

DEMYSTIFYING DESIGN THINKING

Facilitator:

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About QAI Global

Mission

To create a measurable, and sustainable competitive advantage to our clients

Focus

Facilitating Operational Excellence



People



Process



Performance

Practices

Software Engineering & Management

Project, Program & Portfolio Management

Software Testing & Quality

Business Process Improvement

Innovation Management

Service Management

Human Capability Management

Solutions

Career Framework Design
Skill Assessments

Org. Assessment
Process Definition

Metrics Program
Enabling High Maturity

Learning Design
Learning Delivery (ILT)

Process Implementation
Process Benchmarking

Productivity Improvement
Workforce Transformation

Online Learning
Certifications

Appraisals & Audits
Process Outsourcing

Centers of Excellence
Innovation

Quick Facts: QAI Trainings and Certifications

35,000+ Assessed	180,000+ Trained	45,000+ Certified	7 Practice areas	13 Certifications	145 Course titles
10,000+ Community members	30 Active federation Chapters	20 Authorized education Partners	600+ Corporate clients	57 Consultants	450 Hours of online Learning content

ABOUT QGLUE

QGLUE uses design to help businesses build services that people love and impact the world around us. Using human centered approach with robust methodology, QGLUE equips people to solve wicked problems by helping them reach a solution that is not just right, but also desirable with design thinking at the heart of it all. We aim to evangelize design and innovation that makes the world better designed and people happier.

QGLUE has conducted Workshops, Design Consultations, Briefings for Senior Management and equipped businesses to become design-led.

To know more about our offerings: www.q-glue.com

Partial List of Organisations that attended QGLUE's Design Thinking Workshops

	 ADITYA BIRLA GROUP		
	 vodafone		 Cognizant
 NUCLEUS SOFTWARE	 HCL HCL INFOSYSTEMS LTD.		
			 WIPRO Adding Thought
 DAIMLER		 CenturyLink	 Mahindra
 life.augmented	 ERICSSON		 ciber® An ITC Global Company

Hello, my name is David P. Isaac

**Consulting Partner and Practice Head
QAI GLOBAL**

- Head of Customer Experience and Process Transformation with Reliance Infocomm
- NPD Expert with Godrej Appliances and pioneered the Pentacool Range of Refrigerators
- Innovation TRIZ Expert Certified Matriz Level 3



WHY





81% of executives surveyed place the personalized customer experience in their top three priorities for their organization, with 39% reporting it as top priority.

- Accenture

A total of 42 design firms have been acquired since 2004. 50% of which have been acquired within the last year with Accenture, Deloitte, IBM, Google, and Facebook as the most acquisitive.

- Design In-Tech Report





Design-led companies such as Apple, Coca-Cola, IBM, Nike, Procter & Gamble and Whirlpool have outperformed the S&P 500 over the past 10 years by an extraordinary 219%, according to a 2014 assessment by the Design Management Institute.

- SAP

90% of executives agreed that customer experience and engagement are objectives of corporation's digital strategy.

- Deloitte



Why Design Thinking

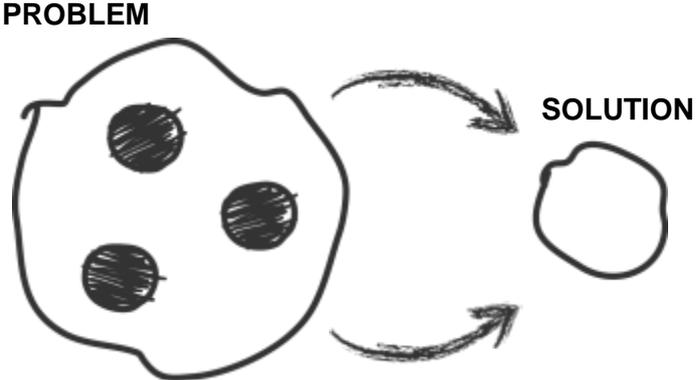
- Today's reality demands innovation and empathy for the customer from businesses.
- Customers are not only looking for the best service but also the best experience.
- Design Thinking addresses all pressing concerns and questions and divides insurmountable tasks into smaller doable tasks.
- Statistics and market research can give you certain insights, but spending time with the end-user, the insights become far more tangible.
- Failing fast and quickly through prototyping helps you eliminate weak areas.
- Design thinking breaks your preconceptions of what a good solution would be and unleashing new undiscovered possibilities. Leading you to a more desirable and human solution.

WHAT

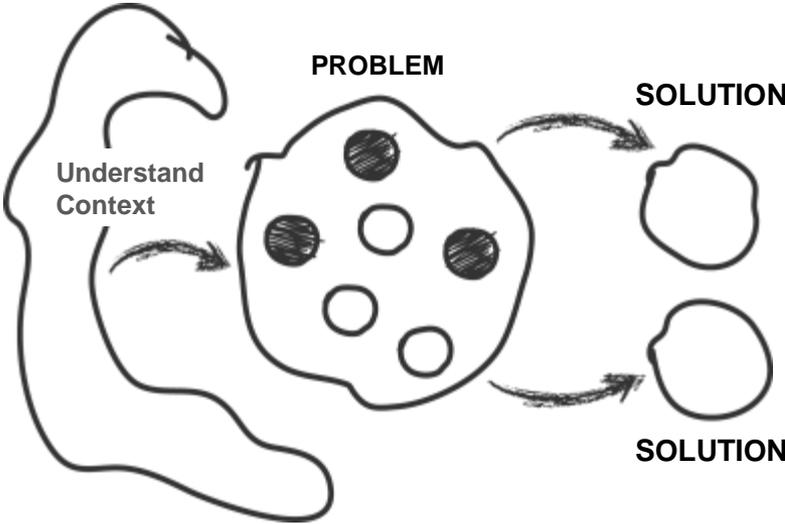


**Hence design thinking is not
about solving
design problems....
It is about solving
business problems with the
design process**

Business Thinking



Design Thinking



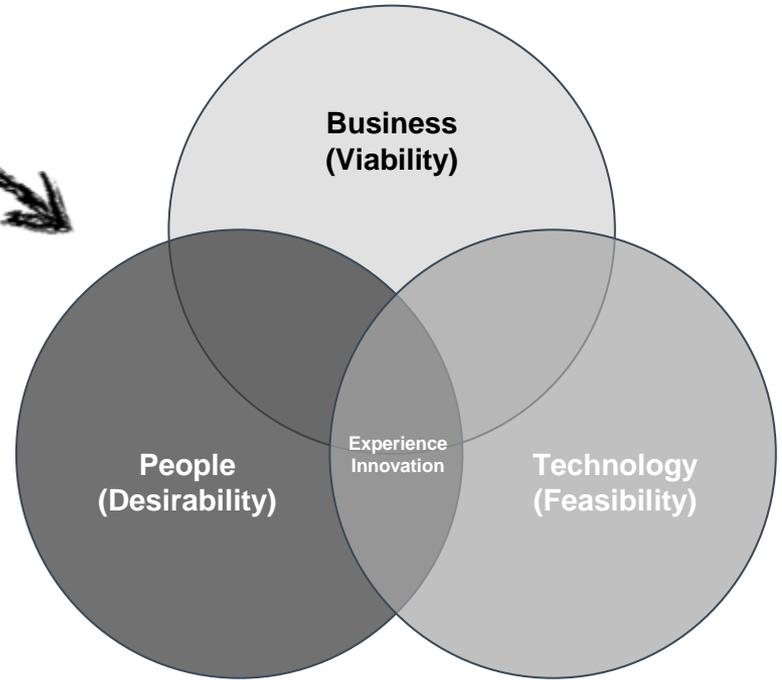
An aerial, black and white photograph of a dense city skyline, likely New York City, with numerous skyscrapers and a river visible in the background. A semi-transparent grey rectangular box is centered over the image, containing white text.

