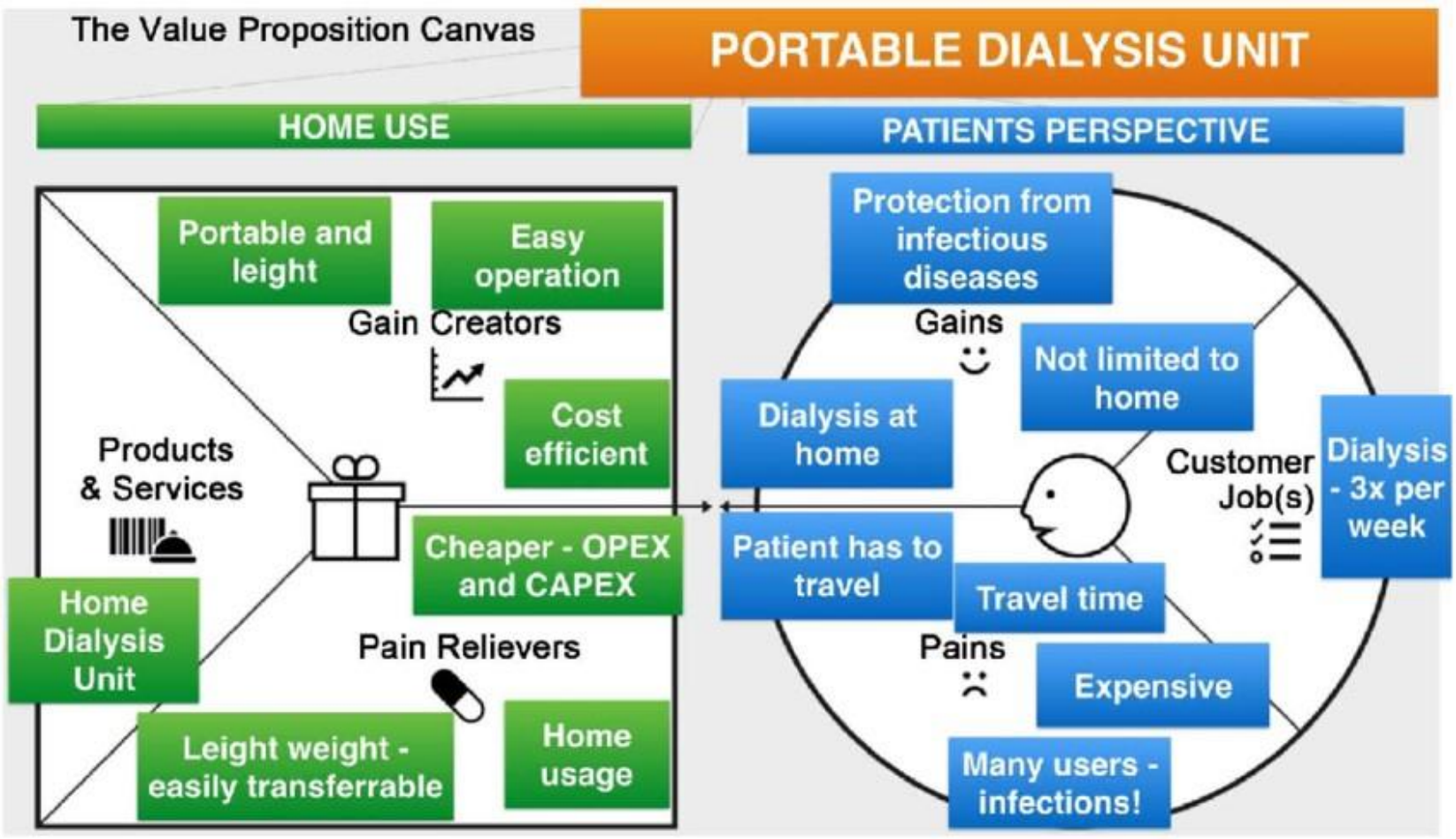
- Define: Defining Project/ Business Objectives clearly
  - *methods:* PoV, HMW Questions, Design Brief, Stakeholder Map, Context Map, Opportunity Map and Customer Journey Map

- Ideate: Exploring Ideas and Solutions
  - *methods:* Creativity Techniques, Divergent Method, Convergent Method, Prioritization Map, Affinity Map and Ideas Evaluation Matrix

- Prototype: Building and Visualising Ideas and Solutions
  - *methods:* Physical prototypes, Wireframes and Storyboards

- Test - Reviewing and Deciding
  * *methods:* User Feedback and Prototype Evaluation

From: Michael Friebe (2017)




Thank You!

