

Outlining a Universal Risk Taxonomy

Matthew E. Weilert
meweilert@systemkey.org

Just as we can impress intelligence upon a carrier wave, we can “embed experience” into the design of the tools we use so that we lower the threshold of experience required to achieve useful results. Surveys by IBM, KPMG and the Economist Intelligence Unit say that more than half of key executives surveyed recognize their ability to deal with complexity and risk does not meet the current challenges they face. It's time for the Risk Management discipline to mature beyond the enterprise, to encompass the entire value chain for today's complex, inter-connected economy. Integrated risk management (using a common risk language across disciplines) puts key executives in a position to uncover important insights that would be nearly impossible to see within functional silos. Current market leaders attempt to solve the challenge of complexity with more complexity, rather than increasing clarity. This paper outlines a novel risk assessment and reporting framework which applies information layering documented by Daft, Lengel, Denenberg and others, to address the issue of mitigating residual risks, (those which experts have discounted) through a robust and comprehensive framework of structured questions. Proof-of-concept results are presented, along with thoughts about implementation, application and future areas of research.

I. Scope of the Global Risk Dilemma

It's time to get uncomfortable. It's time to let go of the cozy feeling that the current methods of risk discovery are working. The mindset that says “even though this was terrible, it was just a single event” is the elephant in the room for maturing in risk management. How many single events does it take to wake up to the blindingly obvious truth that better software alone will never uncover and resolve the residual risks that are the root of recent catastrophes?

All the money changing hands over various social media sites and services confirms that technology by itself will never produce breakthroughs that transform industries and cultures. The very word breakthrough comes from a warrior culture that has many elements which we can carry forward positively, yet misleads us about the cumulative nature of innovation, collaboration and individual initiative—all vital elements in building a culture capable of delivering exponential risk results.



As 2010 was drawing to a close, a brilliant young attorney named David Kavanaugh imagined a better world. I was gifted to be the sponsor of that vision David caught. Global IP law giant AndrewsKurth (then David's employer) founded STETA, the Systems Thinking & Engineering Technical Alliance, a Texas-based non-profit business league [IRS 501(c)6] and I agreed to be its interim executive director, to bring a new level of innovation to risk management. To encourage and foster the powerful overlaps between Systems Thinking and Systems Engineering, I welcome feedback and participation from anyone, from any industry, who is committed to championing improvements that will take the state of the art in risk management, *beyond-the-enterprise*, to the entire value chain.

The most common question from silo thinkers is "what kind of risk?" At the end of the day, there are really only two kinds of risk across the board:

- Those you don't know about
- Those your "experts" have discounted

That core insight, capturing residual risks, *those which your experts have discounted*, has

- saved a warehouse \$300K/mo
- taken a motor vehicle fleet from leading all Department of Energy (DOE) sites in accidents to a zero reportables year
- slashed the timeline four-fold (400%) for required safety deliverables in the Navy's MK41/MK57 missile systems
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- documented more robust solutions for an at-sea parts shuttle

with more details in Section VIII Future Directions, on page 46. Sustainable risk reductions, indeed *exponential reductions* by companies, complete supply/value-chains and entire industries, arise from effective communication and trusting relationships. In a word, it's about the people.

In January 2011, in the midst of a contaminated egg scare, CSM was able to quickly certify that its eggs were dioxin-free. As one of the world's largest bakery conglomerates, they have access to the "latest and greatest" software, tools and techniques. Does anyone have any doubt that was made possible by on-going relationships, or was the result based on a piece of software? When I was presenting as an invited keynote speaker at a summer 2011 gathering of fourteen of the largest food businesses in the world, Dominique Walch of CSM made an unequivocal statement that he was able to certify that none of the farms from which CSM sources its eggs had used feed contaminated with dioxin, based on his relationships. [1] This isn't "feel good" softskills, this is the impact of having carefully nurtured productive, mature, long-term relationships so that when he put out an urgent call for answers, people took it seriously, gave it priority and dug into the matter until they solved it. That is the personal power we all have, each of us, individually and more importantly through our roles as technology professionals leveraging our networks of colleagues, to radically transform existing risk management practices.

