Systematic Innovation

e-zine

Issue 112, July 2011

In this month's issue:

The Systematic Innovation e-zine is a monthly, subscription only, publication. Each month will feature articles and features aimed at advancing the state of the art in TRIZ and related problem solving methodologies.

Our guarantee to the subscriber is that the material featured in the e-zine will not be published elsewhere for a period of at least 6 months after a new issue is released.

Readers' comments and inputs are always welcome.
Send them to **darrell.mann@systematic-innovation.com**

The Colour Of Efficacy

(The Role Of Attributes In Delivering Intangible Outcomes)

We have spoken frequently in the past about tangible and intangible functions, and the idea that customers purchase products and services for 'good' and 'real' reasons. Woe betide any provider these days that fails to address both types of outcome need. This article represents a step towards taking the tangible/intangible story to its next logical level. What, in other words, are the world's leading organisations doing in order to keep themselves ahead in the race to meet more and more of their customers' unmet needs?

A good deal of the answer seems to be that they are also bringing the *attributes* as well as the functions into their design equation. It is one thing to design a toothpaste, for example, to deliver tangible (actual whiteness) as well as intangible (perceived-whiteness or 'confidence' or 'kissability') outcomes, quite another to recognise that the attributes of the toothpaste – taste, colour, texture, etc – also have a part to play in delivering all of these outcomes. The texture of a toothpaste has much to contribute to the delivery of an adequate cleaning action, but it also has a role to play in delivering the desired intangible outcomes. What is the right toothpaste texture to communicate 'kissability'? Similarly, what is the colour of efficacy?

Figure 1 illustrates a small range of the plethora of different toothpastes on the market at any one time. Which one, do you think, best communicates the idea that this toothpaste is good at delivering the perception of efficacious cleaning action?

Figure 1: Which Toothpaste Is The Most Efficacious?

The answer to the question might just be important in the success of your next product launch. Critical in fact.

The same question increasingly applies to all of the other attributes that define the product or service. Each one, indeed, may turn out to have an impact on each and every one of the intangible outcomes being delivered to the customer. Or, put another way, every attribute has a role to play not only in ensuring the requisite delivery of tangible outcomes, but also all the intangible ones. Based on a series of experiments we've been carrying out across a range of different projects recently, a good way of thinking about the potential array of connections is to construct the sort of attribute-outcome matrix illustrated in Figure 2.

Forcing users to connect each attribute to each one of the desired intangible outcomes forces a number of intriguing questions: what precisely is the colour of efficacy? What is the texture of luxury? The sound of femininity? The shape of caring?

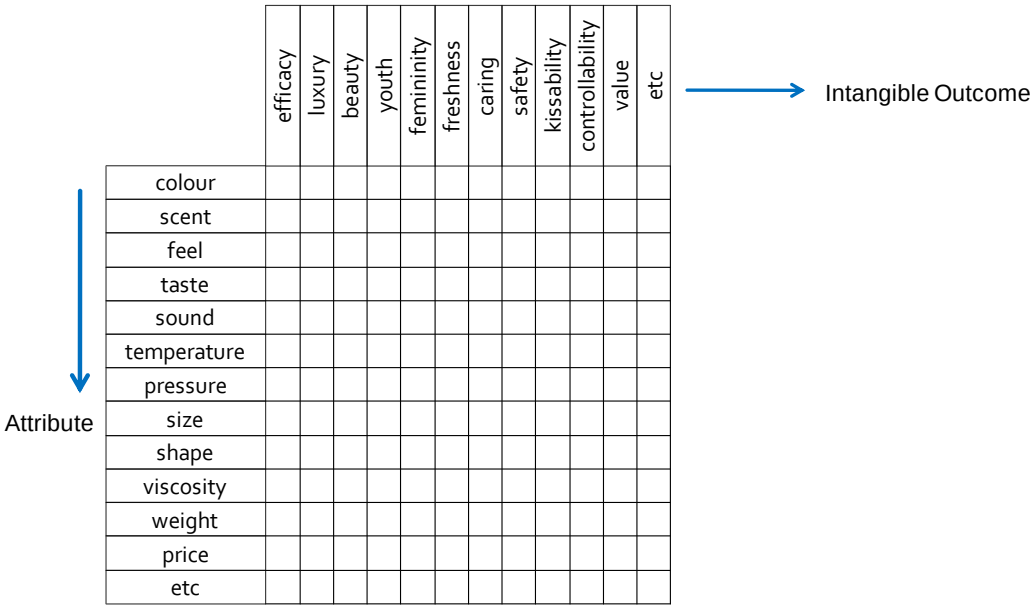


Figure 2: Attribute-Outcome Matrix

Facial tissues (Figure 3) are rectangular for very tangible reasons – they fit easy-to-make, tessellating packaging in the most efficient and cost effective manner. But does rectangular communicate the desired intangible outcomes? Is rectangular the shape of caring? Or might a different shape communicate the outcome better?

Figure 3: The Shape Of 'Caring'?

Better yet, how about if the potential conflict between efficient use of volume and 'caring' could be resolved such that the consumer receives the desired message, and the production department gets to maintain its efficient packaging cost targets?

