

## □ GSoC

□ **The Google Summer of Code, often abbreviated to GSoC, is an international annual program in which Google awards stipends to students who successfully complete a free and open-source software coding project during the summer.**

□ *Applications close April 13, 2021 at 23:30 (India Standard Time)* *Ti*

□ **The Microsoft Learn Student Ambassadors:** The Microsoft Learn Student Ambassadors is a program to sponsor students majoring in disciplines related to technology. The MSP program enhances students' employability by offering training in skills not usually taught in academia, including knowledge of Microsoft technologies.*e) Applications close April 13, 2021 at 23:30 (India Standard Time)*

# UNIT - III

## Entrepreneurship:

- Opportunity recognition and entry strategies –
- Effectuation –
- Design thinking –
- Lean Start-up –
- Developing Business Model –
- Entrepreneurship as a Style of Management – value proposition –
- Maintaining Competitive Advantage –
- Financial Plan: Start up, operating and variable costs and Project appraisal: NPV, IRR, BCR techniques –
- Projections and Valuation Stages of financing: Debt, Venture Capital and other forms of Financing.
- Entrepreneurship- Financial Planning: Break even analysis: Profit volume ratio, selling price determination, cash flow statement analysis, Ratio analysis



# Entrepreneurship



Spotting  
and  
Actualizing Business  
Ideas and Opportunities

# What is an opportunity?

- In a business sense, it is an idea that has commercial potential.
- Something you can make money with, develop a business around it, or create value with it.



# Before Entrepreneurship

- How can we open new business in Nepal?
- Haven we discovered everything already? Are the products are perfect already?
- Is it too crowded already for a new enterprise?
- How can you survive as a new enterprise?



# And The Answer Is

- Really, we don't know.
- If we go through the process, maybe we will know.
- More often, the answer is in YOU!
- Opportunity presents itself **WHEN YOU ARE READY.**





Example:



Fallen Trees & Power Lines

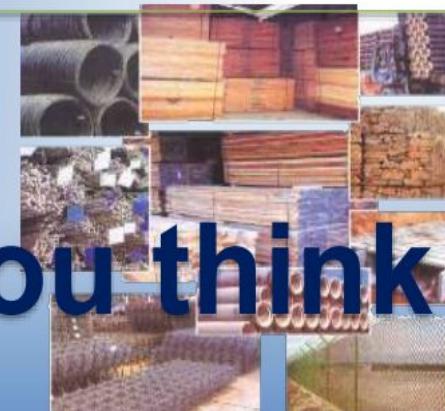
Flood

Stalled Vehicles

Flooding



New Flood Control Projects



More Sale of Construction Materials



Umbrellas and Raincoats for Sale



More Infrastructure Development

# Entrepreneurial Perception

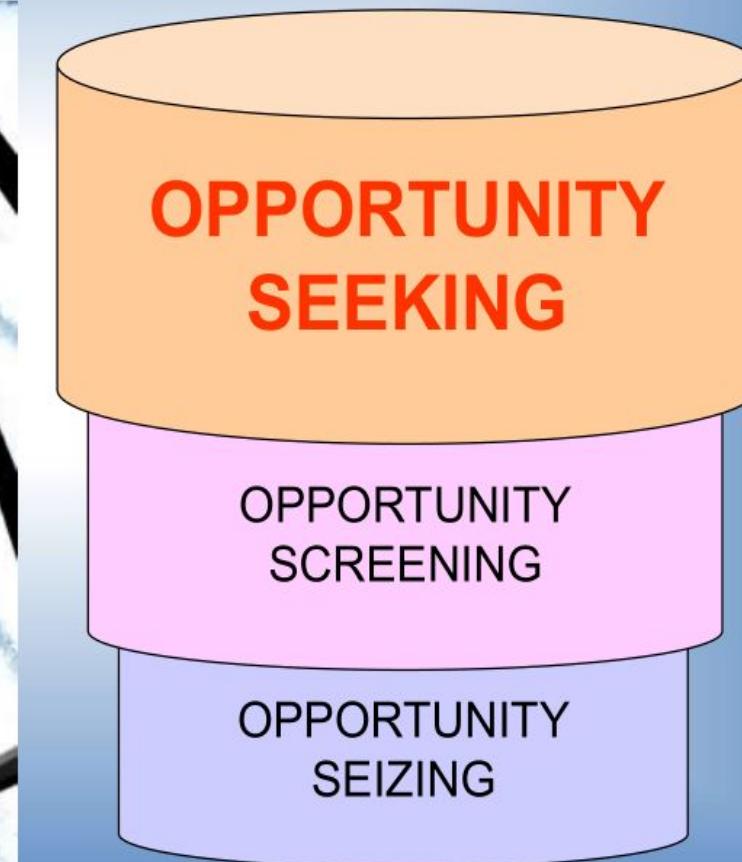
The Entrepreneurial Mindset sees a hole!  
A time and area to enter into the market

For an Entrepreneur the **Creation, development**  
and **Innovation** starts from here  
It can be either **Crowded or Nothing**

On this page, What do you see?