If there's any doubt that the lack of industry relationships has profound costs, take a look at the following table:

Table 1

Date	Event	Market Sectors
Jan 2012	Costa Concordia	Tourism/Sea
Dec 2011	RQ-170 Sentinel Drone	Military/Aviation
Apr 2010	BP Deepwater	Energy Production/Oil
2008-2009	AIG	Finance
Sep 2008	Lehman	Finance
Sep 2008	Fannie Mae/Freddie Mac	Finance
Feb 2003	Shuttle Columbia	Transportation/Aviation/Space
Jul 2002	MCI Worldcom	Telecom
Dec 2001	Enron	Energy Production/Trading
Sep 1999	Mars Climate Orbiter	Military/Space
Jul 1988	Piper Alpha North Sea	Energy Production/Oil
Apr 1986	Chernobyl	Energy Production/Nuclear
Jan 1986	Shuttle Challenger	Transportation/Aviation/Space
Dec 1984	Bhopal	Industrial Production/Chemicals
Jul 1981	Kansas City Hyatt	Tourism/Land
Mar 1979	Three Mile Island	Energy Production/Nuclear
Mar 1977	Tenerife	Transportation/Aviation
Jun 1972	Soyuz 11	Military/Space
Jan 1967	Apollo 1	Military/Space
1957-1962	Thalidomide	Healthcare/Pharma
Nov 1940	Tacoma Narrows Bridge	Transportation/Infrastructure

There is not a single *Force majeure* event listed above. Every single one of these disasters was avoidable. Every single one of these occurred because enough people failed to understand the *language* of risk reporting and failed to recognize the messenger events, the leading indicators that signal the imminent arrival of catastrophe. Each of these events involved dozens, some thousands of people, all woven together in the tapestry of effective performance. When people feel disconnected (for many, impressions *are* reality), vital threads are broken in this fabric and without pushing the analogy too far, broken threads can serve as a very visual reminder of ineffective communications. One case in point: the loss of the drone *likely occurred because a published exploit was not corrected* by the GPS industry. [2]

Why do these keep happening? I summarize the reasons for these on-going catastrophes in five segments:

- Don't know what you don't know
- Siloed information across divisions
- Not prepared
- Existing alternatives actually increase risk
- At heart, a failed model: product/process over people

Every business, every person either addresses risk up-front or pays for it later. A search on risk management turns up hundreds of hits for insurance. Insurance as a means of “load shedding” instead of genuine risk or hazard mitigation can actually increase accident probabilities, by inducing both false economic incentives [3] and a false sense of reduced hazard [4].

Surveys by [IBM](#)[5], [KMPG](#)[6] and the [Economist Intelligence Unit](#)[7] say that more than half of key executives surveyed recognize their ability to deal with complexity and risk does not meet the current challenges they face.

In fact, the reports above cite that recognizing risk across disciplines is listed three times more often than any other skill “most-needed in next five years” by 1500+ global execs surveyed. It’s time for Risk Management (as an industry) to mature beyond the enterprise, to encompass the entire value chain for today’s complex, interconnected economy. Integrated risk management (using a common risk language across the enterprise) puts key executives and others across the firm, in a position to uncover important system-wide insights that would be nearly impossible to see within functional silos.

This paper introduces a comprehensive risk intelligence framework driven by two elements in novel combination for a risk product: structured questions and thin-slice interviews. These techniques have a long heritage in other industries but are creatively embedded in a software framework, to *get beyond mere software*, in driving exponential improvements in risk results across the entire value chain. In a nutshell, the improvements are three orders of magnitude:

- With a focus on discovering the residual risks (those your “experts” have discounted), this improved method captures and reports the cascade of conditions leading to the cause (10x) then scales up to show categories enabling the conditions (10x) for 100x improvement.
- The industry standard is to evaluate risk by occurrence and severity rankings (SxO). Adding a third element, ranking by ability to detect (D), offers an order of magnitude more granularity in the assessment, so that limited resources can be most productively deployed in difficult choices between similar hazards. (Ranking SxOxD, called risk priority number (RPN) offers 10x improvement). RPNs are widely known in other fields.