Always design a thing by
considering it in its next larger
context —

a chair in a room, a room in a house,
a house in an environment, an
environment in a city plan.

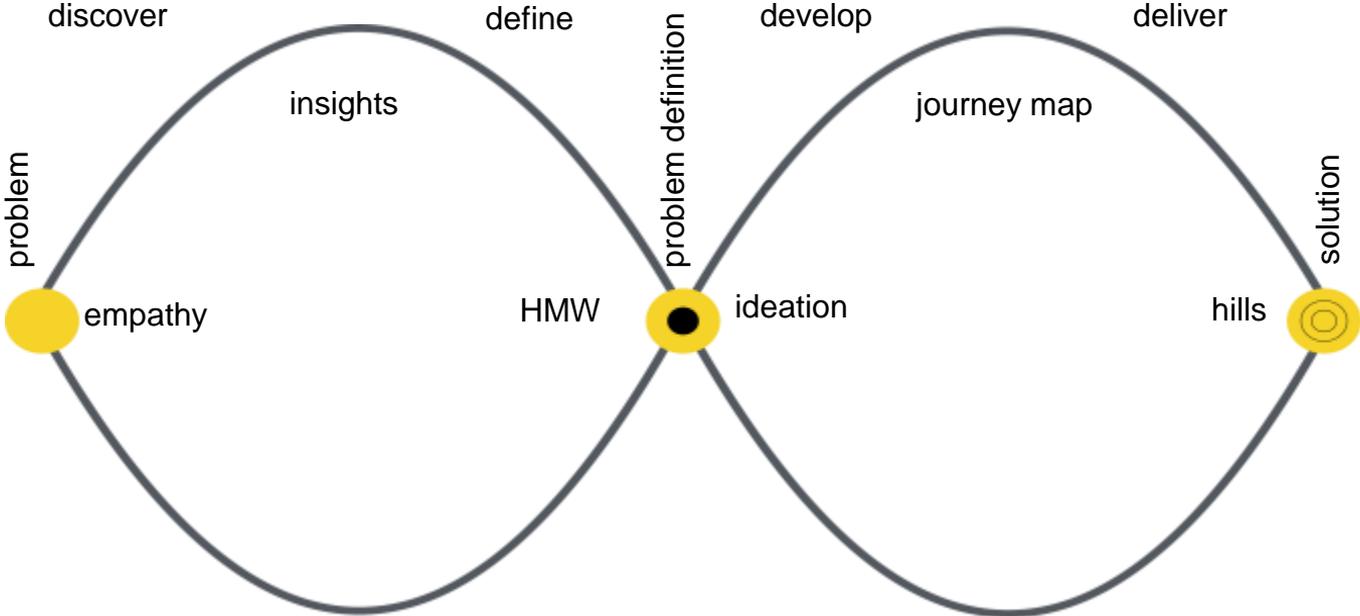
Eliel Saarinen

This is Design Thinking



From Thinking To Innovating

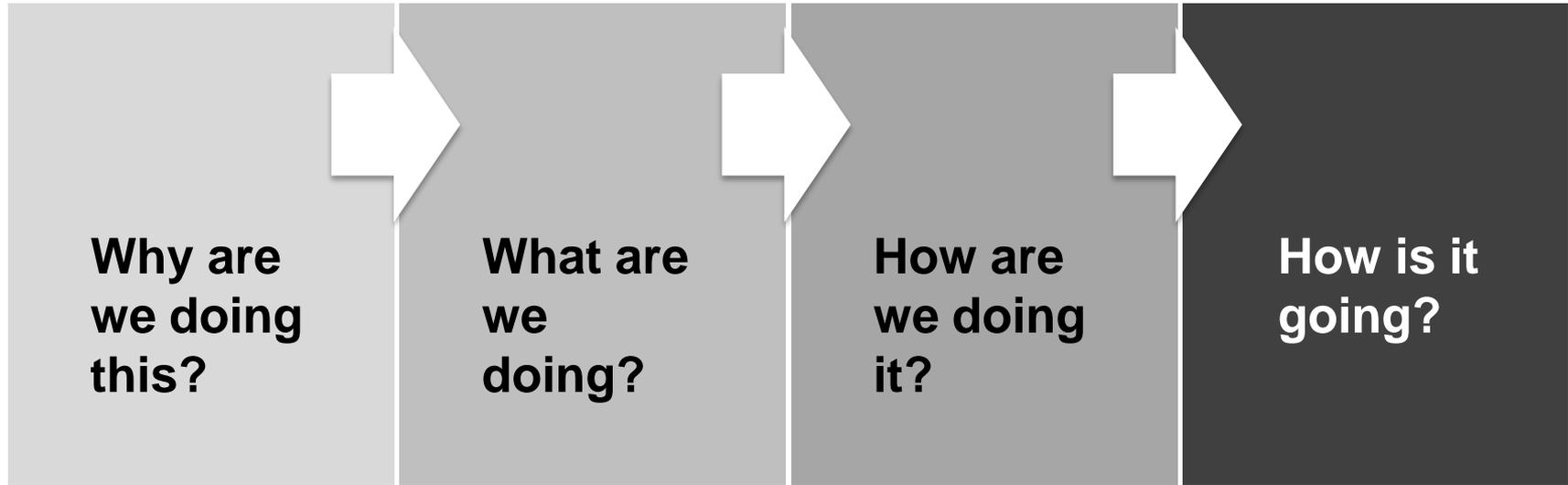
The Design Thinking Process



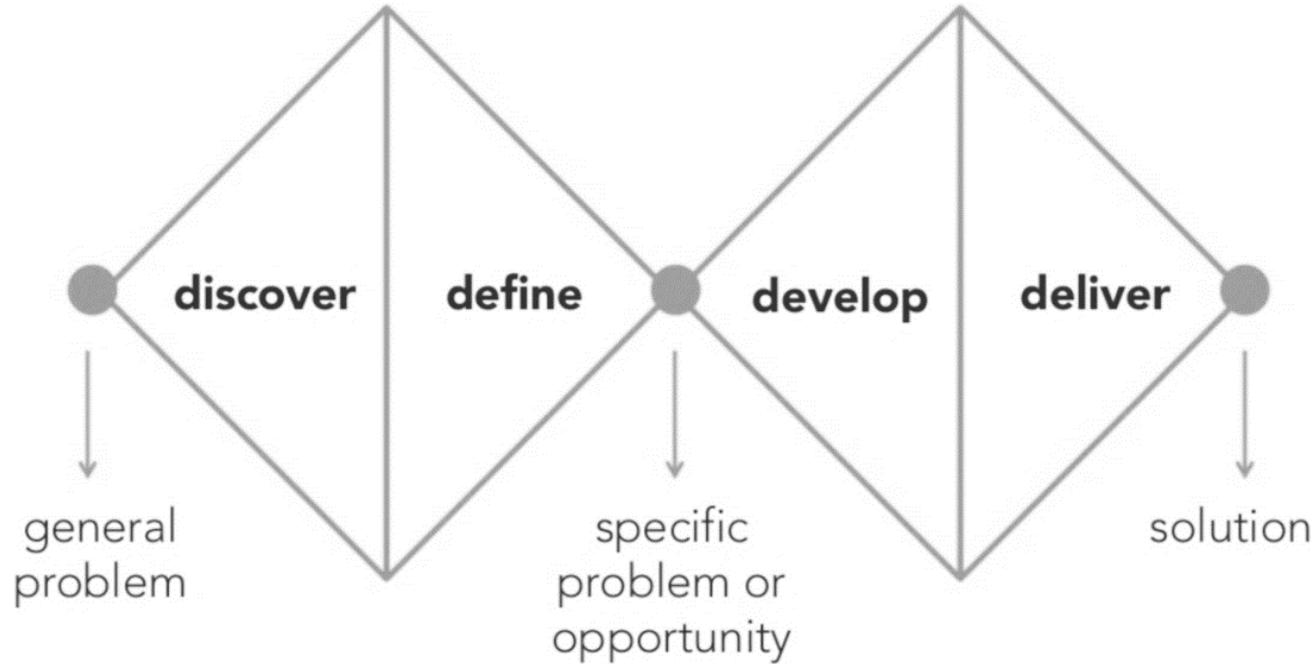
HOW



Simplifying the Design Process...



Design Process



The Design Mindset

Curiosity

An open, child-like mind of being enthusiastic enough to talk about ideas – and questioning them enough to build on that idea rather than think it's all done.



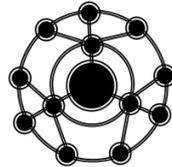
Empathy

Deeply understanding the people you're trying to design for and, for the people that you're entrusted to help. Once you understand what they really value, it becomes a win-win situation.



Systems Thinking

Looking at the interconnectedness of various factors to understand the bigger picture.



Iteration

Work in short cycles to fail quickly and taking a step forward with every feedback.



The Design Skills



Visualization

the formation of a mental image of something



Storytelling

the activity of telling or writing ideas in the form of stories



Brainstorming

process for generating creative ideas through intensive and freewheeling group discussion



Observation