It is precisely this type of conflict that the new 'intangible' parameters in the 2010 Contradiction Matrix are designed to address – Figure 4.

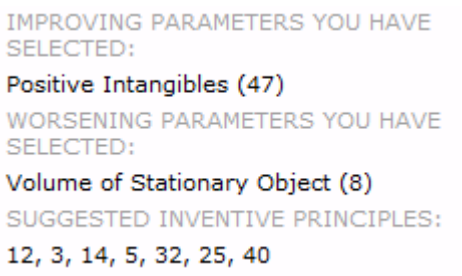


Figure 4: 'Caring' Versus Efficient Filling Of Tissue Container

Not to mention the fact that these attribute-intangible links might well be dependent on individual customers. Or geographical regions. Is the colour of 'efficacy' the same in Japan

as it is in India? Is the shape of ‘caring’ the same for men and women? Does the scent of a new car deliver the same perception of ‘status’ in Brazil as it does in Australia?

Suddenly, it seems quite important to know the answers to these questions. Every attribute suddenly has a dual role to play – delivering ‘good’ outcomes and ‘real’ outcomes. Suddenly the catalogue of conflicts and contradictions to solve for any given product or service just doubled. Suddenly the opportunity to make your offering really resonate with unspoken customer needs just did the same. The race to do exploit this enormous array of untapped resources has started. Welcome to the new jungle.

Case Studies: The Cross-Silo Project
(Part 2: Developing The Solutions)

Back in April (Issue 109 – does time really fly that fast?), we examined a cross-silo project problem involving a project team (G) charged with developing a new product through two different departments (D and E) within a telecom company. The focus in that article was mapping the various perspectives on the problem in order to ascertain the key issues. In this article, our attention shifts to the transition to implementable solutions. As with the first article, the story has been generalized in order to protect the innocent, and to hopefully make the findings more generically applicable to others.

The essential conclusions from the Part 1 problem analysis were that there were two independent issues that would need to be addressed in order to full resolve the situation. Figures 1 and 2 repeat the key outputs from the perception mapping exercise:

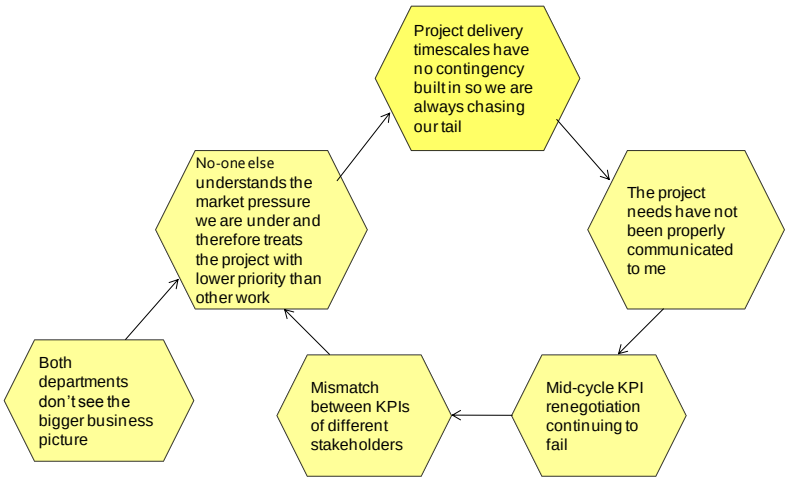


Figure 1: 'Timescales Have No Contingency'/KPI Perception Map Loop

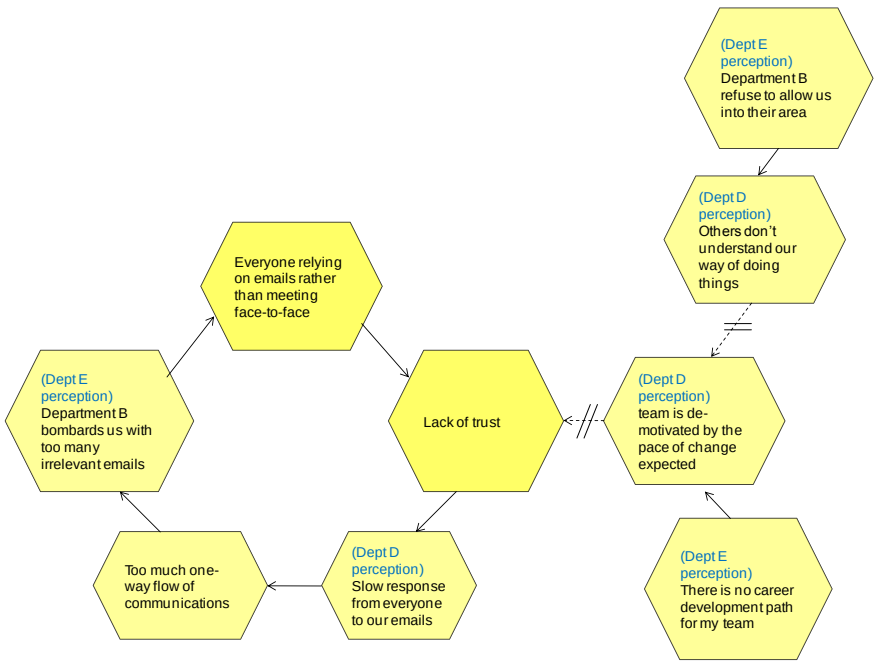


Figure 2: 'Lack Of Trust' Perception Map Loop

Let's examine how the two issues were tackled by the teams. We will start with the 'No Contingency'/KPI issue:

No Contingency/KPI Problem
As described in the Part 1 description, this problem was mapped onto the Business Contradiction Matrix to reveal the prioritized list of Inventive Principles reproduced in Figure 3:

Figure 3: Contingency/KPI Loop Conflict Solution Principles

The ideation sessions were conducted by having representatives from each of the problem stakeholders – Project Team G, Departments D and E and the HR department – spend five to ten minutes looking at each of the Principles in turn, starting at the 'most-likely' end of the list and working through until either time or energy ran out.

Here are some of the highlights of the 100+ ideas written down during the session:

Prior Action
- Assume that everyone has met their KPIs and guarantee them now
- Circulate contingencies to all
- Set aggressive 'early finish' targets
- Produce 2-year future company scenarios based on likely outcomes if the project is a success or if it is a failure – enabling everyone to see the implications of the project on the overall business
- Pre-celebrate the successful completion of the project
- Have each department produce a 'user-guide' to be circulated to the others in order that they can at least understand how different teams prefer to work
- Provide re-assurance that no roles will disappear after the project

Dynamics
- Allow KPIs to 'float' – keeping non-project ones as previously agreed; introducing additional new ones based on project success
- Take everyone out of their departmental environment and set up project co-location
- Find 'mutually acceptable' individuals from each of Department D and E and swap them from one department to the other
- Have department D head describe and (re-)communicate the project needs
- Set up off-site 'away-day' tiger team sessions for all project workers
- Position Project Team inside Departments, and rotate between them

Local Quality
- Tailor communications to the desired needs of each Department
- Distinguish between project and non-project KPIs#
- Recognize and accommodate personality differences between the different groups
- Organise project team memorabilia – incorporating (and celebrating) the differences between the different teams

Cheap Disposable
- One-off bonus payments for interim milestones
- Anonymous question-in-a-hat air-clearing session for all team members

- Team council – with revolving representation from each department
- ‘Disposable’ interim milestones with ‘stretch’, ‘most-likely’ and ‘worst-case’ measures

Universality
- Unite against a common enemy – the competition – showing everyone the implications of losing to competitors
- Create FAQs for each department
- Send members from each department on skill development workshops together

Segmentation
- Treat each Department individually
- Segment KPIs – possibly having monthly targets
- Psychological profiling of the team members in order to understand different personality types and different amenability to change… offer those people that don’t want to change to the project way of working alternative roles

By the time the team had reached this far through the list of recommended Inventive Principles, a growing feeling of ‘repeat’ing was beginning to emerge. Segmentation, in other words, was deemed to be similar to the earlier examination of Local Quality, which in turn had overlap with aspects of the Principle 15, Dynamics, directions. Observing that Principle 37, further down the priority list, was also a close relation, the Segmentation theme appeared to be a significant driver.

Based on the idea of profiling individuals across the members working on the project, upon my suggestion, we decided at this stage to conduct a short Spiral Dynamics survey of everyone. To our surprise (but perhaps less so to eagle-eyed readers of this article and its Part 1 predecessor), the Project Team and the two Departments came out with quite distinct Spiral level profiles:

The Project Team had a dominance of Yellow, GT, Holarchy thinking
Department D had a strong dominance of Blue, DQ, Order thinking
Department E had a strong bias towards Orange, ER, Scientific thinking.

As I set about explaining the differences between each of the colours (taking care, as ever, to emphasise that none was any better or worse than others, and that in fact the project needed an appropriate balance of several of the colours), everyone began looking around the room at other people with a whole new perspective. ‘That’s-why-he’s-like-that’ lightbulbs seemed to be lighting up. And then someone laughed. Then everyone was laughing. ‘We’re not dysfunctional’, one of the project team finally piped in, ‘we’re just talking a different language to each other.’

Lack Of Trust Problem

Suddenly the second ‘lack of trust’ problem seemed like a rather easier problem to solve. Knowing that everyone ultimately had the best interests of the company at heart, lack of trust was rather a lack of empathy with other people’s working styles and preferences. In this context, I asked the participants to explore how the Inventive Principles suggested for the problem (Figure 4) might now be used to generate some potential solutions.

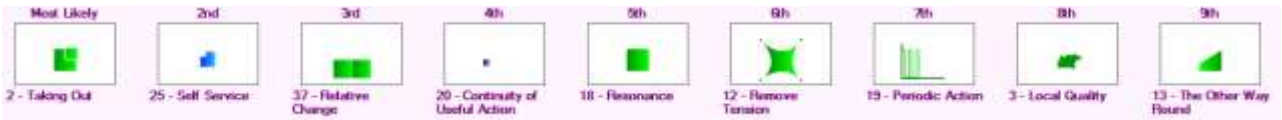


Figure 4: Trust/E-Mail Conflict – Inventive Principles Suggestions

Here's what we got after a twenty minute Principle-storm in which I allowed each participant to explore any Principle in the list they felt might point the team in the right direction:

- Remove all emails (Principle 2)
- Stop people cc'ing everyone on emails by providing ability of recipients to send feedback whether a mail was relevant or not… (13)
- …tie KPIs to 'relevant communications' – i.e. reward appropriate email circulation (25)
- Have 'no-email' days to force people to communicate with one another on a face-to-face basis (3)
- Recognise that 'Order' people liked the re-assurance that the written word offered to them
- Help the 'Order' people to recognize that just because someone doesn't respond to an email doesn't mean they haven't acknowledged the email (think the best of people rather than the worst) (3)
- Set up an away day with a subversion analysis focus – theme: how could we make sure this project *really* failed – in order to then show everyone how they had to rely on others, and what then to be looking out for in order to make sure the project was a success (13)
- Publish a preference list of everyone's preferred ways of working (18)
- More regular 'watch-out' informal get together meetings (19)
- 'Get-it-off-my-chest' intranet bulletin board (12)
- 'Secret Santa' reward system – everyone is given a small sum of money, picks a name from a hat and is then responsible for purchasing a 'relevant' gift for that person (3)
- Use Six-Thinking Hats during meetings to get everyone out of their 'normal' state and into the most appropriate thinking state for the task at hand (37)

It was interesting as the outsider to see how the mood of the group had changed during this second ideation session. Almost everyone seemed more relaxed and more willing to share ideas that they knew weren't necessarily complete. Or, in some cases, even sensible.

Afterwards, upon their own volition both Department D and E managers took a Spiral Dynamics 'idiot's guide' back to their departments to be circulated to all. Not as any kind of panacea, but really as a way of presenting people with a language to describe the differences between 'their' way of doing things and how others might see the world ('that's such a blue thing to say').

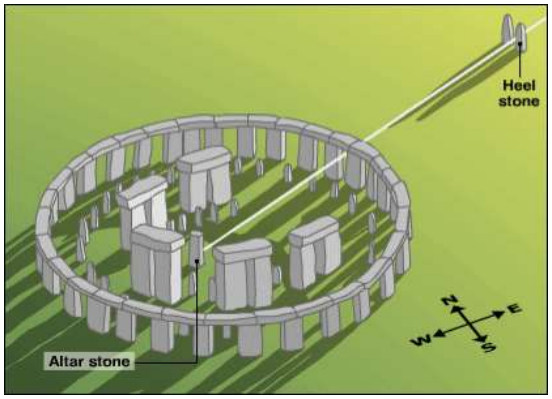
Also, in keeping with the idea that modifying the behavior in any complex system is best done by trying small things out and examining the impact they had, the Project Team suggested a few 'tomorrow morning' actions, namely:

- Having a 'no-email-Friday'
- Publishing an email league table showing who received the most emails; then equating this to lost minutes per day for everyone else to see; then giving each week's 'winner' a pair of free cinema tickets by way of reward for having suffered the most.
- Rather than have people spend time writing their life-history, everyone was encouraged to participate in a 'bring this person's preferred beverage' scheme whereby attendees at a meeting were requested to bring a drink for a nominated someone else rather than for themselves.

- Publish two mini-newspapers – one with the ‘future bad’ and one with the ‘future good’ scenarios – along with spoof articles tracing the success or failure back to something that the team was or wasn’t doing as the project plan progressed towards the milestones.
- Set up a ‘war-room’/ideation-space where all relevant project information was posted on the walls, and people had an opportunity to post questions, add ‘graffiti’ and highlight new and emerging issues.

While, three weeks later, not all of these experiments had delivered the expected benefits, what was clear was that the team now really was working as a team, all talk of not hitting milestones had disappeared, and, perhaps most tellingly of all, that average email traffic had dropped from 320+ emails per day average (possibly a world record?) to a shade below 80, and falling.

Funny? – Freud Has A Lot To Answer For…



Stonehenge represents one of the miracles of the ancient world. How did they get those stones up there? How were they able to calculate the solstices so accurately and find such a neat way of getting the solstice sun to do that just on the right day?

Not to be outdone, the Vatican has this slightly less well known equivalent when the sun shines just right through carefully crafted trimmings around St. Peter's Basilica in Vatican Square:

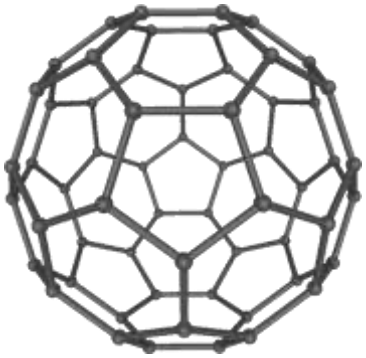
Now that took some working out!

Much more than some of the other Freudian-field-day designs to be found in the world around us. Nevertheless, there is still a lot to contemplate in terms of what was going through the minds of the designers of the Singapore national swimming team's swimwear:

Not to mention the designer that somehow managed to accurately capture the good and real reasons people buy cars.

Not sure whether this is the best or worst logo ever. Probably, thinking about it, both.

Patent of the Month - Carbon C_{60}



Patent of the month this month takes us to Mitsubishi in Japan. Perhaps not the most obvious choice for the organization that would be the first to solve one of science's most intractable problems. Nevertheless, the problem has now indeed claimed to solved by the inventors of US7,976,813, granted on 12 July. Here's what they have to say in their invention disclosure:

This invention relates to new forms of carbon as well as methods for the production and recovery thereof from carbon sources.