Virtually all 150+ enterprise risk management (ERM) software suites fielded to date, focus on “root cause” which is a necessary but not sufficient level of risk analysis to address system-wide risks, those compound-complex, rare elements that lead to the catastrophes in Table 1, on page 3. Many reliability tools (vs. so-called ERM suites) already use RPN. Braband’s “improved” RPN [8, 9] resolves flaws that arise from:

- gaps in the range [cf: $\text{COMBIN}(10,3) = 120$, so 88% of the range is not generated]
- small changes are magnified when other factors are greater

The true test of any project, system or program is the legacy it leaves. The most important unheralded benefit of a risk intelligence framework powered by structured questions is that it gives us relationships that influence design and influence behavior. To paraphrase a prior statement: to achieve exponential improvements in risk reduction, talent is never enough, we have to care.

*But I've attended Engineers' Anonymous for years!
Is there a class I can take on this caring thing?*

While the answer may not be easy, it is simple.

THE ANSWER

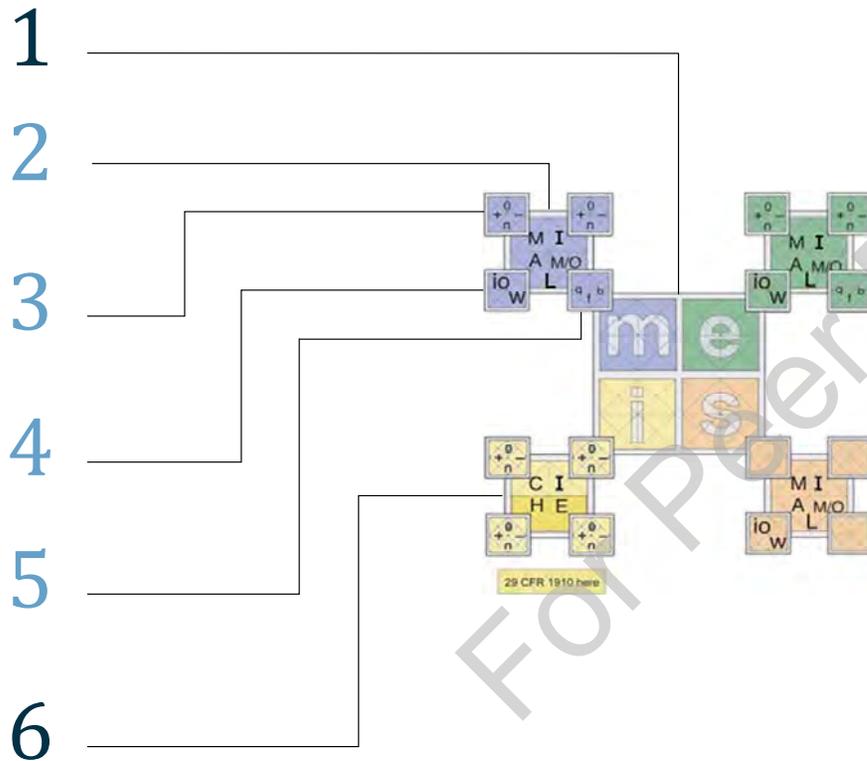
So take a deep breath: into each and every conversation that is the heart of deploying a risk intelligence framework, the secret is to put caring, grammar and structure:

- structure is syntax
- your knowledge, skills and abilities (KSAs) are the grammar
- caring is the music behind your words that gets people to listen.

*We can talk about risk management as the tailor who suits humanity, when business is our mission. Caring is how we weave the disparate threads of the many people in our lives: staff, suppliers, friends, strangers, into that seamless garment. The real measure of our work is not just sales of product (*and a service is a product*). A legacy of our work is contained in the engineering change logs and even better in the repair logs showing less maintenance and more uptime or the casualty logs showing that no one was killed while operating our equipment.*

RISK DISCOVERY POWERED BY STRUCTURED QUESTIONING

Risk Resolution Roadmap



Legend

1 Category

software	energy	matter	interface
s	e	m	i

2 Conditions

Lifecycle: Manufacturing	Lifecycle: Operations	Lifecycle: Assembly	Information	Movement
Mfg	Ops	A	I	M

3 Cause

overlimit	underlimit	not as requested	none (missing)
+	-	n	∅

4, 5 Cause

(Cause is the review level syntax, which doesn't change. The detailed analysis is the grammar, which can (& will) vary by discipline, by project, etc.)

in/out (Assembly) Errors in Maintenance	wear due to quality/lack of Maintenance	Machining Quality	Broken, bent or warped in service	Flawed Material
i o	w	q	b	f

6 Conditions (interface)

Environment	Information	Cross-Component Interaction	Human-Component Interaction
E	I	C	H

Figure 11: Risk Resolution Roadmap

VI. Cultural Transitions in thinking styles

Systems Thinking teaches us how to scale our perspective to study the forest or the trees, while Systems Engineering tells us what to do with the data we find.