an act or instance of regarding attentively or watching



Visual Thinking

visual thinking is described as seeing words as a series of pictures



The Five Whys

the primary goal of the technique is to determine the root cause of a problem by repeating the question "Why?"

Key Concepts

Frontstage

The part of your service that the client/customers can see and experience.



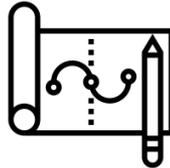
Backstage

The part of your service that happens "behind the scenes" and is not visible to the customer.



Blueprint

A breakdown of both the end-to-end customer experience as well as the surface-to-core backstage of your business process, systems, actors, and policies.



Journey

A customer's experience of your service..



Touchpoint

A single point of interaction between the customer and the service.



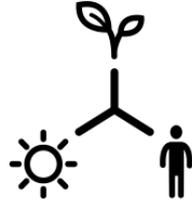
Channel

A specific medium in which interactions take place.

Key Concepts

Ecosystem

The collective whole of all channels, services, touch points, and interactions in your business.



Opportunity Space

An area of your service or business in which you want to focus (e.g. On boarding, Customer Retention, Help & Support, etc.).



Scenario

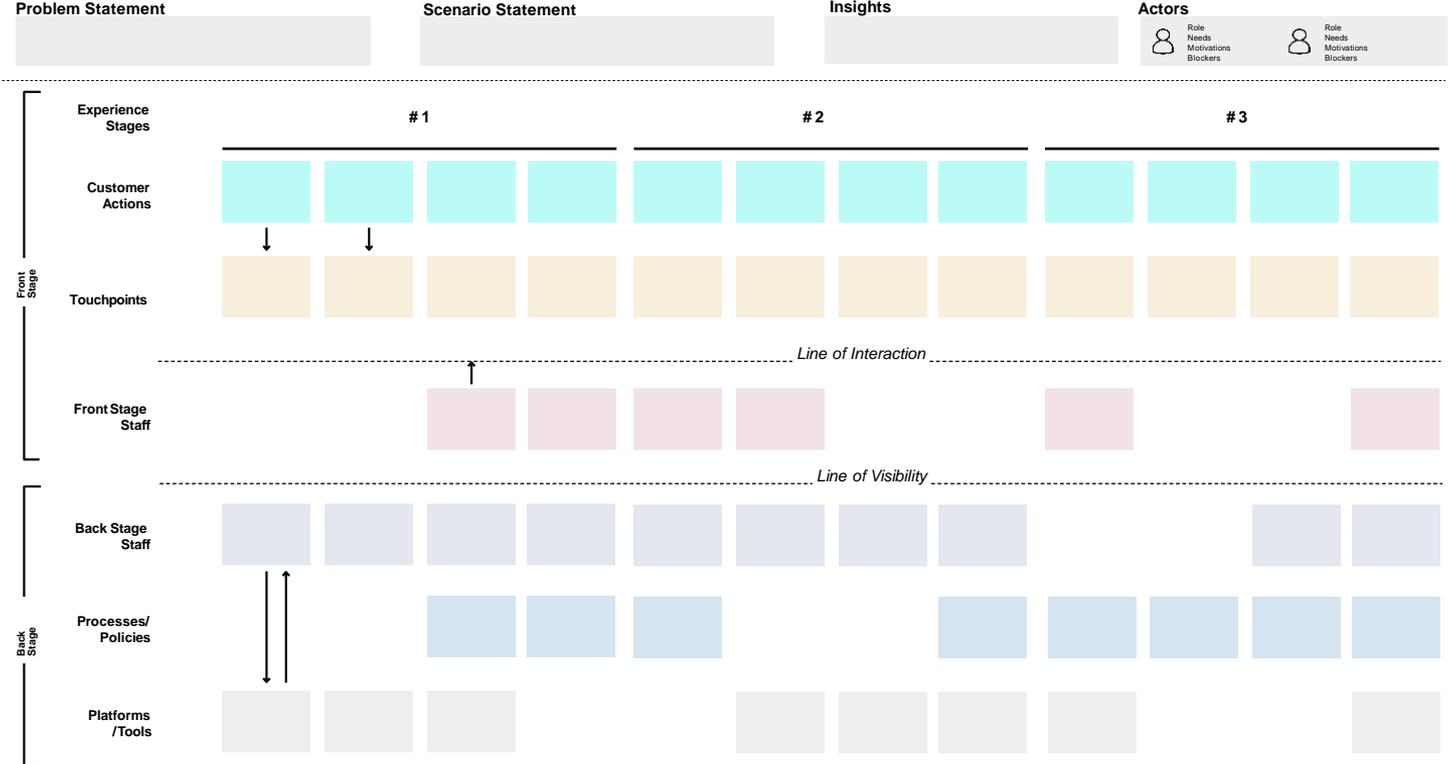
A use case that plays out over time that involves your customer's experience combined with your organization's backstage processes and systems.