# The Entrepreneurial Mindset



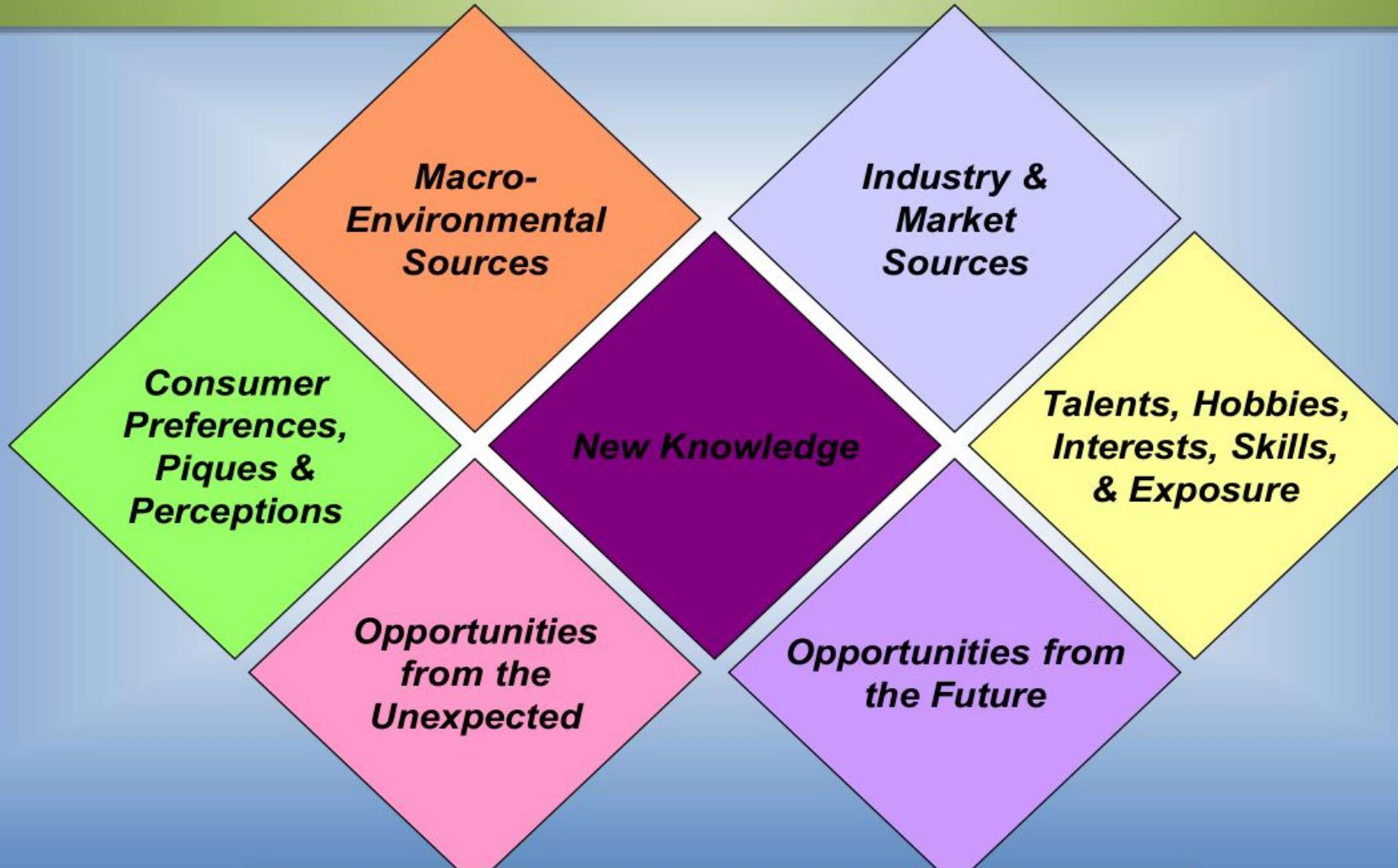
# OPPORTUNITY SEEKING

- Sources of Opportunity:
  - Internal – Innovation / Creativity
  - External
    - Macro market
    - Micro market Analysis
    - Irritants in the marketplace



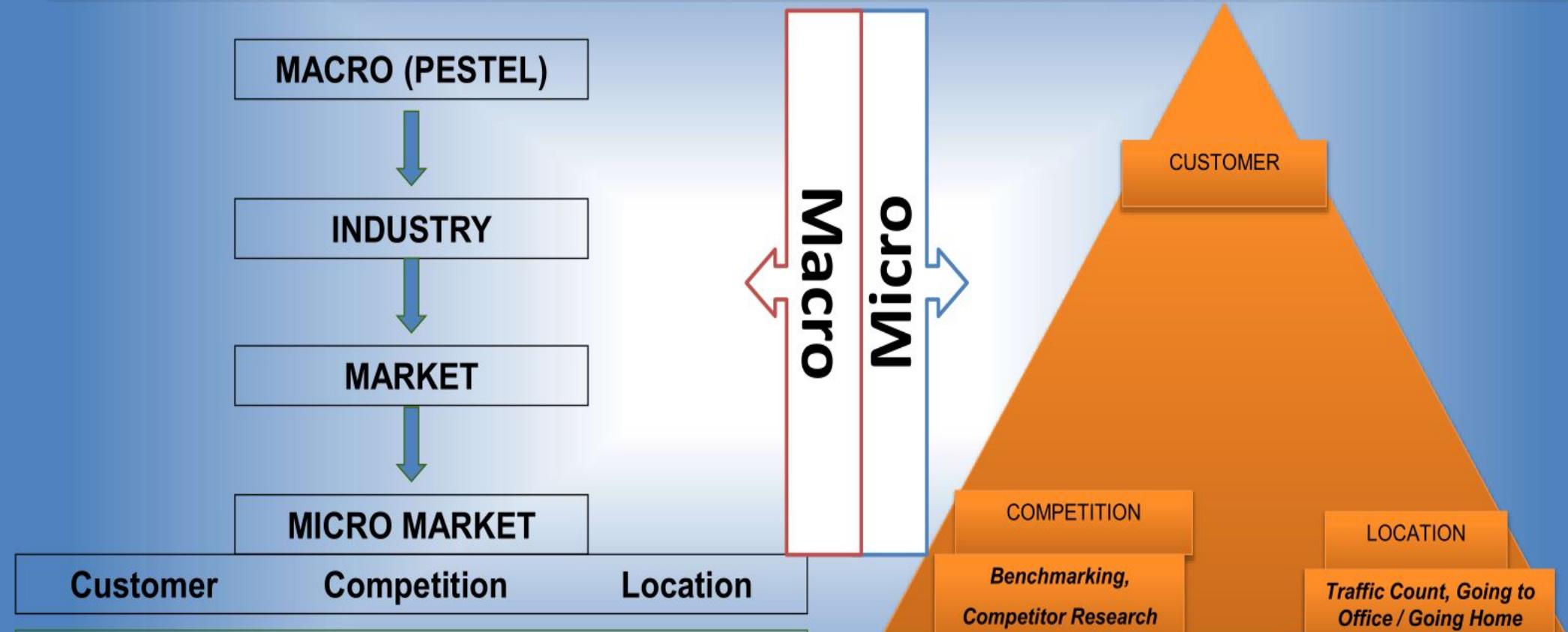


# Sources of Opportunity



**OPPORTUNITY SEEKING**

# OPPORTUNITY from Environment



- Issue of Relevance
  - All of the Macro and Micro must be relevant / related to the Enterprise

*For your enterprise, how do you do a micro market analysis?*



## Remember always:

- Start with the CUSTOMER NEEDS
  - Be sure there would be a large number who share the same aspiration / frustration
  - The customer cannot be completely satisfied.



- There is no perfect product
- Today's winners can be tomorrow's losers

# MARKET ENTRY STRATEGY

**“A market entry strategy** is the planned method of delivering goods or services to a target market and distributing them there. When importing or exporting services, it refers to establishing and managing contracts in a foreign country.”



# BASIC ISSUES

An organization willing to “go international” faces 3 major issues.

- **Marketing** – which countries, which segments, how to manage, how to enter, with what information.
- **Sourcing** – whether to obtain products, make or buy.
- **Investment & Control** – Joint Venture, global partner, acquisition.

# Sole Proprietorship

- Sole proprietorship means a business owned, financed and controlled by a single person who is recipient of all profit and bearer of all risks.
- It is SUITABLE IN AREAS OF PERSONALISED SERVICE like beauty parlour, hair cutting saloons & small scale activities like retail shops.

## Features

- **1. Single ownership:** It is wholly owned by one individual.
- **2. Control:** Sole proprietor has full power of decision making.
- **3. No separate legal entity:** Legally there is no difference between business& businessmen.
- **4. Unlimited liability:** The liability of owner is unlimited. In case the assets of business are not sufficient to meet its debts, the personal property of owner can be used for paying debts
- **5. No legal formalities:** Not required to start, manage and dissolve such business organization.
- **6. Sole risk bearer and profit recipient:** He bears the complete risk and there is no body to share profit/loss with him.

# PARTNERSHIP

- **Meaning:** Partnership is a voluntary association of two or more persons who agree to carry on some business jointly and share its profits and losses.
- **FEATURES**
- **1. Two or more persons:** There must be at least two persons to form a partnership. The maximum no. of persons is 10 in banking business and 20 in non-banking business.
- **2. Agreement:** It is an outcome of an agreement among partners which may be oral or in writing.
- **3. Lawful business-** It can be formed only for the purpose of carrying on some lawful business.
- **4. Decision making & control –** Every partner has a right to participate in management & decision making of the organisations.
- **5. Unlimited liability –** Partners have unlimited liability.
- **6. Mutual Agency –** Every partner is an implied agent of the other partners and of the firm. Every partner is liable for acts performed by other partners on behalf of the firm.
- **7. Lack of continuity –** Firms existence is affected by the death, Lunacy and insolvency of any of its partner. It suffers from lack of continuity.

