Ideality and the Artist

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Abstract

While others may desire romance, achievement, or a sense of belonging, the artist wants to make an impact; they want to affect the course of events.

How can one increase the possibility of an impressive action that makes a difference in human affairs? This question presents a good opportunity to apply the TRIZ (Theory of Inventive Problem Solving) methodology to generate innovative solutions with the highest probability of successful resolution. Within this methodology Ideality will be a guiding force.

Ideality is the practice of moving towards the ideal system by maximizing the useful functions of that system and minimizing the harmful functions of that same system. The definition of the Ideality equation for this system is covered below under item 2.5.

1.0 Introduction to the TRIZ Methodology

TRIZ is a systematic methodology that uses a number of tools to make innovation predictable, repeatable, and reliable. TRIZ development began in1946 by Genrich Altshuller, a Russian scientist. The foundation of the method is that through the coding, classification, and decomposition of patents a finite set of problem statements and a finite set of solutions can be determined for the solution of any problem.

One of the main attractions of this methodology is that it leads to solutions that have a high probability of succeeding. Previous methods such as brainstorming only lead to the creation of many possible solutions without any indication if any of them offer any chance of success.

The Algorithm for Problem Solving using the TRIZ Methodology

1. Define Technical System
2. Function Model analysis
3. I.D. IFR
4. Compare/Contrast Existing System with IFR
5. Establish Ideality Equation
6. I.D. Resources
7. I.D. Contradiction at the system Level

8. Use 39 Parameters
9. If Physical Contradiction exists use Separation Principles if Technical Contradiction exists use contradiction Matrix Theory
10. Obtain specific solutions
11. Determine if the problem has been solved if not recreate system model and determine contradiction. If it has been solved compare ideality of solution with the existing system and compare with the IFR.
12. Implement the solutions

2.0 Implementing the methodology

2.1 Define Technical System

Creator: A system that generates high impact creative works with some frequency and experiences varying amounts of stress.

2.2 Models

2.2.1 Function Model Analysis

Function models are diagrams that allow us to understand the interactions between different elements in a system. In the function map for the Creator (Figure 1), the complete model is defined.

From this model, a subset of elements and links, which contain contradictions, is established through analysis. This decomposed model (Figure 2) will be used to

establish Ideality and to define the specific technical and physical contradictions used within the TRIZ methodology.