Actors

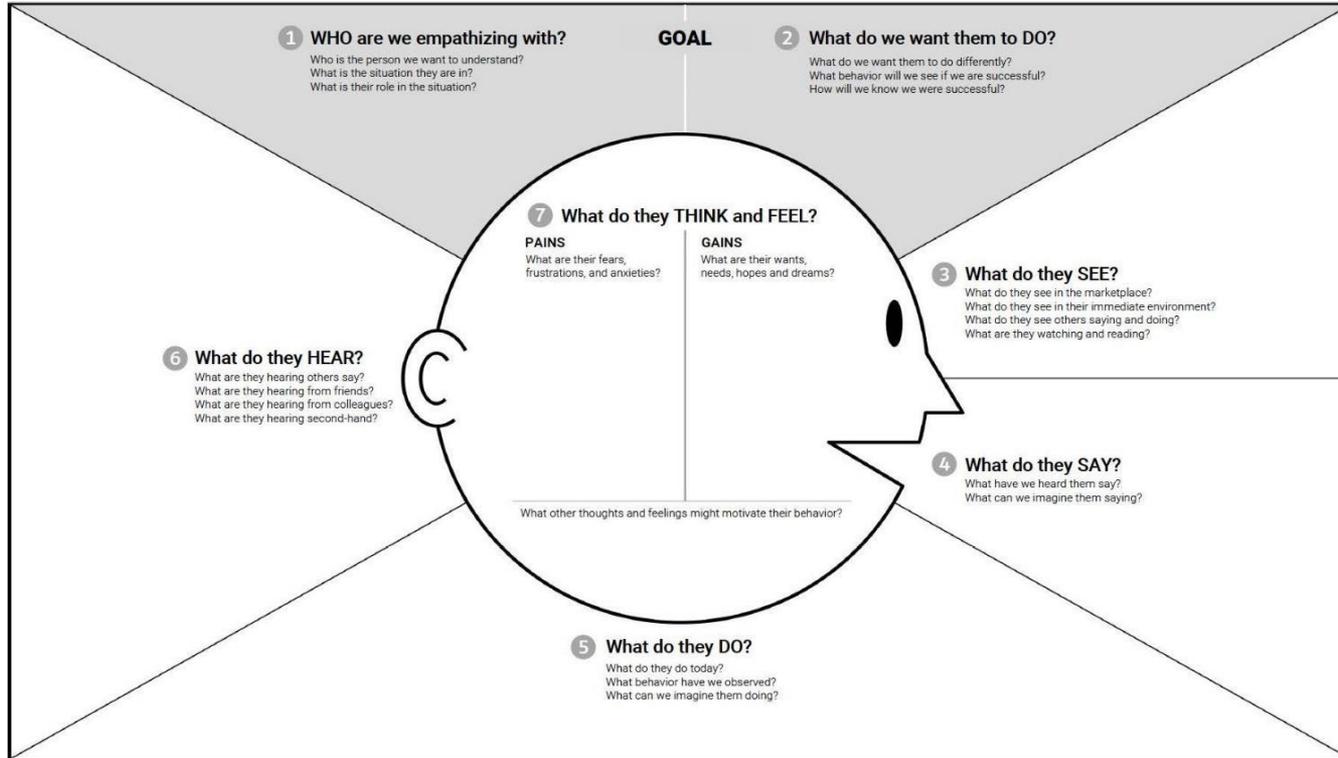
All the users associated with the service including stakeholders, front stage and backstage users.

The Current Experience Map



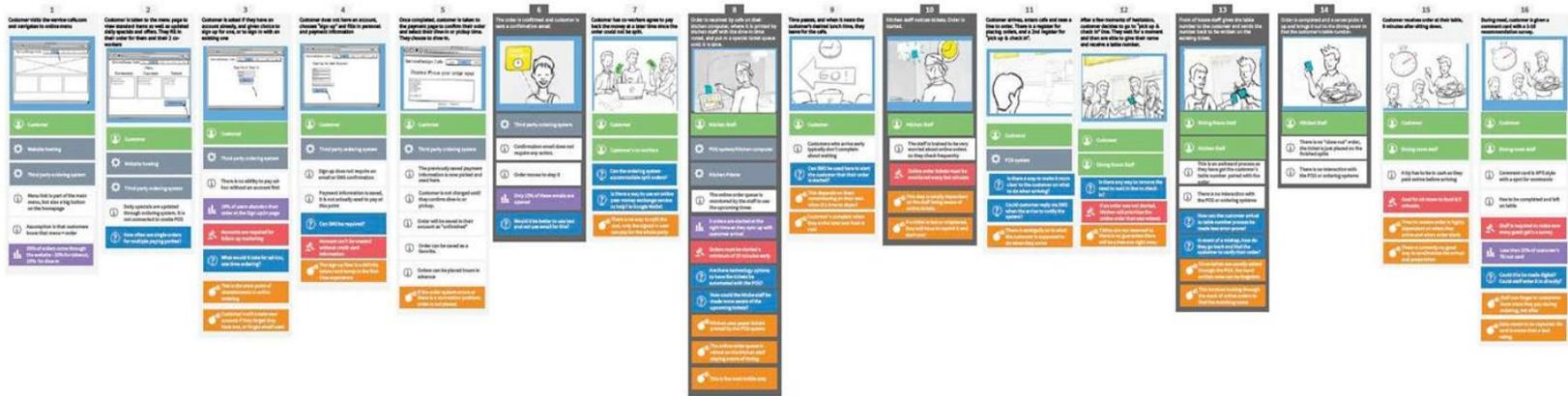
	Persona Group			
	Fictional Name			
	Professional/Family Responsibilities			
	Demographics (Age, Education, Ethnicity, Marital Status)			
“This is my Point-of-view...”	GOALS	MOTIVATIONS	TRIGGERS	PAIN POINTS
Favourite Brands	Media Preferences	Other Information		