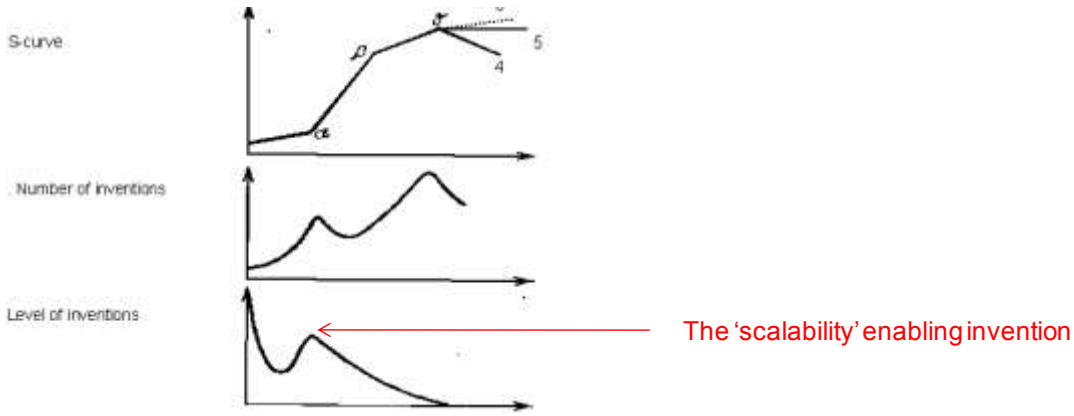
In 1985, Kroto et al. postulated the existence of a highly stable molecule composed of 60 carbon atoms based solely on mass spectroscopic analysis of vaporized graphite (Western readers may be more familiar with the terms 'Buckyballs' and/or 'fullerenes'). More specifically, all that was observed was a peak in the mass spectra of said carbon vapor. However, Kroto et al. did not isolate any of said compound.

A model for this compound was proposed in which 60 carbon atoms are placed at the vertices of a truncated icosahedron forming a perfect "soccerball" structure [the classic buckyball structure shown at the top of this page]*. Subsequent thereto, many publications have strengthened the evidence for the existence of this molecule. The 60 carbon atom compound (hereinafter C.sub.60) was presumably produced in situ for the spectroscopic determination reported in these publications. Yet, to date, no one has been successful in verifying the existence of this molecule since no one has been successful in isolating the molecule in measurable amounts. Thus, no processes for producing recoverable amounts of this new compound have been described to the present time.*

In the aforesaid publication by Kroto, et al., the authors proposed many uses for the new substance, C.sub.60 if it could be produced in quantity such as C.sub.60 transition metal compounds, e.g., C.sub.60Fe; or halogenated species like C.sub.60F.sub.60 which might be a super lubricant; molecules including oxygen and lanthanum in the C.sub.60 interior; C.sub.60 would provide a topologically novel aromatic nucleus for new branches of organic and inorganic chemistry; and C.sub.60 being especially stable and symmetrical provides possible catalyst and/or intermediate in modelling prebiotic chemistry.

Another form of carbon containing 70 carbon atoms (C.sub.70) has also been postulated (Kroto, Chemistry in Britain, 40-45 (1990), Kroto, Science, 1139-1145 (1988)). Like the (C.sub.60) to date, no one has been successful in verifying the existence of the C.sub.70. Heretofore, no one has been successful in obtaining the molecule in any appreciable amounts.

The problem, in other words, is about turning the theory of buckyballs and other fullerenes into a practical reality. As such the problem represents the classic point in the evolution of a system where the system is able to become a practical reality as described in Classical TRIZ:



As such, the invention has potentially enormous significance. Interesting, too, though is the solution discovered by the inventors. Here's what they say in the main Claim of their disclosure:

A process has now been developed for the production of recoverable amounts of C.sub.60 and C.sub.70. The present new process is accomplished, by evaporating carbon rods in an atmosphere of an inert quenching gas maintained at reduced pressure in a reactor therefor. This process produces a sooty carbon product which is graphitic carbon including a few percent of C.sub.60 and low levels of C.sub.70 which are recoverable from the product. However, an increase in the fraction of C.sub.70 molecules can be produced if the pressure is raised to greater than atmospheric pressures.

And here's what the Contradiction Matrix has to say about the basic conflict at the centre of the problem:

IMPROVING PARAMETERS YOU HAVE SELECTED:

Manufacturability (41)

WORSENING PARAMETERS YOU HAVE SELECTED:

Shape (9) and Stability (21)

SUGGESTED INVENTIVE PRINCIPLES:

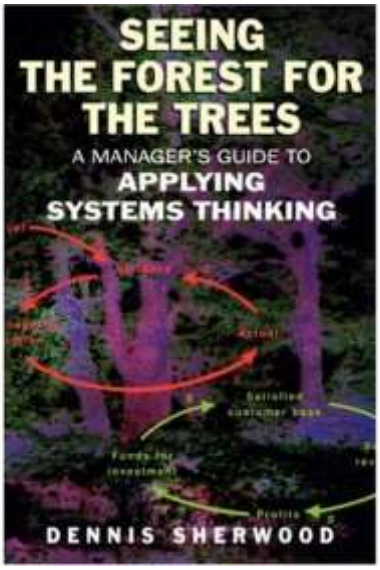
1, 13, 24, 29, 11, 3, 28, 16, 39, 30, 35, 27, 33, 9

Encouraging to see (the relatively rare) Inventive Principle 39, Inert Atmosphere, as one of the recommendations. Principle 24 would also have taken us somewhere close. Ditto the recommendation to use a fluid (Principle 29) – which in this case actually means 'quenching gas'. The comment about increasing pressure offers a further nod towards Principle 35.