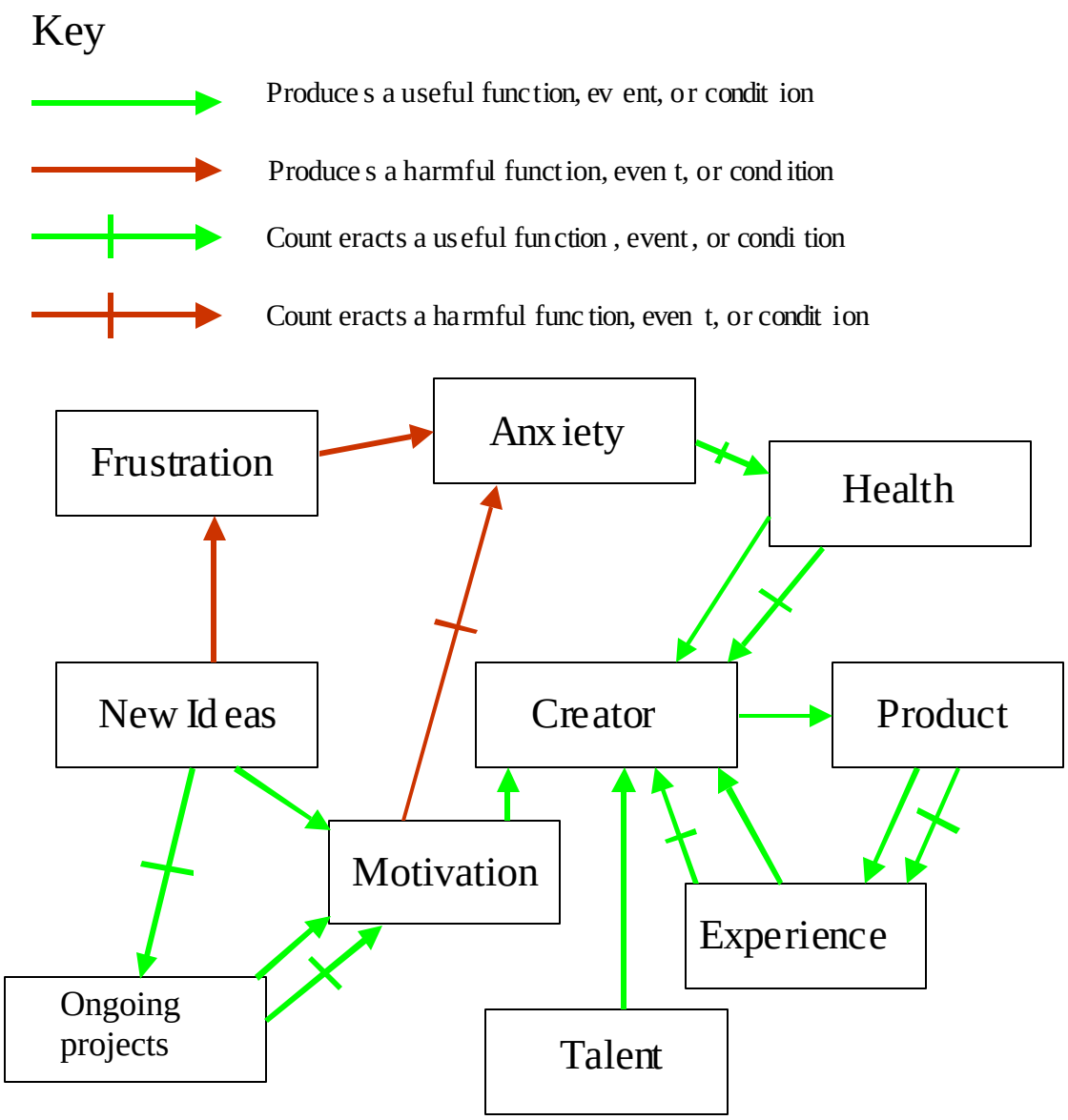

Figure 1 Complete Model

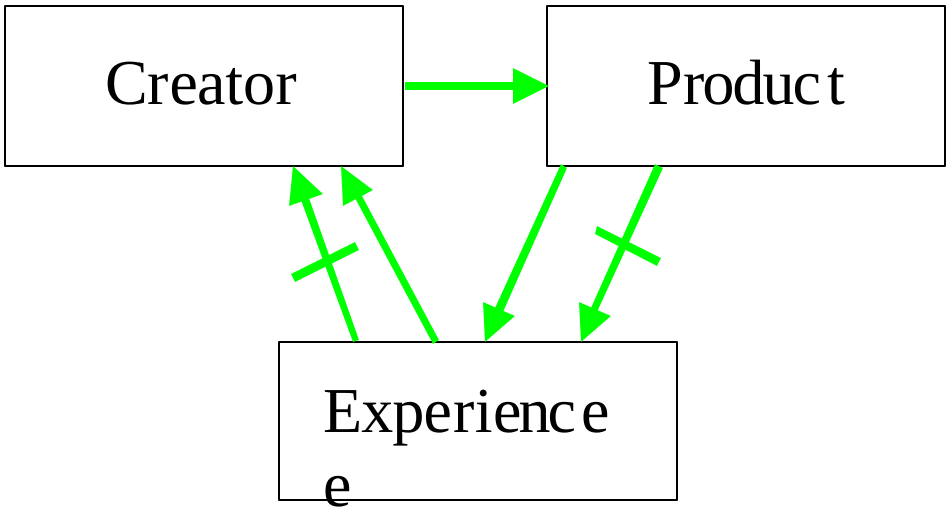

Figure 2 Decomposed Model

2.2.2 Su-Field Model Analysis

Su-Field modeling can be used in situations where a problem is well formulated. A Su-Field Model contains at least two substances and one field.

The models are pictorial representations of the elements in the system and the field through which the elements interact. After the system has been modeled, the diagrams help to define the problem or contradiction that needs to be addressed.

Su-Field Basic Algorithm

1. **Identify S1, S2, and F**
2. **Compile and Identify Su-Field Model**
3. **Select Standard Solution**
4. **Develop a concept**

In our first model, S1 is paper, S2 is an artist, and F is the act of drawing (mechanical field). In Figure 3, we see the problem (Insufficient Su-Field Model) and the standard solution (Insert a substance (S3-Visual Reference) and add another field (F2-Electromagnetic) to enhance the desired effect).