Steps to Ideate (This slide is not included in exam)

3. Select the ideas:

Use following methods to select the ideas brainstormed:

a. Post-it Voting or Dot Voting.
b. Four Categories Method
c. Bingo Selection
d. Idea Affinity Maps
e. Now Wow How Matrix
f. Six Thinking Hats
g. Lean Startup Machine Idea Validation Board
h. Idea Selection Criteria

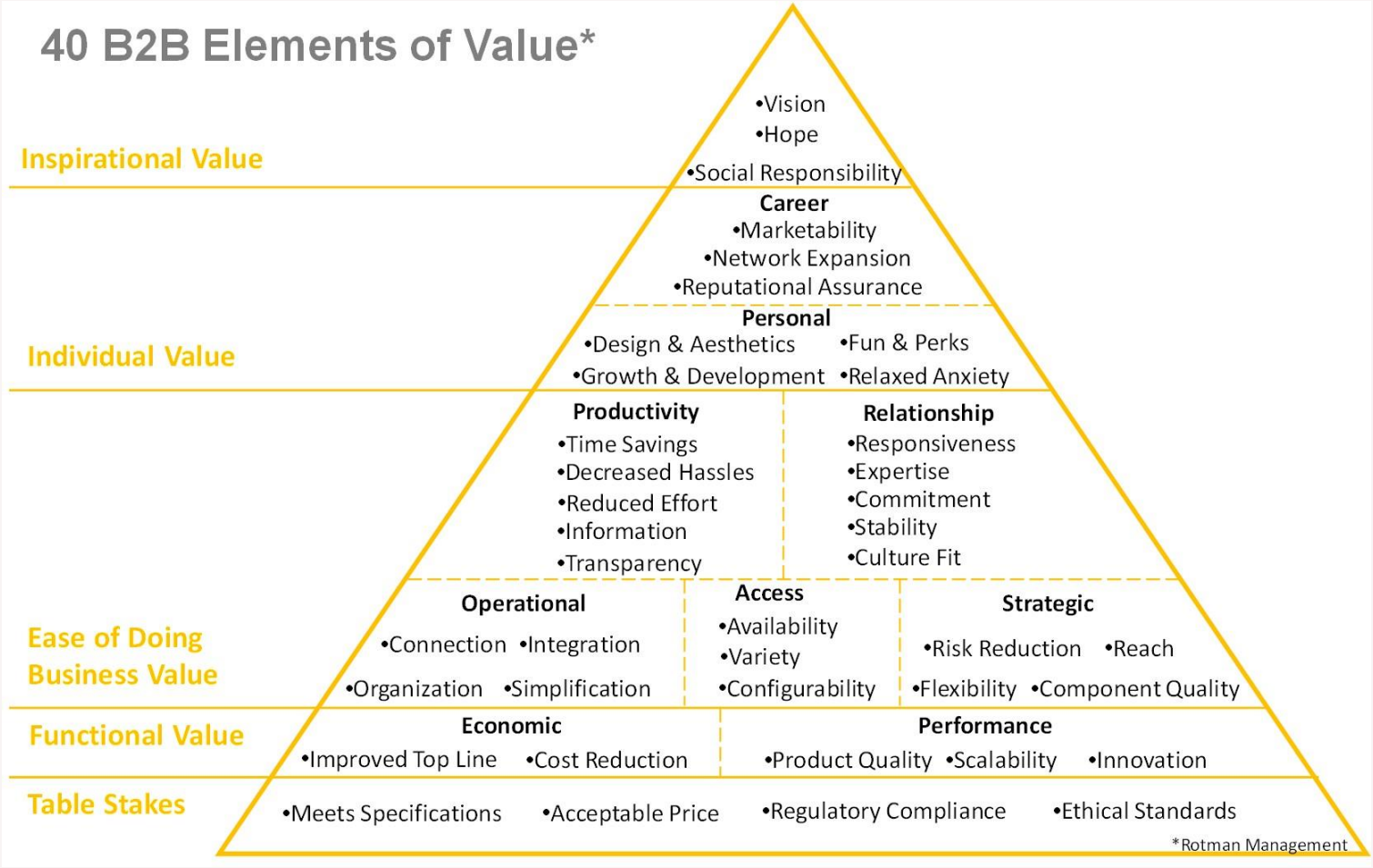
#startupindia

"I want to see the idea and the spirit of startups light up the economies and the fortunes of people in India"

– Narendra Modi
Prime Minister

GIVE WINGS TO YOUR ENTERPRISING IDEA

COME JOIN OUR START-UP INITIATIVE


40 B2B Elements of Value*
Inspirational Value
•Vision
•Hope
•Social Responsibility
Career
•Marketability
•Network Expansion
•Reputational Assurance
Individual Value
Personal
•Design & Aesthetics
•Fun & Perks
•Growth & Development
•Relaxed Anxiety
Productivity
•Time Savings
•Decreased Hassles
•Reduced Effort
•Information
•Transparency
Relationship
•Responsiveness
•Expertise
•Commitment
•Stability
•Culture Fit
Ease of Doing Business Value
Operational
•Connection
•Integration
•Organization
•Simplification
Access
•Availability
•Variety
•Configurability
Strategic
•Risk Reduction
•Reach
•Flexibility
•Component Quality
Functional Value
Economic
•Improved Top Line
•Cost Reduction
Performance
•Product Quality
•Scalability
•Innovation
Table Stakes
•Meets Specifications
•Acceptable Price
•Regulatory Compliance
•Ethical Standards
*Rotman Management

- Customers have several expectations as they get in the present time; price, quality, speed and convenience, and hence successful businesses deliver on all fronts to win and keep customers. The motto, however, is ‘Be Good at Everything and Great at Something’. (This applies to a T-Shaped professional as well.)

Deciding on the right things

- Innovation leaders need to be decisive, as many are to be made quickly in the context of great degree of uncertainty.
- In view of such uncertainty, the leader needs to be comfortable pushing some decisions further on, consequently leaving some questions open.