Time to go rethink all those shelved 'wouldn't it be great if…' buckyball patents, methinks.

Best of the Month - Seeing The Forest For The Trees

This month's choice is something of a no-brainer for fans of the Perception Mapping tool. Dennis Sherwood's 2002 classic, 'Seeing The Forest For The Trees' is full of insights and case studies that will serve to complement what Perception Mapping does for you.



Although never openly stated, Sherwood's work takes a strong lead from Peter Senge's work and the Theory Of Constraints tools and methods of the late Eli Goldratt. His thesis is very much about complexity theory and in particular the causal chains and loops that make up and drive the behavior of any complex system. Add in a healthy dose of James Lovelock and Gaia theory, and you have a pretty solid way of triangulating where Seeing The Forest For the Trees is intended to sit.

The book is divided into four unequal parts: the first examining complex systems theory; the second exploring tools for modeling that complexity (essentially cause-effect diagrams, feedback loops, and then virtuous and vicious cycles); thirdly, and the longest section of the book, examines a series of simulated business case studies; and then finally, a fourth section – probably the one that would have benefited from some TRIZ/SI knowledge the most – looking at using the systems thinking modeling technique to build stronger future scenario models.

Formulated (or possibly 'formalised'?) after the book was published, but nevertheless a useful thing to know about before delving into the meat of the contents, are Sherwood's three Laws of Organodynamics:

First law
Organisational energy must continuously be created lest the organisation itself be destroyed. That's what leadership is all about.

Second law
Not only is it quite possible, it is absolutely inevitable, that an organisation will go round in circles, generating increasing amounts of heat, and progressively less useful work, unless the organisation works very hard indeed to do otherwise.

Third law
Organisations end up with the cultures they deserve.

Another great Sherwood quote: "Unlike cutting costs, or making an acquisition, innovation does not happen just because the chief executive wills it. Indeed, it is confoundedly difficult to come up with new ideas year in, year out — especially brilliant ones. Underneath the gurus' diagrams, lists and charts, most of the available answers seem to focus on two strengths that are difficult to create by diktat: a culture that looks for new ideas, and leaders who know which ones to back."

Sherwood, ultimately, doesn't appear to have any knowledge of Perception Mapping (or its Edward DeBono originated precursor, Flowscaping), which is a pity for him, since a lot of the niggling weaknesses found in Seeing The Forest For The Trees could have been eliminated. On the other hand, for anyone that already knows Perception Mapping and, more importantly, some of the main tenets of TRIZ/SI, the book offers a clutch of new insights and builds that permit the combined whole to be taken to a higher level of sophistication. All in all, something of an essential addition to the Systematic Innovation lexicon. And as such, considerably more highly recommended than Sherwood's other books.

Conference Report – Rethink City, DTU, Copenhagen

It was a privilege indeed to play a part in this year's 'Rethink City' programme in Denmark. 100 graduate students from around the world, working in 25 different teams on 25 different projects aimed at re-thinking the way our cities work and operate. As in previous year's the event works as a competition, with only the best teams making it to the 4 day session at the Danish Technical University.

The participants with the best ideas during the contest stage were invited to join the 4-day Innovation Camp (June 19–23, 2011), where they matured and refined their ideas with help from top international scholars. The students worked, lived (under what has to be described as 'unnecessarily primitive' conditions), and enjoyed four full days at Rethink City on the DTU Campus in Copenhagen. I was responsible for the first two days of the four. The main purpose of these two days was to take the initial contest-winning ideas of the 25 teams and help them to build the solutions into stronger, implementable entities that would subsequently be judged by a panel consisting of the great and good. Whether through bravery or stupidity, I forced everyone to learn a bit of TRIZ (solving contradictions), some Spiral Dynamics (how to sell your idea to these people) and, the thing that surprisingly received the most interest, Generational Cycles.

Teams arrived from close to 20 different countries. The variety of cultures on show was more than amply matched by the diversity of the problems and solutions on show – some being down at the micro scale (a fantastic group from China that had a solution for putting waste products into brick to create a stronger, safer, cheaper solution), right up to the macro –scale (e.g. car-scheduling schemes, integrated subterranean services). The competition was wonderfully good natured throughout, with many of the teams pulling out

SYSTEM ·ATIC INNOVAT· ION

all their creative talents not just to devise the most coherent solutions, but also to attract judges to their stands. Some had arrived with nothing but their idea; others (the teams from India and China primarily) had made prototypes, printed brochures and even, in one instance, submitted patent applications. The latter coming as something of a shock to the Western teams – who would've thought that the East was now 'ahead' in terms of educating people about the importance of idea protection?