Empathy Map



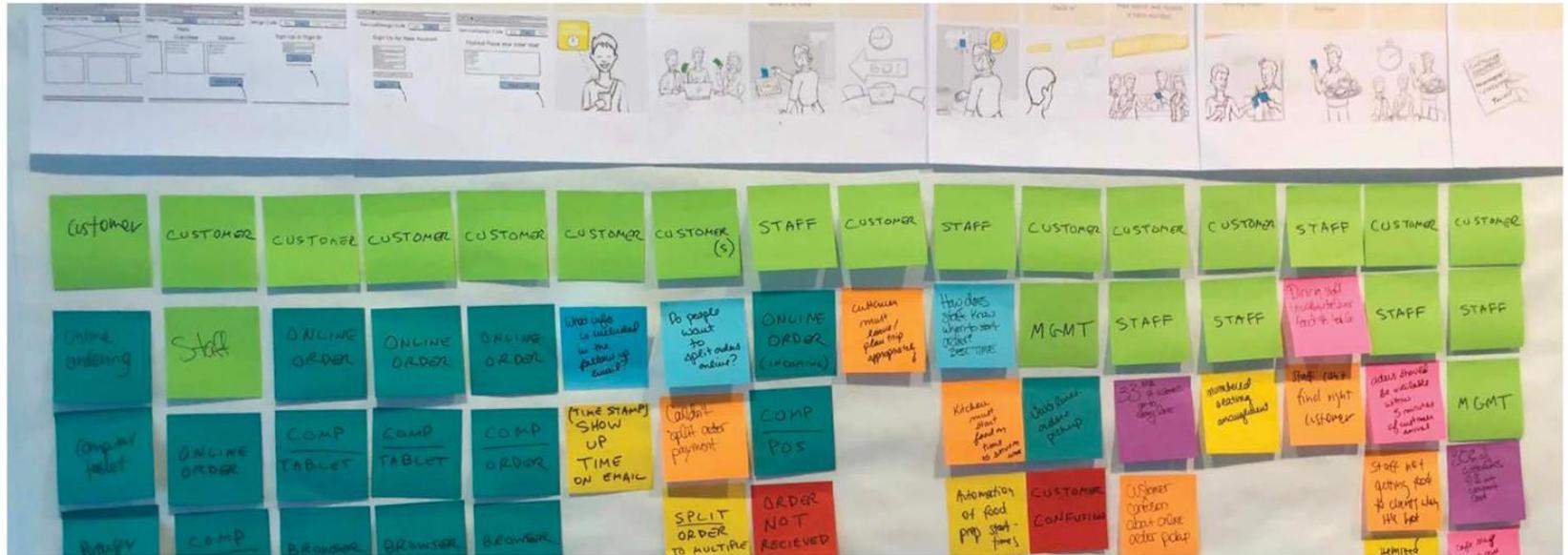
Service Blueprint

Example Digital Blueprint



Service Blueprint

Example Physical Blueprint



Writing a Problem Statement - HMW

How might we...

[what problem needs solving or improvement?]

for...

[which person is most affected by this?]

OR

Design a better way for...

[which person is most affected?]

to...

[what does this person need to be able to do?]

How might we provide a personalized experience for a senior retail store consumer?

Design a better way for a bank manager to immediately and effectively prioritize the most vital imminent threats.

[ideation]

Idea Generation Techniques

Brainstorming

Gamestorming

Sketchstorming

Creative Pause

Mind Mapping

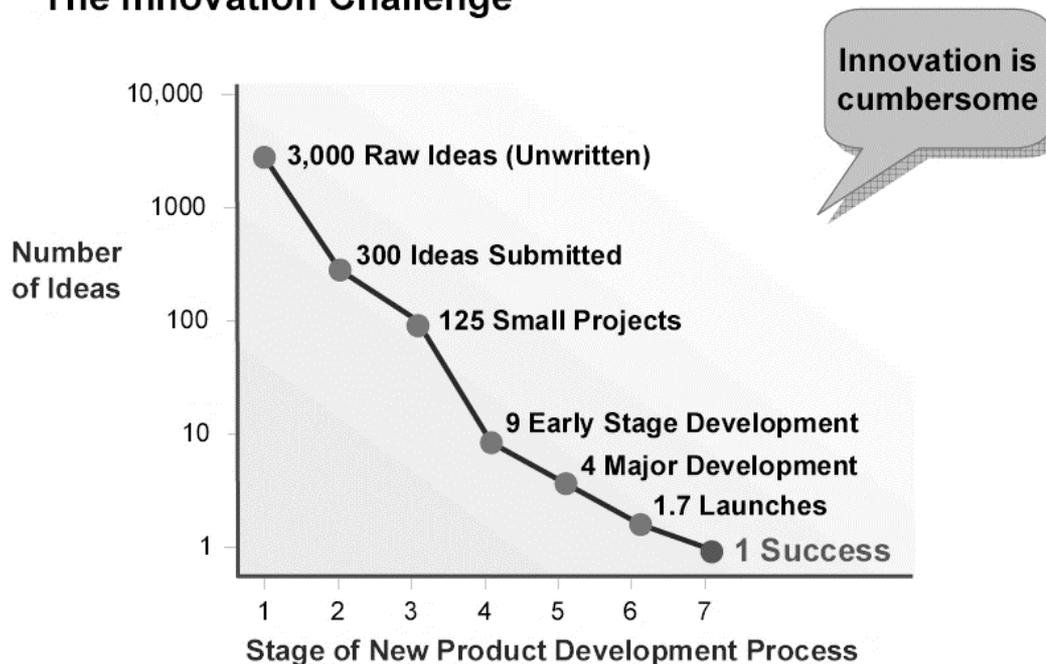
Co-creation

Storyboarding

Workshops Role Playing

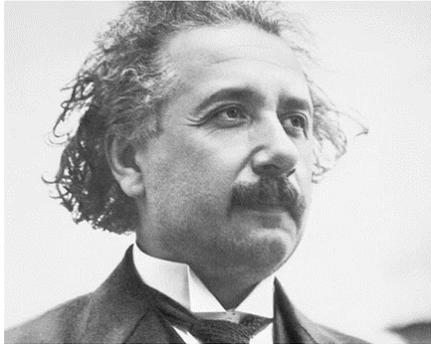
Conventional Approach is Inefficient

The Innovation Challenge



Source: G. Stevens and J. Burley, "3,000 Raw Ideas = 1 Commercial Success!"
Research+Technology Management, 40(3): 16-27, May-June, 1997.

...The problems that exist in the world today
cannot be solved
by the level of thinking
that created them...



Albert Einstein

TRIZ

Теория Решения Изобретательских Задач

Teoriya
Zadach

Resheniya

Izobretatyelskikh

Theory
Problem

Solving

Inventive

Origins of TRIZ



October 15, 1926
September 24, 1998

Genrich ALTSHULLER:

“Trial and Error Method today is considered as a synonym for Creativity. To increase productivity of intellectual work scientific approach should be applied....”

Altshuller start this scientific research in 1946.
He was 20 years old...

1949 – First results and letter to Stalin.

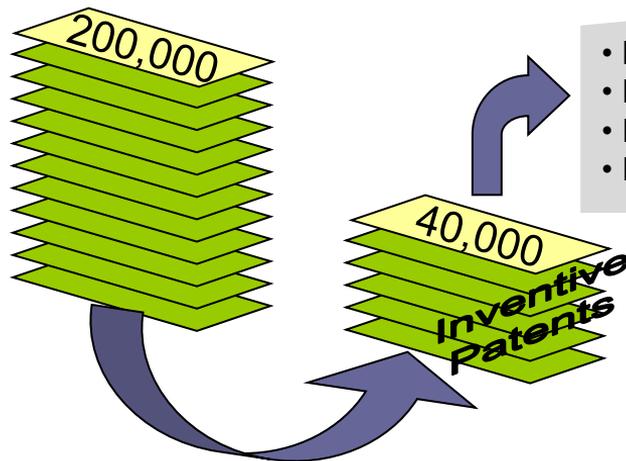
1950 - Arrested. Sentence 25 years in prison.

1950 – 1954 – Gulag. First TRIZ application
for non engineering real life problem solving.

Usefulness in industry applications was proved worldwide during last 60 years.