- The skills of innovators/ leaders lie in their ability to figure out which items are to be tackled now, and which ones are to be left open.
- These innovators/ leaders would go for the right questions (not just the ones presented to them) and focus on making the right decisions.
- These leaders avert irrelevant choices that people often present for choosing the path of least resistance and delve deeper and come up with response to the questions that actually matter.
- This is what ‘thinking outside the box’ effectively means.

Decision-making for an Innovation Leader

- Innovating and creating something new is an important, yet often a risky, endeavour and innovation leaders are always under considerable pressure from multiple directions.

- Usually about innovation the focus rather is on implementation oriented agenda like, **best practices, processes and techniques & tools.** While these are quite necessary, they cannot surpass the importance of decision-making.

- If decision-making related to innovation is not done effectively in an organization, the above alone will hardly make a difference, and there remains the challenge for the leaders and the organizations.

- Hence, the art of decision-making as an innovation leader is emerging as a salient need.

Why smart decisions related to innovation is not easy?

For this, a look at the key characteristics of innovation is required.

- When something new **(**unaccomplished before**)** is to be done it entails major **uncertainties and predicaments** related to several aspects of it.

- In real life, working on challenges are often in a **complex environment (that is** things are interlinked with one another and therefore it is not easy to envisage and predict the outcome.

- **Historical data, dependable benchmarks** or market size assessment **to draw on is scantily available** for something that was not done earlier, and customer surveys or similar methods cannot be entirely relied.

