BUSINESS VITAMINS

TRIZ Problem Solving

Introduction

When a problem does not seem to have a known solution, people would tend to use psychological means such as brainstorming and intuition which often leads to more problems. Problems solved through intuition have saved millions of programs and projects but on the other hand has crippled either the people or the organization. The results are often unpredictable and unrepeatable. TRIZ, however, is a problem-solving philosophy that is based on logic, data and research, rather than on intuition. It was developed by Genrich Altshuller and his colleagues. This problem-solving approach brings repeatability, predictability and reliability to the problem-solving process and delivers a set of dependable tools.

Definition

TRIZ in Russian = Teoriya Resheniya Izobretatelskikh Zadatch or in English, it is often called "The Theory of Inventive Problem Solving".

When to Use it

- TRIZ is used for finding innovative solutions to inventive tasks or problems
- When brainstorming does not result in any breakthrough solutions.
- When you want to eliminate contradictions
- When you need to break the psychological inertia.
- When you are interested in how your problem has been solved elsewhere in the world.
- When you want to find the perfect or ideal solution to a problem

Details

TRIZ is a system of creative problem solving, commonly used in engineering and process management. It follows four basic steps:

1. Define your specific problem. TRIZ applies the power of science and technology and the steps to solve any problem should always start with knowing what the problem is.
2. Find the TRIZ generalized problem that matches it. The TRIZ principle believes that similar problems will exist among groups or organizations.
3. Find the generalized solution that solves the generalized problem. Under the TRIZ principle, it is presumed that somewhere, someone has already tried to solve your problem.
4. Adapt the generalized solution to solve your specific problem. The key to finding the ideal solution is to utilize creativity in finding the same solutions and adapting it to the current one.

Example

Different TRIZ tools exist to aid in the production of the most ideal solution to a problem such as TRIZ Ideality Approach, 39 Engineering Parameters, 40 Inventive Principles, Table of Contradictions and ARIZ. The most commonly used one is the 40 Inventive Principles.

For Example:

1. When you pack things up for a trip, you tend to become problematic about which things you'll carry and which ones you'll leave behind.
2. Generally, the problem falls under universality which is principle number 6 under the 40 Inventive Principles.
3. Generally, to solve this, you need to pack only objects that perform multiple functions, thereby eliminating the need for some other object(s) for your trip.
4. Finally, you will adopt this solution and decide which things of yours serve multiple purposes so you can pack them up.

References:

Discover TRIZ - Inventive Problem Solving - ICG (integrated consulting.eu)

TRIZ - Creativity Techniques From MindTools.com