All in all, a truly memorable experience. We often talk about how the current Hero Generation has to get the world out of the crisis period it currently finds itself in the middle of. I'd have to say that for the first time ever, I was left with the impression that here were 100 Heroes that I might actually have confidence could do the job, and do it well. Amazing talent; amazingly driven. Point this cohort in the right direction and quite literally they will change the world. Check out the rethinkcity website to see what I mean.

Investments – Germ-Free Textiles

A University of Georgia researcher has invented a new technology that can inexpensively render medical linens and clothing, face masks, paper towels - and even diapers, intimate apparel and athletic wear, including smelly socks - permanently germ-free.

The simple and inexpensive anti-microbial technology works on natural and synthetic materials. The technology can be applied during the manufacturing process or sprayed-on at home, and it doesn't come out in the wash. Unlike other anti-microbial technologies, repeated applications are unnecessary to maintain effectiveness.

"The spread of pathogens on textiles and plastics is a growing concern, especially in healthcare facilities and hotels, which are ideal environments for the proliferation and spread of very harmful microorganisms, but also in the home," said Jason Locklin, the inventor, who is an assistant professor of chemistry in the Franklin College of Arts and Sciences and on the Faculty of Engineering.

The anti-microbial treatment invented by Locklin, which is available for licensing from the University of Georgia Research Foundation, Inc., effectively kills a wide spectrum of bacteria, yeasts and molds that can cause disease, break down fabrics, create stains and produce odors.

According to the Centers for Disease Control and Prevention, approximately one of every 20 hospitalized patients will contract a healthcare-associated infection. Lab coats, scrub suits, uniforms, gowns, gloves and linens are known to harbor the microbes that cause patient infections.

Consumers' concern about harmful microbes has spurred the market for clothing, undergarments, footwear and home textiles with antimicrobial products. But to be practical, both commercial and consumer anti-microbial products must be inexpensive and lasting.

"Similar technologies are limited by cost of materials, use of noxious chemicals in the application or loss of effectiveness after a few washings," said Gennaro Gama, UGARF senior technology manager. "Locklin's technology uses ingeniously simple, inexpensive and scalable chemistry."

Gama said the technology is simple to apply in the manufacturing of fibers, fabrics, filters and plastics. It also can bestow antimicrobial properties on finished products, such as athletic wear and shoes, and textiles for the bedroom, bathroom and kitchen.

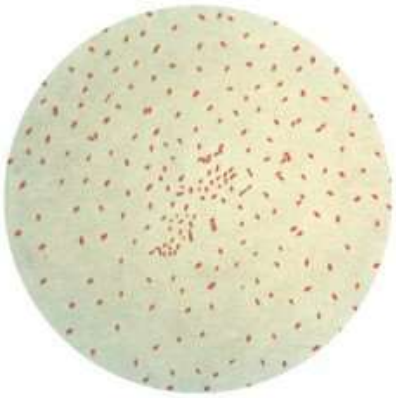
"The advantage of UGARF's technology over competing methods," said Gama, "is that the permanent antimicrobial can be applied to a product at any point of the manufacture-sale-use continuum. In contrast, competing technologies require blending of the antimicrobial in the manufacturing process."

"In addition," said Gama, "If for some reason the antimicrobial layer is removed from an article - through abrasion, for example - it can be reapplied by simple spraying."
Other markets for the anti-microbial technology include military apparel and gear, food packaging, plastic furniture, pool toys, medical and dental instrumentation, bandages and plastic items.

Locklin said the antimicrobial was tested against many of the pathogens common in healthcare settings, including staph, strep, E. coli, pseudomonas and acetinobacter. After just a single application, no bacterial growth was observed on the textile samples added to the culture -- even after 24 hours at 37 degrees Celsius.

Moreover, in testing, the treatment remained fully active after multiple hot water laundry cycles, demonstrating the antibacterial does not leach out from the textiles even under harsh conditions. "Leaching could hinder the applicability of this technology in certain industrial segments, such as food packaging, toys, IV bags and tubing, for example," said Gama.

Thin films of the new technology also can be used to change other surface properties of both cellulose- and polymer-based materials. "It can change a material's optical properties - colour, reflectance, absorbance and iridescence - and make it repel liquids, all without changing other properties of the material," said Gama.



Find out more at:

Vikram P Dhende, Satyabrata Samanta, David M Jones, Ian R. Hardin, Jason Locklin. One-Step Photochemical Synthesis of Permanent, Nonleaching, Ultrathin Antimicrobial Coatings for Textiles and Plastics**.** *ACS Applied Materials & Interfaces*, 2011; 110621093431069 DOI: 10.1021/am200324f