- It is hard to create a very realistic project plan for implementing it as the **team did not do this before**.

- **Precise resource assessment is not clear in the beginning including skills** that may lead to financial commitment issues.

Innovation vs. 'regular' decision-making

- Traditionally, managers would prefer to make educated, evidence-based decisions (a strategic and steadfast method of applying empirical knowledge and research-supported precepts and information to justice system decisions) that involve minimal risk, and high possible returns.

- Preference extends for a well thought out and structured plan in advance, so that allocation of resources can be made accordingly and the progress monitoring can have a sound reference, while the process may somewhat alter due to 'continuous improvement'.

- There conventional planning approach is applicable best where substantial and reliable data, such as in in existing business situations are available.

  - For example, track record of people in task/ duty performance as available can help in formulating realistic plans for a project to run over a longer period.

Innovation and brilliant decisions

- Innovation is an entirely different game, and to succeed, leaders need to appreciate the underlying differences between innovation and the traditional operations, and accordingly reorient their thinking approach.

- (Sounds paradoxical? Particularly, when the managers have had so much success over the years, working in the other way!

- **Rudiments of making brilliant decisions on innovation**

  [In the following Slides]

  Making smart decisions on innovation related matters is after all not so much difficult, if its key cruxes are duly understood, that improves chances making the right decisions. Such rudiments are:

1. To accept that the strategy and b-plans can always be wrong

- To accept that a painstakingly created innovation strategy or an operational plan may go wrong or end up as sub-optimal at the most.

- It is to realize that when a team is innovating, it is always pushing the boundaries and exploring. Thus, one can neither see all things clearly, nor has every answer.

- Nevertheless, one yet needs goals and strategy and plans, accepting that there can be several flaws in them.

- So, spending much time to make them perfect is not very purposeful, rather one needs to figure out at the earliest '**how faulty are they'**. And, truly the only way to know that, is by putting the plan into practice and watching how it works.

This is the rudimental cornerstone that brings it forth to the next key aspects: 'testing the plan', learning, and agility (speed).

Rudiments of making brilliant decisions on innovation

2. To test the plan quickly – and to start with the riskiest parts first to maximize learning

- It’s about testing the initial plan, prepared with the objective of learning which parts of the plan work, and more importantly, which parts do not; as basis for adapting accordingly thereupon.
- Though this approach might appear to be not quite sophisticated and scientific to some, but in reality it is just the opposite.
- Thus, a business innovation leader and decision-maker needs to keep in mind that the chalked out strategy, or the project/ business plans are in a way a set of hypotheses awaiting testing.
- Creating the difference (failure or success) lies in the ability to adapt to whatever has been learnt – quick enough, and well enough.

3. Now, the key is to **start from the riskiest assumption first**.

- Trying to get whatsoever quick wins over few trivial challenges may give some feel of success but it is never more than a false sense, since the existential challenges still will remain unaddressed.

- Often, after putting in a lot of work and money it is discovered that existential challenge is looming over the project and the initial plan just won’t work without major changes to it.

- Then, a lot of that hard work will just have to be scrapped and time has already been wasted in the process. Or even worse, one might go down with ‘sunk cost fallacy’ without a real chance of success.

- Instead, if the team begins by testing the riskiest and most critical part, it is likely to struggle and fail at first, but will soon get to a point where the problem is understood well enough that enables to solve it the right way. This will save a lot of time money, while reducing the chance of the project becoming a colossally expensive failure.

4. Focus on agility (speed and immediacy) – a mediocre decision now is better than a delayed good one

- The issues of innovations are not always well settled and if there is an obligation that a consensus is to be reached, then it can at best be watered down version of the initial idea.

- It is far better to make a decision quickly, even if it is mediocre, than to wait much for an assumedly perfect decision.

- When the team moves fast and decisively, it can by and large make the decision, implement it and learn early on if it indeed was the right one, which much quicker.

- In innovation, it is **better to err on the side of action**, and not wait for full information or more opinions, rather to just get things done till it is broadly moving in the right direction, as details needed can be figured out on the go.

