Translating TRIZ Lines of Evolution to Business and Management (II)

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This article will review the last 4 of the 8 lines we discussed last month and their applicability to business and organizational problems. But first, let's look at the homework. We asked you to consider yourself as the President of ABC Company who had decided to do a total review of the company's' performance evaluation and compensation program. You are planning an off-site meeting with your senior staff and have decided to use the thoughts from this lesson as the structure for the meeting and discussion. What are some of your preliminary thoughts? What reaction do you expect from the VP of Engineering, your VP of Director of Human Resources, your VP of Manufacturing, and your VP of Marketing and Sales? Consider this in the context of the Lines of Evolution discussed previously.

If we consider this problem in the context of the first four lines of evolution, we first of need to recognize that there ARE lines, and that this process for evaluation and compensation will not be stagnant. It may be that your Director of Human Resources developed the current system 25 years ago and thinks it's just fine. A discussion of what's changed in the working environment and in the eyes of employees may be appropriate. Some role playing of the ideal result from various points of view would also be an interesting exercise to run. Does the company have the same compensation system for all functions? Why should this necessarily be? It's easier to administer, but is it optimum? How would each function design its own? Considering the dynamism line, how would each function design its own as a function of various business conditions? How could it automatically adjust? What contradictions exist in the current system? From whose point of view? Where does each function see its next barrier or contradiction? What does it propose as an ideal solution to this anticipated problem? Can the system be designed to correct itself? What about a system that minimizes overhead costs? I heard a talk by a paper company a while back on their compensation system which involved, as many systems do, input from the employees as to how they thought they had done against their goals. Without this, the merit raise system ground to a halt, many extra Emails and written communications were exchanged, etc. It finally dawned on the HR department that if the employee did not want to take the effort to input to their evaluation, they must not care whether they got a raise or not, so after one note, all further communication ceased. This saved a large amount of time and money. The review system controlled itself. If someone didn't want to put a small effort into the process, they must not want a raise!

Now to the rest of the lines. Please re-read last month's introduction if the language or line description doesn't fit yours. These are the last 4 of the lines:

5. Systems oscillate between simplicity and complexity
6. Systems evolve and improve through the matching and mis-matching of elements.
7. Systems progress toward higher frequency field use (simple example: mechanical, thermal, chemical, electronic, and electromagnetic)

8. Systems evolve toward less human involvement

Recall that we need to replace the word "system" (which is a great word for technical systems and engineering problems) with something more general like businesses, organizations, or something similar OR we need to understand that system is not a term restricted to technical systems. It's not that technical systems don't have an impact on TRIZ thinking around businesses, but it's more helpful to use a term that describes more generally the environment we are discussing.

5. System oscillation between simplicity and complexity

Have you watched the oscillations in business focus over a 20 year time frame? Take one of my ex-employers, Dow Chemical. After years of being a commodity chemical company, they began to see, in the early 1980's that growth in this business was going to be less than the average GDP. So what did they do? They made a large number of acquisitions in areas not familiar to them, including pharmaceuticals, consumer products, and oil and gas exploration. All of these required far greater sophistication than their previous business model. For a while it worked, but twenty years later, all of these businesses have been sold off and they are back to being a world class commodity chemical company. There's still a question in many peoples' minds as to whether all the money invested in these acquisitions ever was repaid in profits.

We see the same kind of thing in products offered by any one company. Starting out with a few basic products, a few special order items are added, and then these special orders become part of normal stock, greatly increasing complexity in the manufacturing and sales area. We might hang on through the use of "just in time" or other enterprise tools, but frequently what eventually happens is that the company finds out that it just isn't good at managing such a complex business, hands off the special items to a distributor which they support and send their small volume and special needs customers to, and shrink bank to making large volumes of a few products.

Don't we see the same thing in many internal organizational processes? We start out with something simple. Then someone "violates" the rules in some way, and so we make the rules more complicated to fill in the gap. Then someone from accounting thinks there is value in tracking even more detail in the spending and we complicate the spending, approval, or reimbursement process some more. Eventually someone step back at a 40,000 ft. level and asks, "How much money are we spending to keep from wasting this very small amount of money"? Then we simplify things again, and the cycle goes on.

The question to ask your self is, "where is your organization along this line?" If things seem complex, think about simplification. If things look simple, think about adding useful complexity.

6. Matching and mis-matching of functions

Isn't it wonderful when everyone thinks and acts alike? No arguments, no discussion of goals, no discussion of alternatives. Then you go out of business because a competitor was thinking differently with a new business model (Southwest Airlines, Federal Express, Cardinal Health,

and GE). It is essential, just as in the cancellation of noise in a Bose headphone, that we have alternative viewpoints and opinions within an organization, especially when it comes to long term strategy. If you're having a TRIZ or a simple brainstorming session, invite some participants who know nothing about what you are discussing and have no pre-disposed answers. If you're having a technical session, invite a sociologist or historian into the room. They might recognize long term trends that are not obvious. If you're having an organizational discussion, invite an electrical engineer into the room. They might know something about parallel circuits and communication processes. Bring supplies and customers in to the discussion. The point is to cause deliberate dissonance in a productive way.

7. Systems progress toward higher frequency field use

When we think about this line in a business context, it's best to think about speed. A mechanical field transmits information and force far slower than an electromagnetic field and at much lower frequency. What's the organizational analogy? Do we send paper letters any more? Use a stamp? (chemical field!) EM goes a lot faster and can be accessed, with the right equipment, anywhere, any time (obvious overlap with ideal result concepts here). When we used smoke signals (thermal field) to communicate, we had to be within a certain distance and not too delayed in time as the wind would disturb the intended message. With EM, you get what you type-exactly. Sometimes to our regret! So our management and organizational systems are now almost entirely supported by high frequency field devices, and may have gone as far as they are practically going to go on this particular line. But, as mentioned earlier, things are not black and white as far as TRIZ concepts are concerned and there is much overlap. As far as this line is concerned, we now have the problem of making the use of this higher level field (electromagnetic) more ideal. How do we better filter out junk mail so the recipient only gets what they want? How can we prioritize and properly separate EM messages? Using TRIZ in reverse, how can we challenge the safety and security of the systems we have?

8. Systems evolve toward less human involvement

This is one of those self obvious lines that we sometimes just gloss over. Of course we have reduced manpower in almost any business we can think of and we've done it with many of the previously discussed TRIZ tools. But let's go back to the oscillation line for a few moments (overlap again!). There are some companies who have discovered that the degradation in customer service that comes from total automation of support calls ruins their reputation. The cost of a person doing some hand holding may come back many fold in future purchases. I am sure that you have certain stores where you shop that don't have the lowest prices, but have helpful sales associates that know what they are talking about and are readily available. Nordstrom's and Ace Hardware are two that come to mind. So yes, let's think about how to use less human labor, but let's do it smartly and in the correct areas.

NEXT MONTH: Integrating TRIZ with other business processes