Generational Cycles – Suffocating Artists

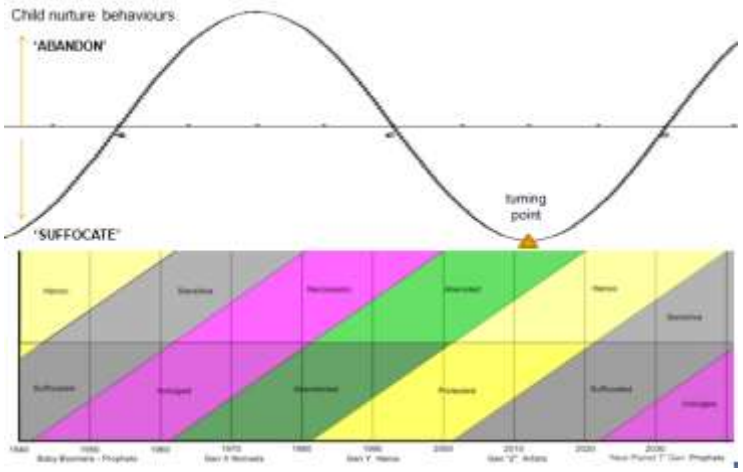
Following on from our Generations article last month, which suggested that we've now reached a point in the cycle pattern at which the poor new Artist generations being raised right now have just about reached their point of maximum suffocation. Last month, the theme was the emergence of the first signs that the societal mood towards child-rearing has hit a turning point. That's one side of the coin. This month we feature a clear example of the other. Enter what can only be described as a strait-jacket for new born babies:

Never mind the advertisement hint that the product is really good for baby, the product itself bears all the hallmarks of parents that love their children *so* much the poor little mites aren't allowed to move anymore:

The unique HALO® SleepSack® wearable blanket replaces loose blankets in the crib that can cover your baby's face and interfere with breathing. No wonder it's the #1 trusted choice of hospitals and parents alike. In addition to sleeping safer, the HALO SleepSack wearable blanket helps babies sleep better too. It's a warm, cuddly blanket they can't kick off, ensuring baby sleeps soundly throughout the night. And when baby is sleeping safe and sound, moms and dads can rest easy.

Can you imagine what the child forced to be bound into this thing for a couple of years grows up to become? Aside from being a typical Artist?

Scary. Very scary.



Biology – Hairstreak Butterfly

Predators quickly learn that the tastiest, most nutritious part of a butterfly is the end with the head. Thus, once a potential butterfly meal has been spotted, the predators will generally speaking aim for the head end. Not so good if you're a butterfly. Indeed, something of a contradiction: you want to remain safe, but at the same time, having a head that looks like a head is traditionally something of a giveaway:

IMPROVING PARAMETERS YOU HAVE SELECTED:

Safety/Vulnerability (38)

WORSENING PARAMETERS YOU HAVE SELECTED:

Shape (9)

SUGGESTED INVENTIVE PRINCIPLES:

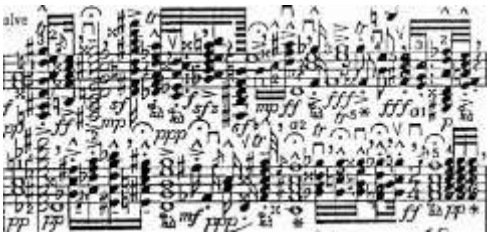
4, 7, 13, 15, 14, 30, 35

The hairstreak butterfly has made a pretty good attempt to resolve the conflict and in so doing offers us a very nice illustration of the third Inventive Principle recommended for this type of safety-versus-shape problem.

Hairstreaks usually have a pattern of lines or stripes on the underside wings. These, in combination with ocelli (false eye markings) and short tails (false antennae) act to divert attention away from the head, and towards the outer edge of the hindwings. By oscillating the wings, the tails are made to wiggle like antennae, further increasing the illusion that the butterfly is "back to front". Attacking predators, such as birds, will always aim at the head of a butterfly, but are tricked into aiming at the tail. The butterfly is thus able to escape in the opposite direction unharmed.

Genius.

Short Thort



"and half of learning to play is learning what not to play
and she's learning the spaces she leaves have their own things to say
and she's trying to sing just enough so that the air around her moves
and make music like mercy that gives what it is and has nothing to prove"
Ani DiFranco

News

Innovate To Success, Perth
Following the extraordinary success of the 9 May event in London, Blackswan will be doing a version of the same event in Perth Australia during November (week beginning the 8th)

Kilkenny
We will be keynoting at the 'Creativity and Innovation in Micro Enterprises' conference to be held in SE Ireland during the first week of November. The two day event will promote investment in creativity and innovation and demonstrate the value and use of creative thinking to stimulate economy/growth/links in business & society. More details on the website.

AMIRA
We finally gathered together a critical mass of global mining research organizations to run a Certification programme for 30 or so participants from 10 companies. The three parts of the programme will be run in Australia in September, November 2011 and March 2012…

Hargraves 2012
…hopefully to coincide with our appearance at the biggest innovation event in the Australian calendar.

Procrastination…
..is over. The final – final – version of the long overdue InnovationDNA book has finally (bye, bye) been sent off finally to the printers. We're sorry for the wait. Really.

New Projects

This month's new projects from around the Network:

- FMCG – Voice of Product Strategic Study
- Automotive – Problem Solving study
- Medical Devices – IP 'Invent Beyond'
- Medical Devices – Trendstorm
- Charity – strategy study
- University – IP commercialization study
- ICT – problem solving workshops
- Financial Services – Innovation Culture Building Programme
- FMCG – Advertising Campaign Design
- Government – SME innovation strategy