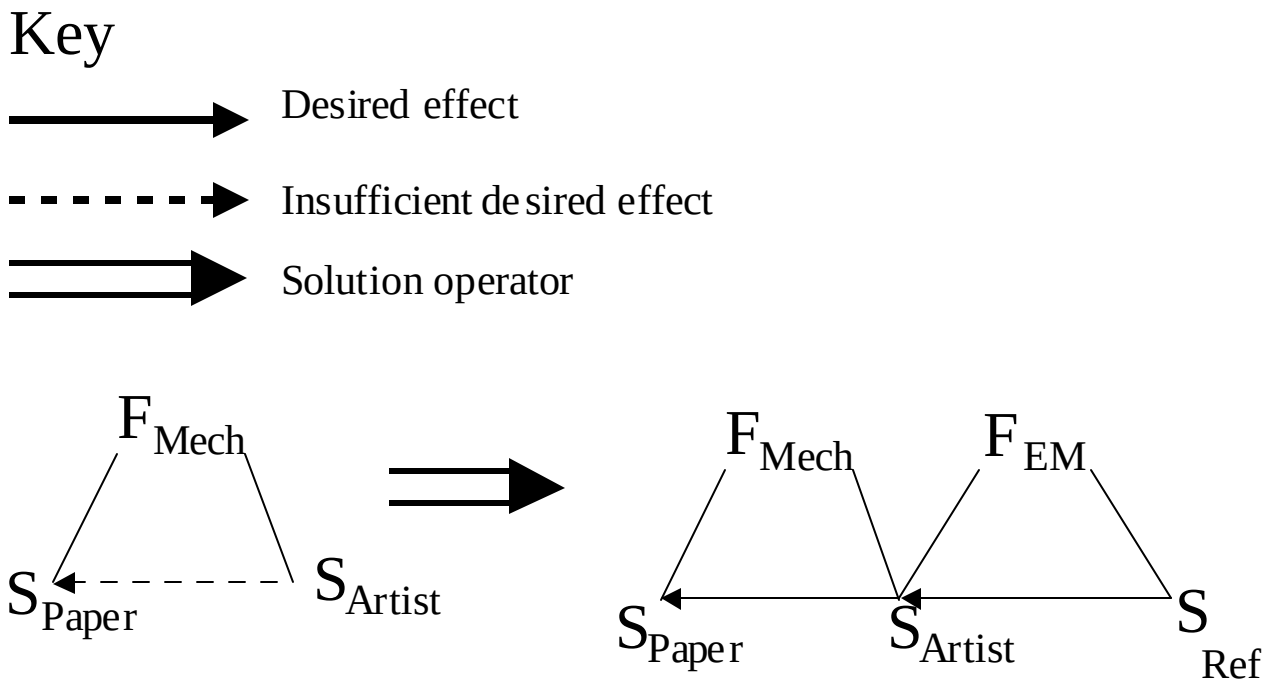

Figure 3 Su-Field Model

2.3 I.D. IFR

A system that creates infinite quantities of high impact creative products at a high rate of speed and with zero costs.

2.4 Compare/Contrast Existing System with IFR

Increasing the reliability of the current system will bring it more inline with productivity of the IFR

Identifying additional resources may also close the gap between the current system and the IFR

2.5 Establish Ideality Equation

Ideality is the summation of benefits divided by the summation of the costs. For our system:

Ideality = the production of high impact creations and the experience of positive feedback divided by the stress of operating at a low experience level and the experience of negative feedback

2.6 I.D. Resources

2.6.1 Field Resources:(Any type of influence one object can exert on another-MeThChem/E-m N)

2.6.1.1 Mechanical- Structural integrity of the creator's body (skeletal, vascular circulatory systems). Structural and mechanical systems in the creator's surroundings that provide protection from the elements and support for creative and maintenance activities (housing, shoes, HVAC, bed, table chair etc.) Mechanical systems used to distribute creations (boxes, vehicles, roads terminals)

2.6.1.2 Thermal- Creator's body temperature and the temperature of the surroundings. Heat sources available for experiments in form of electricity, gas or geo thermal.