Innovation as an Algorithm

Patents initially reviewed
by Altshuller (worldwide)



Key Findings

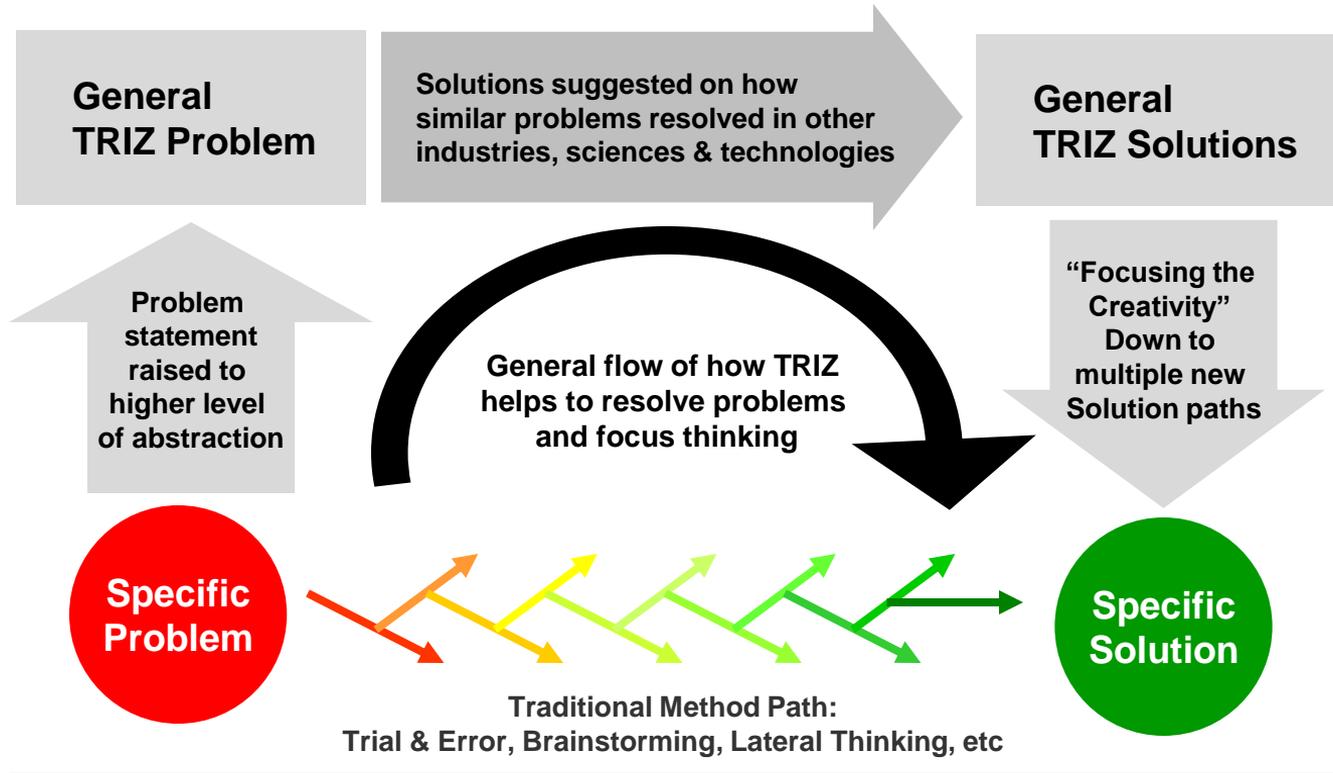
- Levels of invention
- Definition of inventive problem
- Patterns of invention
- Patterns of evolution

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General Purpose
Principles

- Altshuller had access to 200,000 patents worldwide
- Of these 20% represented inventive problems
- He worked with these 40,000 patents to find the common denominator

Innovation as an Algorithm



A reliable, repeatable & teachable method of innovative and inventive thinking usable by all

TRIZ Innovation - IDEA Generation aids

- Multiscreen diagram
- Defining an ideal system
- Function Diagram
- Contradiction thinking
- Resource thinking
- RCA+ Root Conflict Analysis
- 40 Inventive Principles to resolve contradictions

Past

Software, Servers, IT Device
Users, Desktops, Support
functions like HR, Trainer, QA

Deskside support

SME, Escalation team, paper
folders, Excel files, Regular
phone, email system, writing
pen and pads

Present

Supersystem

IT Device users, servers, networks,
CRM platform, support teams for
resolution (3rd Party), Admin team,
transportation team, IT
Communications, Onsite support

System

IT IS Infrastructure support

Subsystem

Analysts, Remedy – CRM,
ticketing tool, remote access
tools, Escalation team,
Knowledge base, ACD- Call
routers, desktops, virtual
phones, emails

Future

IT Device users, Analyst,
Program systems

Self detection and Healing IT
Systems

KB, CMDB, AI to self learn
and deploy best solution,
IVR, IT Upgrades

Multi-screen Diagram for – IT Infrastructure Support

What is a Contradiction?



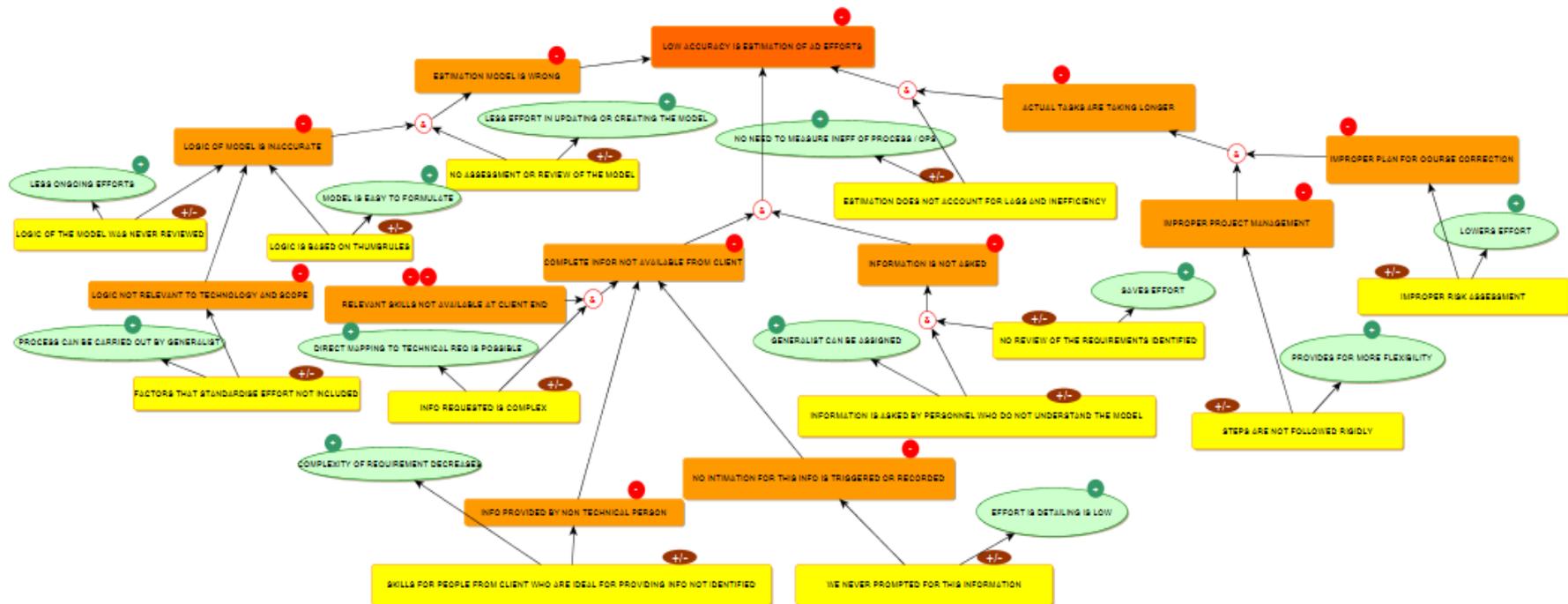
An improvement in one characteristic of a system results in the degradation of another characteristic.

