Contradictions - Do We See Them All?

Jack Hipple
Innovation-TRIZ

Last month we left you as Bill Gates' replacement and asked you to do a simple 9-Box analysis for resources at each level of their business. Here's one to consider and I welcome yours as well that can be shared next month with the rest of our readers.

THE MICROSOFT WORLD		
PAST	PRESENT	FUTURE
SUPER-SYSTEM		
MAINFRAME AND PUNCH CARDS	PERSONAL COMPUTER	REMOTE WEB BASED PERSONAL COMPUTER
SYSTEM		
INDIVIDUAL PROGRAMS	WINDOWS SOFTEWARE BUNDLE	ON DEMAND WEB BASED SOFTWARE
SUB-SYSTEM		
PUNCHED HOLES	SOFTWARE CODE	SEGMENTED CODE, INSTANTLY CONFIGURABLE

If Bill Gates had done some thinking a while back, what might he have done with his TRIZ resources hat on and his simple 9-Box in front of him (and no Harvard MBA!)?

First, he might be alert to the mass customization of software through the resources of the Web, a resource available not just to Microsoft customers, but to everyone. Might he have made more money by knowing this and licensing the use of Microsoft office by the minute, by the document? Would he have realized sooner that is was possible for anyone to create software code using input from everyone, not just his programmers? Would he have recognized that the web allows anyone to have a PC without having a PC? Interesting questions and you can see Microsoft struggling with these issues and making acquisitions to assist it in new business models that don't look anything like their present one. Hope you also did this analysis for your own job as I suggested.

We've now completed our discussion of the TRIZ principles of Ideal Final Result and Resources as applied to business and organizational problem solving. It's now time to turn our attention to the area of Contradictions. When we are analyzing a system, we frequently find that we can't achieve an Ideal Final Result because we have what appears to be an irresolvable contradiction. Normal problem solvers start to compromise, but those of us in the TRIZ community know that's not what to do. We attack a contradiction head on and RESOLVE IT through the use of several well known TRIZ tools, a few of which we will discuss. The resolution of contradictions is the key to breakthrough inventions as well as the way that Altshuller distinguished a mediocre patent

from a truly inventive one. The characterization of the principles used in resolving contradictions gave us what is now the TRIZ Contradiction Table, the 40 Inventive Principles, and the Separation Principles. These tools and their use "on the soft side" will be covered in the next two weeks.

The hospital/medical treatment system analysis that we have been using can be continued for this discussion.

Here's one summary view (from the standpoint of the insurance company) of the systems analysis that we presented last month:

PAST	PRESENT	FUTURE
SUPER-SYSTEM		
YES OR NO ADMISSION AND COVERAGE	STATISTICAL ANALYSIS OF PROVIDERS FOR CONTROLLED ADMISSION	SPECIFIED TEATMENT AND PROVIDER BASED ON SPECIFIC INDIVIDUAL DATA
SYSTEM		
NO SCREENING FOR COVERAGE	PRE-ADMITTANCE FOR ALLOWED PROCEDURES	COVERAGE BASED ON INDIVIDUAL DNA ANALYSIS AND HEALTH HISTORY
SUB-SYSTEM		
FIRST COME, FIRST SERVED	SCHEDULING AND ADMITTANCE PROCESS	PRE-PLANNED SCREENINGS AND OPERATIONS

What are some of the contradictions here? Well, at several levels, we have all kinds of contradictions between speed and accuracy (we'll discuss the resolution of these contradictions next month). To the right, we have a potential contradiction between the time this pre-screening is done and the availability of the surgeon. We also have, at the super-system level a contradiction between reducing cost through customization and mass production out-patient operations such as colonoscopies. We could also just have an old fashioned slugfest in the emergency room as a means of determining who gets in first.

The patient diagram from last month also has this specialty treatment and cost contradiction. It also has a contradiction relating to location and availability of optimum treatment as well as one relating to the desire to stay home and be treated in a non-hospital environment. As we saw with the Ideal Final Result and Resource analysis, the views of the contradiction are not the same. Resolving ANY of these contradictions could make the situation better for any of the individual parties and probably improve the system as a whole. What we really should do, since we can't make everyone happy, is to look at the contradictions that if resolved, would benefit everyone and come closer to making everyone involved happier-that's an ideal result!

What are some of these? First, information availability. It's somewhere but is it where and when

we need it? If ALL (medical situation and condition, insurance coverage, past health history, etc.) medical information on a patient was available instantly, the care would be better, the cost would be lower, the hospital ER room could prepare ahead of time, AND there would be fewer malpractice suits. We seem to be able to do this for Walmart, but not for patient wrist bands- wonder why? This issue also reminds me of the parallel universe of renal cars. For a small fee, a renter becomes a "special" renter and their vehicle choices are known ahead of time, and the bus driver phones ahead and the cars are waiting so they can just drive off. Now society probably wouldn't tolerate paying to jump to the front of the line for emergency medical treatment, but if an insurance company gave a discount for certain information provided ahead of time or in transit, I'll bet a lot of people would find a way to do. EVERYONE benefits from the resolution of this contradiction-speed vs. accuracy. (Go ahead--those of you who did this in school and are thinking ahead, get out your contradiction table for next month!). You can also think about this in terms of the space/condition/time thinking. Where might this information, that benefits everyone, be kept? How do we access it? Under what conditions is it used? How long does it take to access? By whom? How is it updated? Now we have some additional problem to solve with TRIZ! The point here is that contradictions are not the same for everyone-even those within the same system and super-system. If we can identify contradictions that if resolved, would benefit everyone, then that's where we should focus our attention.

Homework assignments for next month:

Situation 1: Develop a 9-Box diagram for your job and develop a list of the contradictions at each level in the current time frame and out in the future. What contradictions are in common between your diagram and that say of the company you work for?

Situation 2: You are the chairperson of a "homeowners\" association (a housing subdivision that has code restrictions relating to house modifications, etc.) What are the contradictions as seen by you? By an individual homeowner? By the county or city in which your housing development exists?

Situation 3: You are the owner of a rental car franchise. What are the contradictions you are dealing with compared to the national franchise? Vs. the individual car driver? The airport at which you operate?

NEXT MONTH: Contradictions - Are They "Hard" or "Soft"?