2.6.1.3 Chemical- Body chemistry of the creator affects the mind/body link. The mind is important in creative efforts.

2.6.2 Functional Resources:(Includes the potential of a system or its environment to perform additional tasks)
Desks. Chairs, computers, software, lab space and equipment, pens, paper, existing designs.

2.6.3 Informational Resources:(Any data available in the system or information obtainable by using a field passing through the system, knowledge gained from subject matter experts)
Subject matter details, knowledge of all available resources (visible and hidden)

2.6.4 Idea Resources:(Ideas from the past, present or future that may be used to provide a pivot point for innovation)

Open to all ideas pertinent to solution, lack of psychological inertia, physical and technical contradictions can be used as a pivot point for the creator, toys, and nature

2.6.5 Substance Resources:(Any material from which the system or its environment is formed)

Any and all material that make up the creator and his environment

2.6.6 Space/Location Resources:(Unoccupied space existing in a system or its environment)

The physical and cerebral spaces within which the creator works the environmental and philosophical characteristics of the location in which the creator works.

2.6.7 Time Resources:(Completely or partially unused intervals before, during, or after a process)
The amount of time the creator can devote to creating new products and obtaining necessary resources. The amount of time others have spent creating similar final results.

2.6.8 Technological Resources:(New technologies, new function, new principles, principles and systems from other technologies)
TRIZ, Boundary condition expanders, Creativity Game and Drawing as meditation (my own inventions)

2.6.9 Energizing Resources:(Any influence that may effect a system or its users)

Silence, inspiring creations, spending time in nature, toys, laughter, optimal diet, plenty of sleep, generosity, truth, beauty.

2.6.10 Assets:(Material goods-personal, business, public, governmental)
Pen, paper, computers with amplifying software, finances, customers, colleagues, museums, wilderness, parks, distribution channels

2.7 I.D. Contradiction at the system level

I want to increase the intensity of my creations but I can't because operating at the higher intensity decreases my creative strength, power, speed and reliability

This is the specific problem that will be used in the technical contradiction algorithm

2.8 Use 39 Parameters - Through abstraction, the specific problem will be turned into a generic problem that involves a contradiction between parameters of the system.

As #10 Force Intensity Increases

 # 9 Speed
#14 Strength
#21 Power
#27 Reliability All decrease

2.9 If Physical Contradiction, use the separation principles, if Technical Contradiction use contradiction matrix theory

A technical contradiction exists when solving a problem and one parameter of a system is improved and a different parameter of that system is degraded.

Technical Contradiction

In this problem, the parameter that is increasing in value is different than the parameters that are decreasing in value therefore we have a technical contradiction.

Algorithm for the resolution of a TC

1. **Establish a specific problem**
2. **Through abstraction establish a Generic problem that involves a contradiction between two of the parameters from the contradiction matrix**
3. **Use the contradiction matrix to generate generic solutions for the generic problem**
4. **Through analogy establish specific solutions based on the set of generic solutions**

We have already completed steps 1 and 2 under 2.7 and 2.8. Next, we proceed to the Contradiction Matrix to generate generic solutions.

Based on the parameters identified above we identify the following inventive principles as having the greatest possibility of solving our problem.

Inventive Principles
 # 35 Parameter Changes
 # 13 The other way around
 # 19 Periodic Action
 # 3 Local Quality

Step 4 involves using analogy to establish specific solutions based on the set of generic solutions.

#35. Parameter Changes

A. Change an objects physical state (e.g., to a gas, liquid or solid).

Oil paint now comes in a solid form which is easier to use in some applications than using liquid oils and applying with a brush

Watercolor pencils allow solid pigment to be exactly where it is need and then the water is added

B. Change the concentration or consistency

Work at the higher skill level intensity only for short periods of time. When you notice the intensity decreasing, take a break and return when ready.

C. Change the degree of flexibility

Set very high ideals for the creative works and then be flexible in the execution.

D. Change the temperature

Ensure the climate in the workspace is very comfortable to reduce any possible physical stress to a minimum

E. Change the Characteristics of a technique

Adopt styles and or subjects that you know your target audience already likes.