Just by understanding and applying these four rudiments in the decision-making, an organisation will do far better than most others.

Leaders/ innovators find ways to change the system
so as to get to the result they want.

……Easier said than done!

- However, often the situations with a need for decisions are encountered where one has to choose between ‘not quite ideal’ alternatives. In certain cases, one can just choose either one, but the leader can’t be satisfied with such a mediocre options and results for the questions and problems that really matter.

- To achieve truly great results, it is imperative to ask the question that most people haven’t yet asked, or as a base line haven’t been able to solve.

On Innovation mindset

- Working on innovation requires a different mindset from what most of us are used to.
- It is generally challenging for making smart decision pertaining innovation, and, even if an innovator cares to do that, s/he may have to change the perspectives of those around him/ her as well.
- This is a major reason as to why many people and organizations fail at innovation.
- If a team/ individual) can succeed in changing the mindset and improving their decision-making skills then they are better prepared to deal with uncertainty and complexity, and will do great in innovation!

CREATIVITY

- Creativity is characteristically rooted in original thought and knowledge, which discharges the potential and is an integral feature of idea generation.

- Innovation, in reverse, is accomplishable by turning the creative idea that one conceives of into a viable solution.

- Innovation is the manifestation of creativity into a usable solutions or offerings (product or service).

- In the entrepreneurial (also intrapreneurial) context, innovation can be a new idea, process, or product, or a change to the existing one that adds value to the current offering.

- Creativity is the ability to bring forth novel ideas that have not been explored before, and it may also be about combining prevailing ideas in new and innovative ways, while the same is used in design thinking to explore and generate multiple solutions to a problem.

Language modified by pkd but not formatted

- **Innovation Process for Business**
- There are many tools and processes that can be put to good use in order to foster innovation; nevertheless, the following six-step process is a good way to start.
- 1. Idea generation.
- This step involves generating new ideas for offerings (products/ services), or process improvements. This can be achieved through brainstorming, user/ customer feedback, or simply observing what's going on in the market. Once there are some new business ideas, it is necessary to evaluate them to determine which ones have the most potential.
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- 2. Idea screening.
- This step entails evaluating and sorting through the ideas generated (in the previous step) so that only the best ones move on to the next step. A widely used method to evaluate new ideas is by a technique, known as '5 –Whys'. This involves asking oneself why a particular idea is crucial, and then drilling down into the answers until a basic need or problem identification is reached.
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- 3. Concept development:
- This step involves developing a broad idea of what the new offerings (product/ service), or its process would be. This entails figuring out how it would work and what features should it have. It's important to be realistic and instead of considering endless possibilities, the 'desirability', feasibility and viability (innovation spot) to be checked.
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- 4. Prototype development.
- This step is about creating a prototype of the concept's outcome (new product, service, process, or systems) to obtain accurate feedback from potential users.
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- 5. Testing and evaluation.
- This step is for testing the new product, service, process, or system with real customers to check out how they like it. It is important to collect feedback during this phase to gauge if refinement of the idea is needed to go forward with or it is to be scrapped altogether.
- 6. Launch or pivot or abort.

Innovation Techniques in Businesses: Thinking ways

- Businesses should consider using methods that will pave for creativity and new ideas some proven and popular techniques as tools of innovation are:

- 1. Divergent Thinking: is for coming up with new ideas and possibilities, and is often used in brainstorming sessions, where a group gets together and tries to come up with as many ideas as possible.

  - It is important, however, to keep in mind that not every idea will be a good since its purpose is to generate more ideas, some with great possibilities, and to select from, and that's important.

- 2. Convergent Thinking: is called into play for narrowing down options and selecting the best solution and is often employed in decision-making processes.

  - By narrowing down a list of potential solutions, organizations/ teams can focus on the best ones and move forward for development.

- 3. Analytical Thinking: refers to breaking a problem down into smaller parts and solving them, and thereby solves the main problem.

  - This type of thinking is often used in problem-solving processes.

Types of Innovation Techniques/ Tools: **1. Idea sketching**

- **1. Idea sketching**: It is incredibly helpful in speeding up the innovation process; are effective as they communicate ones ideas visually (by putting thoughts to paper) and thereby saves time.