## □ MERITS

- **1. Ease of formation & closure** – It can be easily formed. Only an agreement among the partners is required.
- **2. Larger financial resources** – There are more funds as capital is contributed by no. of partners.
- **3. Balanced Decisions** – As decisions are taken jointly by partners after consulting each other.
- **4. Sharing of Risks** – In it, risk get distributed among partners which reduces anxiety, burden and stress on individual partner.
- **5. Secrecy** – Secrecy can be easily maintained about business affairs as they are not required to publish their accounts or to file any report to the govt.

## □ TYPES OF PARTNERS

- **1. General / Active Partner** – Such a partner takes active part in the management of the firm.
- **2. Sleeping or Dormant Partner** – He does not take active part in the management of the firm. Though he invested money, shares profit & Loss and unlimited liability.
- **3. Secret Partner** – He participates in business secretly without disclosing his association with the firm to general public. His liability is also unlimited.
- **4. Nominal Partner** – Such a partner only gives his name and goodwill to the firm. He neither invests money nor takes profit. But his liability is unlimited.
- **5. Partner by Estoppels** – He is the one who by his words or conduct gives impression to the outside world that he is a partners of the firm whereas actually he is not. His liability is unlimited towards the third party who has entered into dealing with firm on the basis of his pretensions.
- **6. Partner by holding out** – He is the one who is falsely declared partner of the firm whereas actually he is not. And even after becoming aware of it, he-does not deny it. His liability is limited to the amount of his share in the firm.

## □ Types of Partnership

### A. Classification on the Basics of Duration

- **Partnership at will-** This type of partnership exists at the will of partners.

**Particular Partnership-**This type of partnership is formed for a specified June period to accomplish a particular project (consolation of building)

### B. Classification on the basis of Liability

- **General partnership-**This liability of partners is limited and joint. Registration of firm is optional.

**Limited Partnership-**The liability of at least one partner is unlimited whereas the other partners may have limited.

Registration of firm is compulsory.

## Co-operative Society

- A co-operative society is a voluntary association of persons of moderate means who unite together to protect & promote their common economic interests.

### FEATURES

- **1. Voluntary association:** Every one having a common interest is free to join a co-operative society and can also leave the society after giving proper notice.
- **2. Legal status:** Its registration is compulsory and it gives it a separate legal identity.
- **3. Limited liability:** The liability of the member is limited to the extent of their capital contribution in the society.
- **4. Democratic control:** Management & Control lies with the managing committee elected by the members by giving vote. Every member has one vote irrespective of the number of shares held by him.
- **5. Service motive:** The main aim is to serve its members and not to maximize the profit.
- **6. Bound by govt.'s rules:** They have to be abide by the rules and regulations framed by govt. for them.
- **7. Distribution of surplus:** The profit is distributed on the basis of volume of business transacted by a member and not on the basis of capital contribution of members.

## □ TYPES OF CO-OPERATIVE SOCIETIES

- **1. Consumers co-operative Society** – It formed to protect the interest of consumers. It seeks to eliminate middleman by establishing a direct link with the producers. It purchases goods of daily consumption directly from manufacturer or wholesalers and sells them to the members at reasonable prices.
- **2. Producer's Co-operative Society** – The main aim is to help small producers who cannot easily collect various items of production and face some problem in marketing. These societies purchase raw materials, tools, equipments and other items in large quantity and provide these things to their members at reasonable price.
- **3. Marketing Co-operative Society** – It performs various marketing function such as transportation, warehousing, packing, grading, marketing research etc. for the benefit of its members. The production of different members is pooled together and sold by society at good price.

# JOINT STOCK COMPANY

- Meaning – Joint stock company is a voluntary association of persons for profit, having a capital divided into transferable shares, the ownership of which is the condition of membership.
- **FEATURES**
- **1. Incorporated association** – The company must be incorporated or registered under the Companies Act 1956. Without registration no company can come into existence.
- **2. Separate Legal Existence** – It is created by law and it is a distinct legal entity independent of its members. It can own property, enter into contracts, can file suits in its own name.
- **3. Perpetual Existence** – Death, insolvency and insanity or change of members has no effect on the life of a company. It can come to an end only through the prescribed legal procedure.
- **4. Limited Liability** – The liability of every member is limited to the nominal value of the shares bought by him or to the amt. guaranteed by him. Transferability of shares – Shares of public Co. are easily transferable. But there are certain restrictions on transfer of share of private Co. Common Seal- It is the official signature of the company and it is affixed on all important documents of company.
- **5. Separation of ownership and control** – Management of company is in the hands of elected representatives of shareholders known individually as director and collectively as board of directors.

## TYPES OF COMPANIES

On the basis of ownership, companies can be divided into two categories –  
Private & Public.

### Difference between Private Company & Public Co.

Private Co.	Public Co.
It has minimum 2 and maximum 50 members.	It has minimum 7 and maximum unlimited.
It cannot invite general public to buy its shares and debentures.	It invites general public to buy its shares and debentures.
There are certain restrictions on transfer of its shares.	Its shares are freely transferable.
It can commence business after incorporation.	It can commence business after obtaining certificate of commencement of business.
It has to write Private Ltd. After its name  Ex- Tata Sons, Citi Bank, Hyundai Motor India.	It has to write only limited after its name  Ex- Reliance Industries Ltd., Wipro Ltd. , Raymond's Ltd.

# ENTRY STRATEGIES IN INTERNATIONAL MARKETING

- Exporting
- Licensing
- Franchising
- Contract Manufacture
- Management Contracts
- Joint Ventures
- Strategic Alliances
- Mergers & Acquisition
- Wholly-Owned Subsidiary
- Turnkey Projects

# EXPORTING

- Exporting is the most traditional and well established form of operating in foreign markets.
- Exporting can be defined as the marketing of goods produced in one country into another.
- The tendency may be not to obtain as much detailed marketing information as compared to manufacturing in marketing country.
- Forms of exporting include direct exporting and indirect exporting.

# FRANCHISING

- **Players : Franchisor & Franchisee.**
- **In terms of distribution, the franchisor is a supplier who allows an operator, or a franchisee, to use the suppliers trademark and distribute the suppliers goods.**
- **In return, the operator pays the supplier a fee.**
- **Thirty three countries, including the United States, and Australia, have laws that regulate franchising.**
- **Franchising is the practice of using another firms successful business model.**
- **Examples: McDonald's, Starbucks, Subway etc.**



# LICENSING

- Licensing is defined as "the method of foreign operation whereby a firm in one country agrees to permit a company in another country to use the manufacturing, processing, trademark, know-how or some other skill provided by the licensor".
- Licensing involves little expense and involvement.
- The only cost is signing the agreement and policing its implementation.
- It is quite similar to the "franchise" operation.
- Coca Cola is an excellent example of licensing.
- In Zimbabwe, United Bottlers have the license to make Coke.

# CONTRACT MANUFACTURE

- A company doing international marketing contracts with firms in foreign countries to manufacture or assemble the products while retaining the responsibility of marketing the product.
- This is a common practice in international business.
- Many multinationals employ this in India example: Park Davis Hindustan Lever, Ponds.