#13 The other way around

A. Invert the actions used to solve a problem (i.e. instead of cooling an object heat it)

Use watercolor pencils to apply pigment exactly where it belongs on the paper and then use a wash

B. Instead of actions dictated by the requirements, one implements the opposite action

Instead of developing the composition at the final size, have the composition completely done at a small scale before starting the preliminary large drawings

C. Make moveable parts or the external environment fixed and fixed parts movable

Create works in the style the audience wants but using techniques that are already known (i.e. use colored pencils instead of paint to effectively and quickly add color).

D. Turn the project or process upside down

Instead of intensifying the creative process, intensify other aspects of your life (i.e. go for a run instead of a walk, take a TRIZ class instead of a summer break)

#19 Periodic Action

A. Instead of continuous actions use periodic or pulsating actions

Work on creations for short amounts of time several times a day

B. If an action is already periodic, change the periodic magnitude or frequency

Change from 4 half hour sessions to eight fifteen-minute sessions with shorter breaks in-between

#3 Local quality

A. Change an objects structure from uniform (homogeneous) to non-uniform; change an

external environment (or external influence) from uniform to non-uniform.

Have different attractions open at different times while the park is open

Use ink for lines that have to be very exact and use colored pencil or paint to add color and texture

B. **Make each part of an object function in conditions most suitable for its operation.**

In a dynamic piece, only include those elements that communicate dynamism.

C. **Make each part of an object fulfill a different and useful function.**

Have a messenger and a recipient in each piece so that the audience can identify with each party.

Physical Contradiction

A physical contradiction exists when solving a problem one parameter of a system is improved and the same parameter of that system is also degraded.

- **Algorithm for the resolution of a PC**
  1. **Establish a specific problem**
  2. **Through analogy establish generic problem by determining the bi-polarity within one parameter**

3. **Apply the separation principles to generate generic solutions**
4. **By analogy determine specific solutions from the set of generic solutions.**

First, establish specific problem

I want to experience high impact responses from a supportive audience and I want to experience low impact responses from a critical audience

Next, determine bipolarity

High impact and low impact responses

Then we use the separation principles to form generic solutions and by analogy generate specific solutions

- **The Separation Principles**

1. **Separation in time**

If mutually exclusive requirements are demanded from the key subsystem, separation in time is possible when a requirement exists (or made larger at one period of time and absent (or made smaller) at another time interval.

Specific solutions:

Have some time between when a work is created and when it is shown. During that time, store and handle the creative work with respect.

2. **Separation in Space**

If mutually exclusive requirements are demanded from the key subsystem, separation in space is possible when a requirement exists (or is made larger) in one space and absent (or is made smaller) in another space.

Specific solutions:

Be absent when critics are around.

Only show work to people who will appreciate the positive aspects.

3. **Separation in Scale**

If mutually exclusive requirements are demanded from the key subsystem, separation in scale is possible when a requirement exists (or is made larger) at one scale and absent (or is made smaller) at another scale

Specific Solutions:

Increase the scale of positive comments by writing them down and then rewriting them later.

Decrease the scale of negative comments by not reading reviews by critics.

4. **Separation upon Condition**

If mutually exclusive requirements are demanded from the key subsystem, separation upon condition is possible when a requirement exists (or is made larger) under one condition and is absent (or is made smaller) under another condition.

Specific Solutions:

Tell anyone who wants to make comments about your piece of art that you will listen to him or her upon the condition that they only tell you what they like about it.

Show your work to people upon the condition that they understand and appreciate the type of work you do.

2.10 Obtain specific solutions

There are a number of specific solutions that I like:

1. **From Su-Field Modeling, add a visual reference**
2. **Work for short periods of time and take several small breaks**
3. **Use compositional elements that convey dynamism**
4. **Intensify other aspects of life**
5. **Create works in the style audience is comfortable with**
6. **Increase the scale of positive feedback**
7. **Have separation in time between when a work is completed and when it is shown.**

2.11 Determine if the problem has been solved.

If not, recreate the system model and determine the new contradiction. If it has been solved, compare the ideality of the solution with the existing system and compare with the IFR.

Based on the Ideality statement:

Ideality = the production of high impact creations and the experience of positive feedback divided by the stress of operating at a low experience level and the experience of negative feedback

I feel all the specific solution described under 2.10 will increase the ideality of the artist.

2.12 Implement the solutions

A work in progress!