- One can share thoughts and ideas regarding a host of things, from strategy to design to user journey through sketches.

- Group sketching: each member in a group passes around a paper-sheet to sketch something related to a central concept or connected to another sketch on the sheet. Once all members complete the sketching, the group discusses the imageries and form connections among those. This visual thinking and developing a ‘form’ to the group’s ideas is helpful interpreting and creating a plan or design.

Types of Innovation Techniques/ Tools:

Idea Generation, Creativity techniques, Prototyping method

- **2. Idea Generation process**: Techniques like mind maps, ideation exercises, freewriting, or six thinking hats speed up the ideation process, allowing one to generate many ideas.

- **3. Creativity techniques**: This comprises of three main phases or categories; the ideation category inholds brainstorming sessions, the collaboration category consists of techniques like facilitated team exercises, and the evaluation category comprises methods like ranking ideas and project priorities that would lead to the best solution.

- **4. Prototyping method**: This offers a quick and simple way to create mock-ups of ideas, obtain feedback, and accordingly improve ideas. Prototyping can save time and money by averting future mistakes.

Types of Innovation Techniques/ Tools:
Visualisation tools, Maret Research Techniques

- **5. Visualization tools**: These accelerate innovation success by providing exposition of various perspectives as the starting points for creativity. Process maps or Flowcharts are tools that create better efficacy by indicating the path from beginning to end.

- **6. Market research techniques**: These tools assist innovators in identifying customer needs, problems, and prospective solutions. The tools provide quantitative data about the customer segments and profiles that is essential for product development decisions. They simplify the process of figuring out idea popularity, ideal launch time, and aspects for improvement.

- **7. Trend analysis approach**: These tools help identify social media, news, and consumer trends, provide organisations opportunities to act on new ideas ahead of their competition.

Types of Innovation Techniques/ Tools:
Technology Scouting, Business Model Creation

- **8. Technology scouting**: These techniques help the innovator quickly identify and assess new useful technologies. This potentially will help the innovators ensure that they are aware of technologies, which might benefit the organization and acquire competitive edge.

- **9. Business model creation**: This helps to explore and analyze a wide range of business models for the organisation's product or service. This enables the team to select the best model for the innovation project. Widely used tools include Business Model Canvas, Value Proposition Canvas, and **Lean Startup Model.**

- ***Lean Startup model in large corporate organizations***

  Despite the name 'Lean Startup Model' that on the surface appears to be meant for young enterprises, it in fact, according to survey (innovationleader.com) indicates that over 80% of the respondents (executives in large organizations) have used the Lean Startup Methodology, in some form, in their organizations, even though their purpose is different from a startup, they enjoyed positive results. One such example is General Electric that launched their FastWorks program together with Eric Ries (in 2013) and started by coaching thousands of executives on Lean Startup methodology. The company was able cut development costs by up to 60% (by systematic processing for MVP)

Types of Innovation Techniques/ Tools:
Hackathon, Design Thinking/ Design Sprint

- **10. Hackathons:** are time-bound (usually for 2-3 days) events involving a large number of people to develop a solution to a grand challenge, or build a prototype, or research a new service.

  - Organisations (like facebook) use hackathons as innovation methods to get new ideas. A hackathon, in corporate setting, is a collaborative, team building exercise (not exactly like the conventional competitions among teams), that supports the company's innovation goals.

  - Hackathons focus on user/ market validation, figuring out the exact customer 'jobs to be done', or value proposition and on testing the design assumption

- **11. Design Thinking/ Design Sprint**

- Affordability is the attribute of an offering (product) contingent on its exchange value (sales price) verging on its functional worth (actually, can be viewed from Value Engineering perspective) and when it is within the limit that the customer is able to pay as well as willing to own such offering.

- P K Dan

- **Functional worth, in essence, boils down to the cost of performing an intended function, achievable with the least expense. The functional worth of a photo-frame hanger is just as the cost of a nail, the least expensive way to hang.**