# MANAGEMENT CONTRACTS

- A management contract is agreement between two companies, whereby one company provides managerial assistance, technical expertise and specialized services to the second company of the argument for a certain period in return for monetary compensation.
- It emphasize the growing importance of services, business skills and management expertise as saleable commodities in international trade.

# JOINT VENTURES

- Joint ventures can be defined as "an enterprise in which two or more investors share ownership and control over property rights and operation."
- It is a very common strategy of entering the foreign market.
- Any form of association which implies collaboration for more than a transitory period is a joint venture.
- A joint venture may be brought about by a foreign investor showing an interest in local company.
- A local firm acquiring an interest in an existing foreign firm or
- By both the foreign and local entrepreneurs jointly forming a new enterprise.

# STRATEGIC ALLIANCES

- This strategy seeks to enhance the long term competitive advantage of the firm by forming alliance with its competitors, existing or potential in critical areas, instead of competing with each other.
- The goals are to leverage critical capabilities, increase the flow of innovations and increase flexibility in responding to market and technological changes

# MERGERS AND ACQUISITIONS

- **Mergers and acquisitions** (abbreviated **M&A**) are both aspects of corporate strategy, corporate finance and management dealing with the buying, selling, dividing and combining of different companies and similar entities that can help an enterprise grow rapidly in its sector or location of origin, or a new field or new location, without creating a subsidiary, other child entity or using a joint venture.
- This strategy is also known as an expansion strategy.
- M&As have been imp & powerful driver of globalization.
- A large no. of foreign firms have entered India through acquisition.
- Example: Automobiles, Pharmacy, banking, telecom etc.

# WHOLLY-OWNED SUBSIDIARY

- A **wholly owned subsidiary** is a company that is completely owned by another company called the **parent company** or **holding company**.
- A wholly owned subsidiary is the most costly method of serving a foreign market.
- Companies taking this approach have to bear the full costs and risks associated with setting up overseas operations.

# TURNKEY PROJECTS

- A turnkey operation is an agreement by the seller to supply a buyer with a facility fully equipped & ready to be operated by the buyer, who will be trained by the seller.
- The term is used in fast food franchising when a franchiser agrees to select a store site, build the store, equip it, train the franchisee & employee.
- Many turnkey contracts involve government/public sector as buyer.
- A turnkey contractor may subcontract different phases/parts of the project.

# Effectuation

## DEFINITION

**A logic of thinking that uniquely serves entrepreneurs in starting businesses**

**Provides a way to control a future that is inherently unpredictable**

## WHAT DOES EFFECTUATION DO?



**Ideas** - Effectuation advances ideas toward sellable products and services with proven customers.

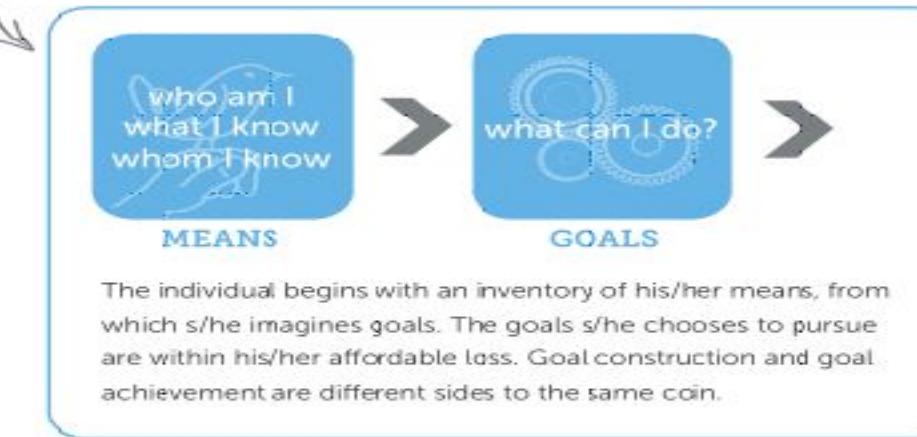


**Stakeholder Commitments** - Using effectuation, the entrepreneur interacts in search of self-selecting partners to co-create the venture with.



**Decisions** - Experts entrepreneurs use a set of techniques that serve as the foundation for making decisions about what to do next.

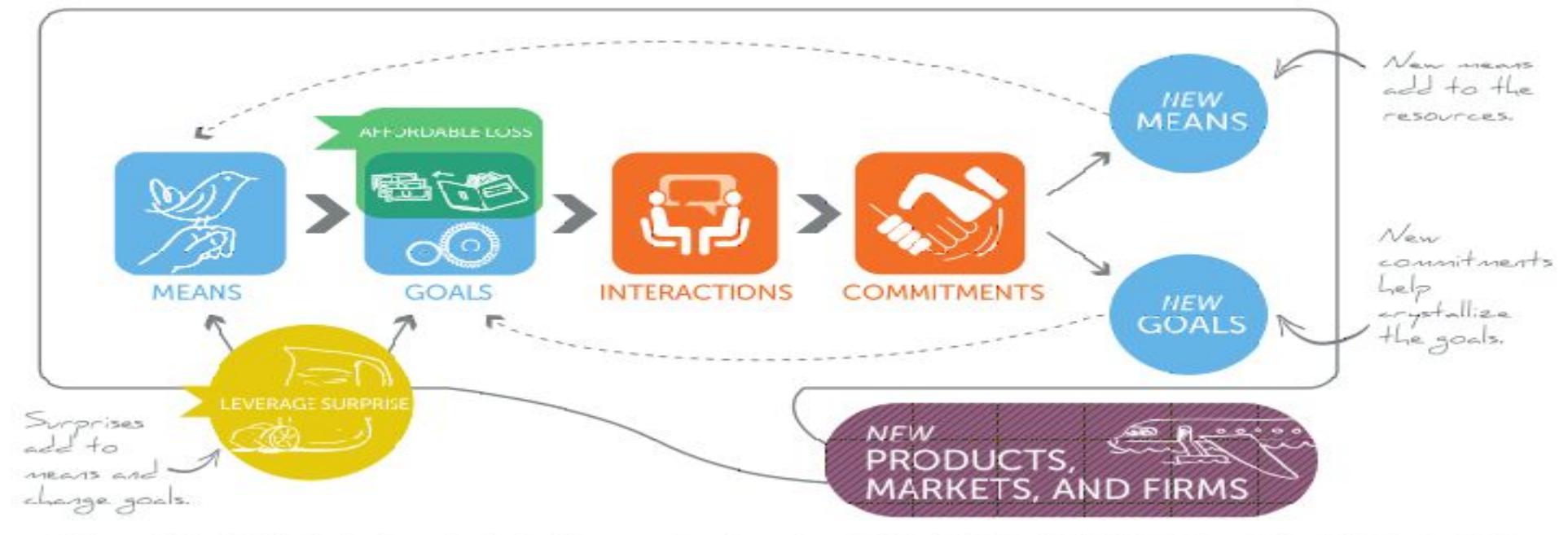
## The cycle always starts here



## Putting it all together...

The cycle continues as the effectual entrepreneur grows closer and closer to a defined, sellable product(s), complete with committed customers and stakeholders comprising the new market.

Next, interact with people to gather stakeholder commitments





## Bird-in-hand {START WITH YOUR MEANS}

When expert entrepreneurs set out to build a new venture, they start with their means: who I am, what I know, and whom I know. Then, the entrepreneurs imagine possibilities that originate from their means.

contrasts with...

Pre-set goals or opportunities

Causal reasoning works inversely by assembling means after a goal is set.