If (we reinforce car body to make it bullet and bomb proof)

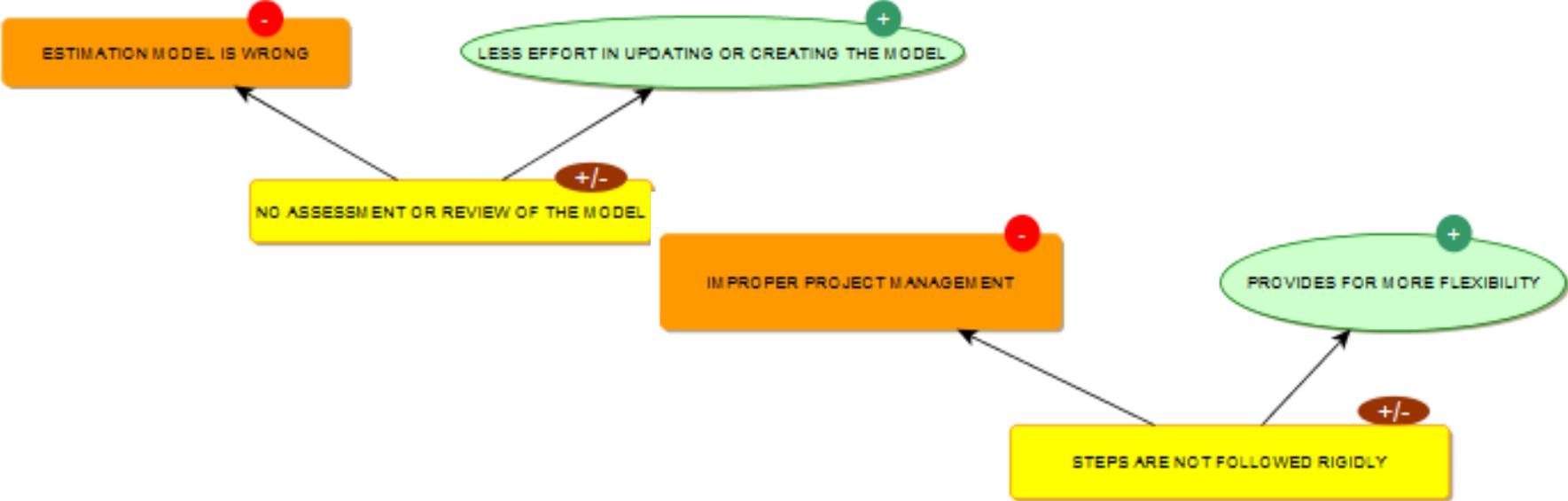
Then (the owner can feel more safe travelling on the road)

But (the vehicle fuel efficiency is compromised)

RCA+ for Lower accuracy in estimation of AD efforts



Selected Contradictions from RCA+ for Lower accuracy in estimation of AD efforts



Resource Thinking



Contradiction Matrix

- Contradiction Matrix is a matrix created by the founder of TRIZ (Theory of Inventive Problem Solving), G. H. Altshuller.
- Altshuller's was researching the patent database and investigating whether there were some commonalities in the types of problems faced by inventors and the principles used by them to resolve contradictions.
- His finding was that typically any problem can be summarized as a conflict between two parameters. If we increase the value of one parameter, it results in the deterioration of the other parameter.
- Altshuller's research found that there were 39-parameters like length, weight, reliability and so on.
- Altshuller also found out that inventors over time tended to prefer application of 40-principles
- The Matrix is a summary representation of this research
- It provides innovators with the triggers to resolve the contradictions

Understanding the Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Weight of moving object	+		15, 8 29, 34		29, 17 38, 34		29, 2 40, 28		2, 8 15, 38	8, 10 18, 37	10, 36 37, 40	10, 14 35, 40	1, 35 19, 39
2	Weight of stationary object		+		10, 1 29, 35		35, 30 13, 2		5, 35 14, 2		8, 10 19, 35	13, 29 10, 18	13, 10 29, 14	26, 39 1, 40
3	Length of moving object	8, 15 29, 34		+		15, 17 4		7, 17 4, 36		13, 4, 8	17, 10 4	1, 8, 35	1, 8 10, 29	1, 8 15, 34
4	Length of stationary object		36, 28 40, 29		+		17, 7 10, 40		36, 8 2, 14		28, 10	1, 14, 35	13, 14, 15, 7	39, 37 35
5	Area of moving object	2, 17, 29, 4		14, 15, 18, 4		+		7, 14, 17, 4		29, 30 4, 34	19, 30 35, 2	10, 15 36, 28	5, 34 29, 4	11, 2 13, 39
6	Area of stationary object		30, 2, 14, 18		26, 7, 9, 39		+				1, 18, 36, 36	10, 15 36, 37		2, 38
7	Volume of moving object	2, 26, 29, 40		1, 7, 4, 35		1, 7, 4, 17		+		29, 4, 38, 34	15, 35 36, 37	6, 36 36, 37	1, 15, 29, 4	28, 10 1, 39

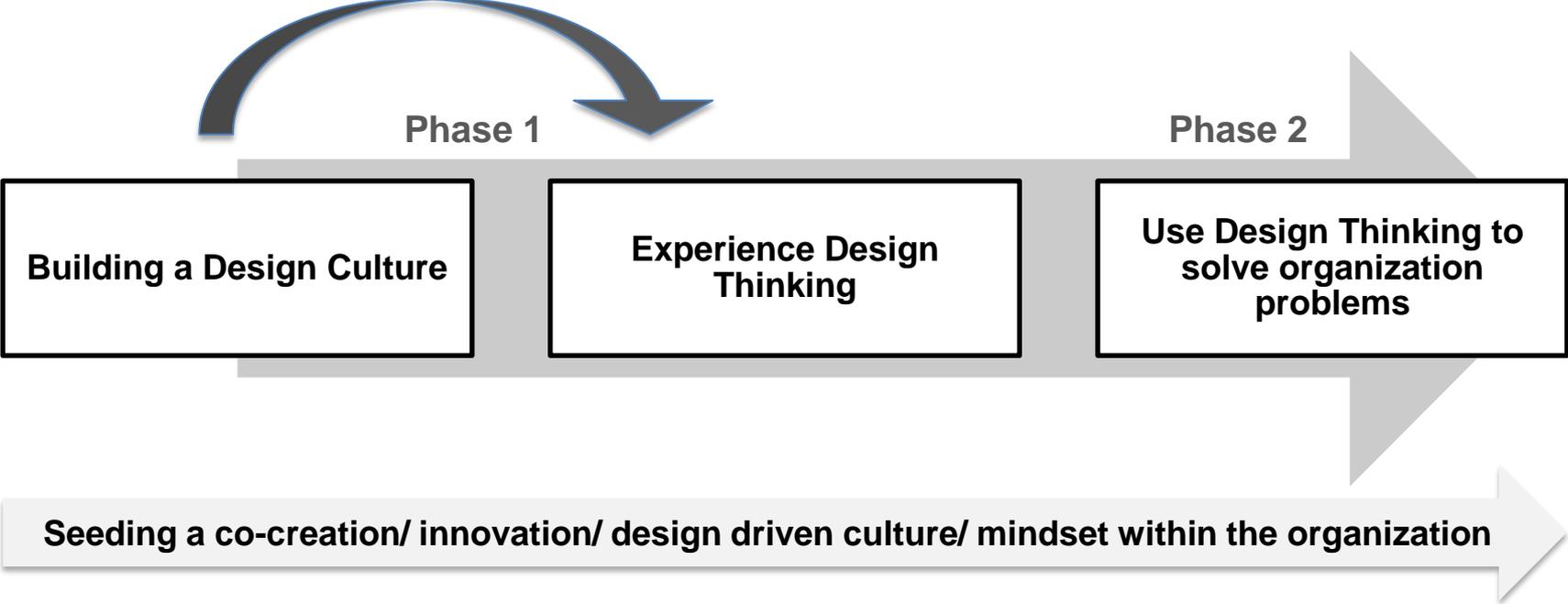
- The image shows a snapshot of the Contradiction Matrix.
- The MS-Excel template with the explanation of the parameters and the descriptions of the 40-principles can be downloaded from the Attachments.
- We next explain the different parts of the template