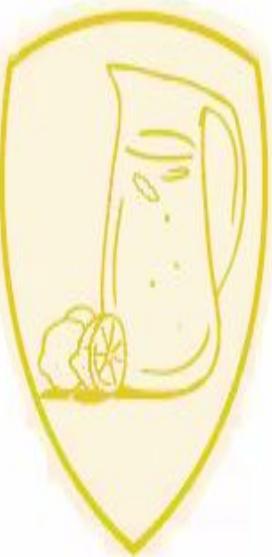
## Affordable Loss {FOCUS ON THE DOWNSIDE RISK}

Expert entrepreneurs limit risk by understanding what they can afford to lose at each step, instead of seeking large all-or-nothing opportunities. They choose goals and actions where there is upside even if the downside ends up happening.

contrasts with...

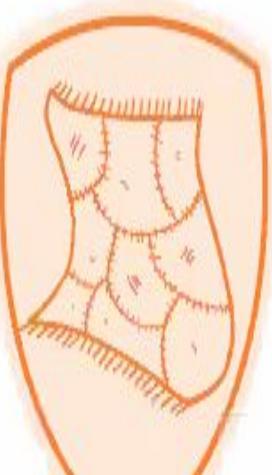
Expected return

Causal reasoning first targets a return, then works to minimize associated risk.



## Lemonade {LEVERAGE CONTINGENCIES}

Expert entrepreneurs invite the surprise factor. Instead of making "what-if" scenarios to deal with worst-case scenarios, experts interpret "bad" news and surprises as potential clues to create new markets.



## Patchwork Quilt {FORM PARTNERSHIPS}

Expert entrepreneurs build partnerships with self-selecting stakeholders. By obtaining pre-commitments from these key partners early on in the venture, experts reduce uncertainty and co-create the new market with its interested participants.

contrasts with...

Avoiding surprises

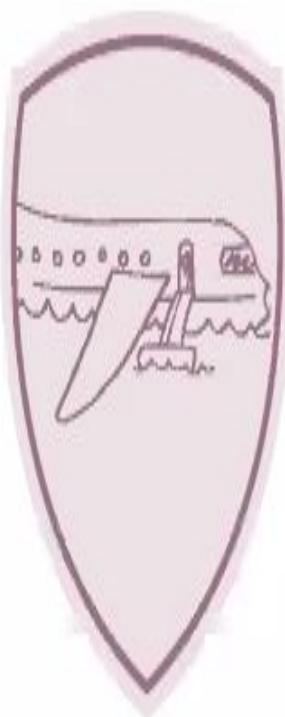
Causal reasoning works to minimize the probability of unexpected outcomes.



contrasts with...

Competitive analysis

Causal reasoning presumes that competitors are rivals to contend with.



## Pilot-in-the-plane {CONTROL v PREDICT}

By focusing on activities within their control, expert entrepreneurs know their actions will result in the desired outcomes. An effectual worldview is rooted in the belief that the future is neither found nor predicted, but rather made.

contrasts with...

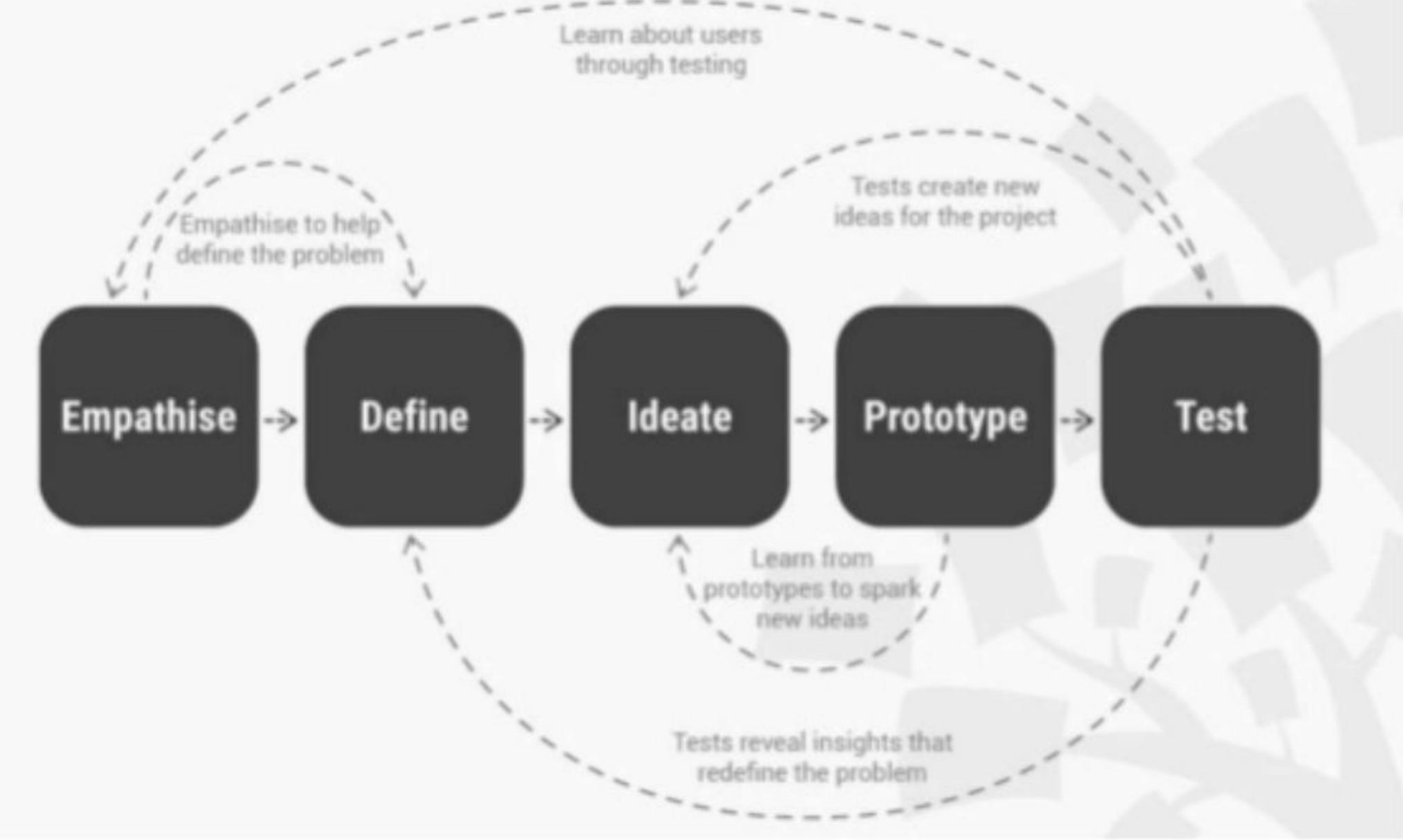
Inevitable trends

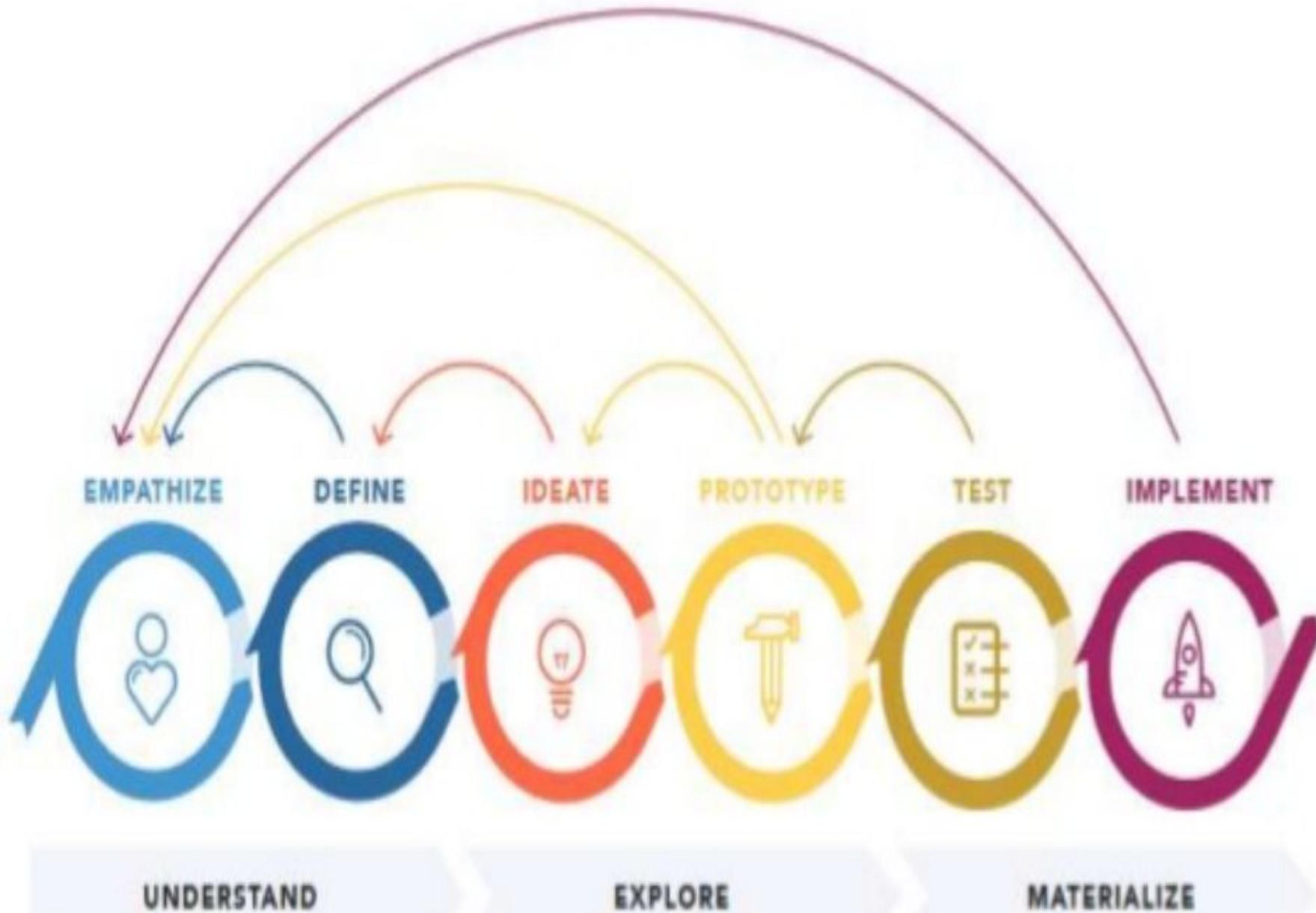
Causal reasoning accepts that established market forces will cause the future unfold.

# What is Design Thinking

- Design Thinking is an iterative process in which we seek to
  - understand the user
  - challenge assumptions
  - redefine problemsin an attempt to
  - identify alternative strategies and solutions that might not be instantly apparent with our initial level of understanding.
- At the same time, Design Thinking provides a solution-based approach to solving problems. It is a way of thinking and working as well as a collection of hands-on methods.







# Empathize

- “deep understanding of the problems and realities of the people you are designing for”
- 3 steps
  - Observe
    - How users interact with their environment.
    - Capture quotes, behaviors and other notes that reflect their experience.
    - Notice what they think, feel, need
  - Engage
    - Interviews scheduled or ad-hoc
    - Learn how to ask the right questions
  - Immerse
    - Find ways “to get into the user’s shoes”
    - Best way to understand the users’ needs

# Empathize tools

- Assume a beginner's mindset
- Ask What-How-Why
- Ask the 5 whys
- Empathy map
- Conduct interviews with empathy
- Build empathy with analogies
- Use photo and video user-based studies
- Use personal photo and video journals
- Engage with extreme users
- Story share-and-capture
- Bodystorm
- Create journey maps

## Empathize - Beginner's mindset

- Forget your assumptions and personal beliefs
- Misconceptions or stereotypes limit the amount of real empathy you can build.
- A beginner's mindset allows you
  - to put aside biases and approach
  - Design with fresh eyes
- What you should do
  - Don't judge
  - Question everything
  - Be truly curious
  - Find patterns
  - Listen without thinking how you're going to respond

## Empathize – Ask What – How - Why

- Tool to help you better observe
- Especially good for analysing photos
- What you should do for a specific observation
  - Divide a sheet into 3 parts – What / How / Why
  - What = write what you observe the user is doing without making assumptions
  - How = understand what the user is doing. Is it positive or negative, does it require effort? Use plenty of adjectives
  - Why = now you have to interpret; guess motivations and emotions, make assumptions that you have to test with users later



## Empathize – Ask the 5 whys

- Repeating the Why question 5 times to identify the root cause of a problem
- Some useful rules
  - Write down the problem and make sure that all people understand it.
  - Distinguish causes from symptoms.
  - Pay attention to the logic of cause-and-effect relationship.
  - Assess the process, not people.
  - Never leave "human error", "worker's inattention", "blame John" etc., as the root cause.
  - When you form the answer for question "Why" - it should happen from the customer's point of view.

# Empathize – Empathy map

- Says
  - quotes from what users say during interview
- Thinks
  - What users seem to think when experiencing the product
- Does
  - Actions that the user takes during the experiment
- Feels
  - The user's emotional state (adjective + context) like  
*Impatient: pages load too slowly*





## SAY

What are some quotes and defining words your user said?

## THINK

What might your user be thinking? What does this tell you about his or her beliefs?

# Empathy Map

## DO

What actions and behaviors did you notice?



## FEEL

What emotions might your subject be feeling?

# Empathize – Conduct interviews with empathy

- Ask why.
- Never say “usually” when asking a question.
- Encourage stories
- Look for inconsistencies.
- Pay attention to nonverbal cues.
- Don’t be afraid of silence.
- Ask questions neutrally and don’t suggest answers.

# Empathize - Build empathy with analogies

- Use analogies to gain a fresh way of looking at an environment, and in instances where direct observation is hard to achieve.
- analogies allow us to express our ideas or to explain complex matters in an understandable and motivating way.
- Start by identifying the aspects of a situation that are most important, interesting, or problematic.
- Find other experiences that contain some of these aspects — it will help you gain a better understanding of your users' problems, and it will also spark new ideas to improve their experiences.
- Create an inspiration space for analogies. You can do so by pinning photos and anecdotes of the analogous experiences you have found.