Organizations who have embraced TRIZ Innovation



Triggering a Cultural Change

Organization Transformation using Design Thinking



Organizational Transformation Roadmap

1 **IMBIBING DESIGN THINKING**

BUILDING THE DESIGN CULTURE

- Helping the organization identify the right participants for the workshop.
- Co-creating training packs videos, exercises, along with the Team.
- A digital presence to be created inside & outside organization environment with access of material, resource, article, etc.
- Multiple training programs will be created on fundamental of Design Thinking and its application.
- A report will be post completion of all the changes? Or level of progress of learning in a batch, promising individuals and more.
- Mentoring and coaching internal teams to run a pilot for applying Design Thinking.

2 DEVELOPING DESIGN CHAMPIONS

IDEAS TO ACTION

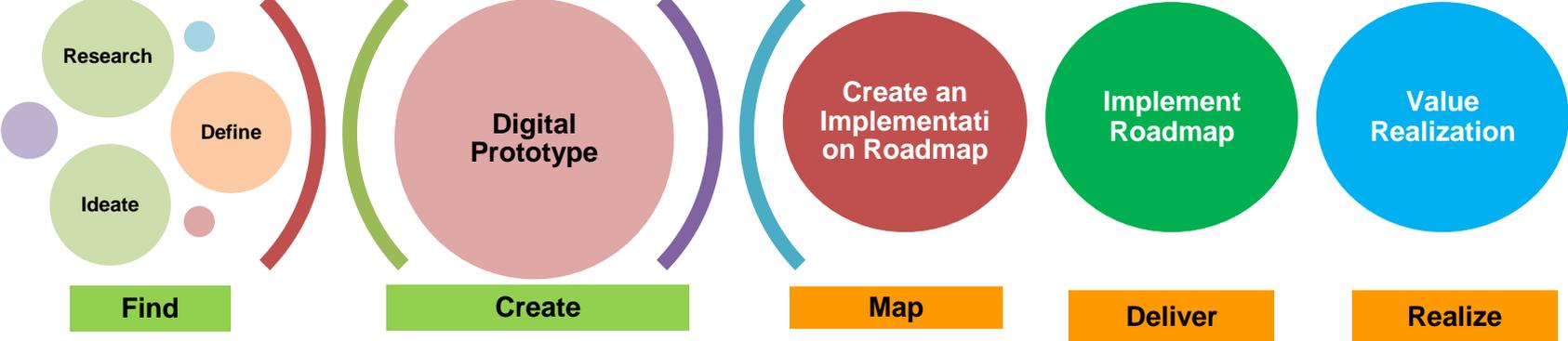
- Helping the organization identify the design champions.
- Developing a custom program for the champions to develop creative confidence and acquire skills to coach.
- A direct consult with the lead trainer on doing pilot project within the organization.
- Post training offline facilitation with lead trainer to understand and overcome obstacle to personal learning programs.
- A single report about the innovation champions progress.post completion of all trainings and pilot projects.
- Provide real time case studies and reading material for references.

3 SOLVING ORGANIZATION PROBLEMS

THE DESIGN THINKING WAY

- Consulting experts will be engaging, empathizing and immersing in the client environment.
- Help understand the organization challenge and derive the exact problem statement.
- Design Thinking will be used as a methodology to come up with desirable solution to the problem, guided by a QAI expert throughout the process.
- Pre and Post scenario assessment for impact analysis.

Organization Transformation: Solving Specific Problem



Design Thinking Based Transformation: Critical Success Factors

Factors	Success Areas
Cross Functional Coverage of Participants	So as to make pilots more effective and increase.
Identifying Use Cases for Pilots after Introductory Bootcamp	Without pilots, the learning will remain theoretical.
Quarterly Sense Check with Sponsor	Executive sponsorship helps increase the importance of initiative.
Showcasing Pilots Journey with various BU Heads	Success of the initiative will spur more innovation and lead to broader acceptance inside the organization.

Design Thinking Based Transformation: Potential Expected Outcomes

Individual	Organization
Seeding of an innovation mindset, by teaching the building blocks of successful human centered design and more.	Helping break siloes inside the organization and promoting cross-collaboration and creation.
Learning of a methodology, to move ideas from simple insights to working prototypes, converting the prototypes into viable business models, while generating human centered customer experiences.	Seeing a culture/ thought process that small groups can come together easily to create breakthrough ideas for the organization.
New appreciation for cross-collaboration/ co-creation by discovering it can be done in a non-confrontational way.	Helping change the mindset of people from those who do tasks assigned to them, to those who are constantly in the search of creating experiences.
Empowering individuals to become points of immense value in the future.	Measurable ROI, as pilots/ initiatives lead to increase in revenue/ customer satisfaction and more.

Case Studies

Institutionalizing Design Thinking: SAP Experience

First hand experience of helping transform SAP

Objective: SAP infused Design Thinking to become a next generation company in the minds of its customers and partners.

Key Journey Points

- 1) All of SAP comprising of over 80,000 people globally have undergone Design Thinking training, and the skill is considered crucial for success.
- 2) The entire customer facing organization including, Sales, Presales, Consulting, Value Engineering, Industry teams, were trained to become prepared to sell for the future.
- 3) In India alone over 500 people in the customer operation, including the entire Sales, Presales teams were trained. 10 people were trained to become design thinking champions.
- 4) All large internal initiatives of SAP, including strategy discussions, account planning, GTM sessions, transformation initiatives, product development, entrepreneurship, adopted design thinking.
- 5) Design Thinking was consistently credited with influencing over USD 1 Billion in revenue globally, and USD 15-20 Million in India.

Design Thinking Based Transformation: Summary

First hand experience of playing a role in transforming a specialty chemicals major.

Objective: To help chemicals major infuse Design Thinking in its daily operations.

Key Journey Points

- 1) The journey began with a simple training session of members of the IT organization, with the sponsorship of the CIO.
- 2) The IT team on finding value from the training, decided to do a pilot with re-imagining the supply chain for the future. The pilot lead to a award winning global solution.
- 3) 50 members of the leadership team then underwent 3 day training at the Hasso Platner Institute in Germany.
- 4) Pilots were done across the organization including procurement, project sales, customer experience, Internet of Things, finance and more.
- 5) More trainings followed, the organization has since gone on to establish a concrete eco-system for Design Thinking inside their organization.

Design Thinking Based Transformation: Summary



Create Innovation Eco-system

The central strategy is to train the team and a few members to an advanced level, so they become champions of innovation inside the organization.

THANK YOU

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