## Empathize - Use photo and video user-based studies

- Use video recordings of users performing their regular activities
- Try to make the study as casual as possible so that the user doesn't feel any pressure
- Use different techniques like how-what-why to examine the videos or photos or frames taken from the videos

# Empathize - Engage with extreme users

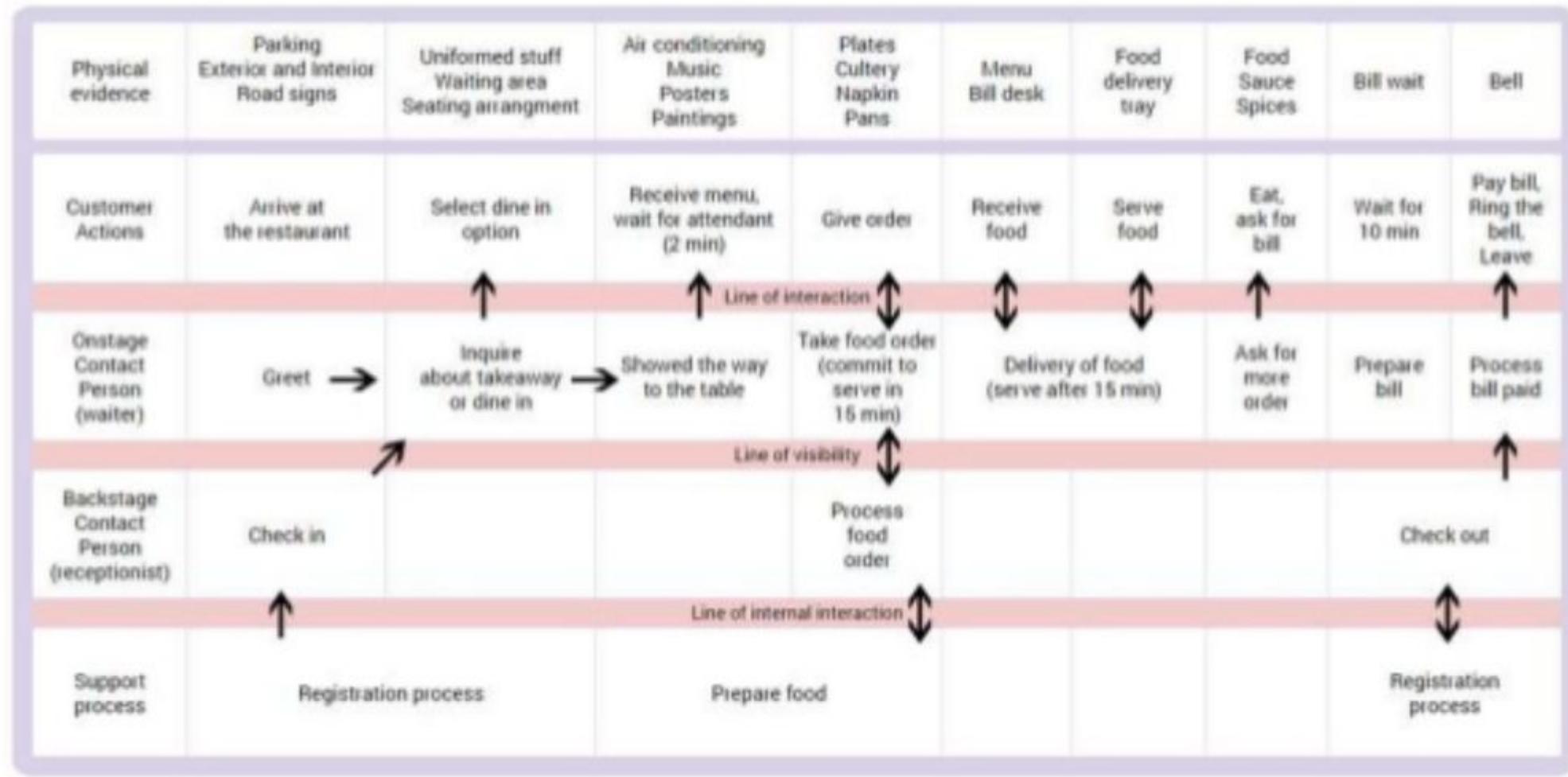
- Determine who's extreme.
- Engage.
  - Observe and interview extreme users just like other folks. Look for work-arounds (or other extreme behaviors) to spark inspiration and uncover insights.
  - Look at the extreme in all of us.
    - Look to extreme users to spur wild ideas. Then narrow in on what resonates with the primary users that you're designing for.

# Empathize - Bodystorm

- Bodystorming is a unique method that spans empathy work, ideation, and prototyping.
- technique of physically experiencing a situation to derive new ideas.
- requires setting up an experience - complete with necessary artifacts and people - and physically “testing” it.
- can include physically changing your space during ideation.
- you're focused on here is the way you interact with your environment and the choices you make while in it.
- Example: when thinking about a product for blind people try to actually experiment not using your eyes during an experiment and try to see what you can achieve and what are your needs

# Empathize - Create journey maps

- Visual representation of the process a customer or prospect goes through to achieve a goal with your company/products
- Identify the customer's needs and pain points
- Steps:
  - Set clear objectives for the map.
  - Profile your personas and define their goals.
  - List out all the touchpoints (places in the app/site where you can interact with the customer)
  - Identify the elements you want your map to show.
  - Take the customer journey yourself.
  - Make necessary changes.



Source: *UXPressia*

# Define

- synthesise your observations about your users from the Empathize stage
- definition of a meaningful and actionable problem statement, which the design thinker will focus on solving
- A great definition of your problem statement => kick start the ideation process (third stage) in the right direction.
- unpack your empathy findings into needs and insights and scope a meaningful challenge
- Define your Point of View – meaningful and actionable problem statement
  - Preserves emotion and the individual you're designing for.
  - Includes strong language.
  - Uses sensible wording.
  - Includes a strong insight.
  - Generates lots of possibilities



# Define tools

- Point of view
- How Might We
- Why-How Ladder
- Powers of Ten

## Define - Point of View

- You articulate a POV by combining these three elements – **user, need, and insight.**
- insert your information about your user, the needs and your insights in the following sentence:
- **[User . . . (descriptive)] needs [need . . . (verb)] because [insight. . . (compelling)]**

# Define - How might we?

- Short questions that launch brainstorms
- Seeds for ideation
- Come out from the point of view statement
- Example:
  - Challenge: Redesign the ground experience at the local international airport
  - POV: Harried mother of three, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because “annoying little brats” only irritate already frustrated fellow passengers.

## Define - How might we

- **Amp up the good:** HMW use the kids' energy to entertain fellow passenger?
- **Remove the bad:** HMW separate the kids from fellow passengers?
- **Explore the opposite:** HMW make the wait the most exciting part of the trip?
- **Question an assumption:** HMW entirely remove the wait time at the airport?
- **Go after adjectives:** HMW we make the rush refreshing instead of harrying?
- **ID unexpected resources:** HMW leverage free time of fellow passengers to share the load?
- **Create an analogy from need or context:** HMW make the airport like a spa? Like a playground?
- **Play against the challenge:** HMW make the airport a place that kids want to go?
- **Change a status quo:** HMW make playful, loud kids less annoying?

# Define - Why How Ladder

- Used to find user needs and ways to possibly solve them
- Step 1: Identify a few meaningful user needs and write them at the bottom of a piece of paper.
- Step 2 Ladder up from that need, asking “why?”
  - For example, why would a user “need to see a link between a product and the process that creates it?” because the user, “needs confidence that it won’t harm their health by understanding its origin.”
- Step 3 Ask why again, and continue to ladder from that same need.
  - At a certain point, you’ll reach a very common, abstract need such as, “the need to be healthy.” This is the top of the ladder.
- Step 4 Climb back down the ladder asking “how?”
  - This will give you ideas for how to address the needs

# Ideate

- generate radical design alternatives
- The goal of ideation is to explore a wide solution space
  - both a large quantity and broad diversity of ideas.
- From this pool of ideas you can build prototypes to test with users

# How to ideate

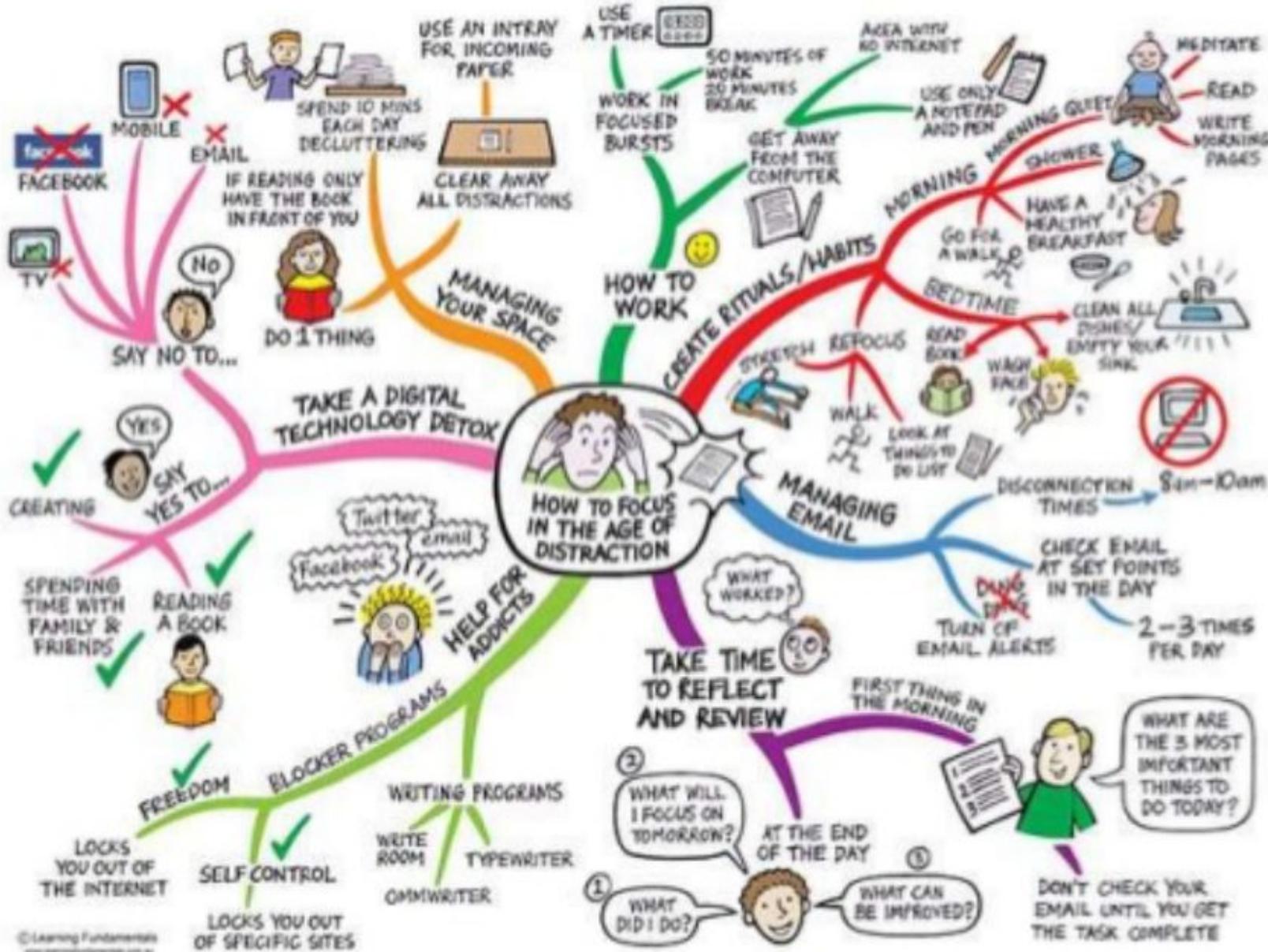
- Ideate=transition from identifying problems to exploring solutions
- Ideation is leveraged to:
  - Harness the collective perspectives and strengths of your team.
  - Step beyond obvious solutions and drive innovation.
  - Uncover unexpected areas of exploration.
  - Create fluency (volume) and flexibility (variety) in your innovation options.
- Fluctuate between focus and flare

# Ideate – Challenge Assumptions

- Identify the assumptions you have about the product you're building
- (especially if you're stuck)
- Challenge these assumptions
  - Are they fixed because they are crucial aspects or because we have been accustomed to them?
  - Very important step if the empathy stage wasn't well done and there were many things assumed about the users and their context

## Ideate - Mindmap

- Process through which the participants build a web of relationships
- Participants write a problem statement
- They write solutions
- Link statements and solutions between them





# Define/Ideate – Power of Ten

- Consider challenges through frames of various magnitudes
- Consider increasing and decreasing magnitudes of context to reveal connections and insights.
- Powers of ten for insight development – imagine what happens for example when shopping for bubble gum vs. shopping for a TV vs. shopping for a house
  - How does this changes the user behaviour?
- Powers of ten for ideation
  - Add constraints that alter the magnitude of the solution space (cost of 1 mil \$ vs. 1 cent)

# Prototype

- A prototype can be anything that takes a physical form—a wall of post-its, a role-playing activity, an object.
- In early stages, keep prototypes inexpensive and low resolution to learn quickly and explore possibilities.
- Prototypes are most successful when people (the design team, users, and others) can experience and interact with them.
  - great way to start a conversation.
  - interactions with prototypes drives deeper empathy and shapes successful solution

# Low fidelity prototyping

- use basic models or examples
- Just some features
- Methods
  - Storyboarding.
  - Sketching
  - Card sorting.
  - 'Wizard of Oz'.

# High fidelity prototyping

- look and operate closer to the finished product
- For example, a 3D plastic model with movable parts (allowing users to manipulate and interact with a device in the same manner as the final design) is high-fi in comparison to, say, a wooden block.
- Likewise, an early version of a software system developed using a design program such as Sketch or Adobe Illustrator is high-fi in comparison to a paper prototype.

# Test

- chance to gather feedback, refine solutions, and continue to learn about your users.
- The test mode is an iterative mode in which you place low-resolution prototypes in the appropriate context of your user's life.
- **Prototype as if you know you're right, but test as if you know you're wrong**

# Prototype/Test – Wizard of Oz Prototyping

- A wizard of Oz prototype fakes functionality that you want to test with users, saving you the time and money of actually creating it.
- prototypes of digital systems, in which the user thinks the response is computer-driven, when in fact it's human-controlled.
- Determine what you want to test.
- Then figure out how to fake that functionality and still give users an authentic experience

# Testing with users

- Allows you to learn about the solution you created but also about the users (builds empathy)
- Let your user experience the prototype.
  - Show don't tell. Put your prototype in the user's hands (or your user in the prototype) and give only the basic context they need to understand what to do.
  - Have them talk through their experience.
    - Use prompts. "Tell me what you're thinking as you do this."
  - Actively observe.
    - Don't immediately "correct" your user.
    - Watch how they use (and misuse) your prototype.
  - Follow up with questions.
    - This is often the most valuable part.