This message is not new, in fact it's thousands of years old! In the east, this is called shoshinsha or "empty cup" while in the west, it's metanoia, or "renewal of mind."



Bob Kerner, NYSE Euronext senior vice-president and chief digital officer, has used Australian startup Atlassian's collaboration software to boost productivity 30% in its first six months of use, largely through increased operational and project transparency. [67] The only "risk" to an organization deploying a structured questioning risk discovery process is to those who jealously guard their code or their turf in petty fiefdoms. When they suddenly have to work out in the open, some will not like it and they'll have a clear choice to make.

Scoping out to take the long view in this transformation of the way risk gets measured and managed, the sage Joseph Schumpeter has timeless advice for those who think that buying and installing a piece of software, no matter how complex or expensive, is their ticket to sail the sea of tranquility. Those who keep their ship on an even keel and know how to read the water, air and sky, know of a storm's approach before it even breaks the horizon. When one encounters a storm at sea, there's no where to hide. There's no way to avoid the "perennial gale of creative destruction" [68] so *old salts and those who learn from them*, invest the resources—before there is any visible need to—because those who wait until they can see the storm, have **planned** to be lost at sea. Inaction is a decision.

Transformational Risk Management is unreasonable, impractical and in many cases down-right scary, which is why people rarely do it. Until business leaders get to the point where they're willing to look at risk through the same lens as they look at their marketing, Ops, HR, Sales and Accounting/Finance functions, they are stuck delivering the status quo.

Each of us knows "from the top down, I need to be innovative in the way I approach every aspect of my business," but risk management gets left behind because the existing approaches don't ask the right questions. You now have a tool to ask those questions.

To take your ERM efforts "to the next level" requires integrating formerly siloed risk management efforts in

- finance
- operations
- human resources

consolidating information and energies like no effort previously has. Have you finally reached a point where you're willing to embrace the scary but staggering truth that an obscenely expensive ERP system, implemented poorly, will not transform your business and fix all the ills that have been years in the making?

If so, then you're ready to start genuinely mitigating the risks that face your enterprise and your entire value chain. Solving them so they stay solved, you can concentrate on why you're in business: delivering value to customers.

VII. Culture vs. physics

Talent is mobile and cannot be coerced into excellence. Rather it is coaxed or even seduced by good example and encouragement. The shocking truth is that to achieve exponential gains in risk management, we have to care. Ericka Anderson extends that assertion to all industries, not just the enterprise risk management market. [69]

As Clifford Stoll documented in *The Cuckoo's Egg*, the original request—to track down a 75 cent error in the Lawrence Berkeley National Laboratory (lbl.gov) computer time use—resulted in something radically different, the arrest of German hacker Markus Hess [70]; *my original task*—to track down why a defense contractor had multiple part numbers for the same part—*resulted in a enhanced process for residual risk discovery that removes significant barriers to integrated systems analysis*. With the “empty mind” concept, being open to whatever he found, Stoll was able to ferret out that the LBL computer system had been compromised, a finding far more important than an accounting error.

We've all seen examples of the strength of cultural input trumping common sense, yet when culture encounters physics, physics wins every time. Physics, or more broadly, natural law, always wins, even if we as scientists and engineers hotly deny the facts because they would upset our apple cart, our way of thinking, *what “everybody” knows to be true*. Probably the biggest obstacle to seeing what is before us, is our irrational demand for an orderly sequence from the accepted way of doing things to a radical new advance. Gunther Stent says that any “disruptive” advance, that does not have a canonical pathway from old to new, is not just ignored, but derisively dismissed. [71] Science was held back decades for example by ignoring or dismissing:

- Gregor Mendel's genetic findings
- Michael Polanyi's gas adsorption on solids theory

so that both had to be “rediscovered” as theory caught up with facts. Many thousands of lives lost, needless suffering and millions of dollars wasted, outline the staggering costs of failed theories in:

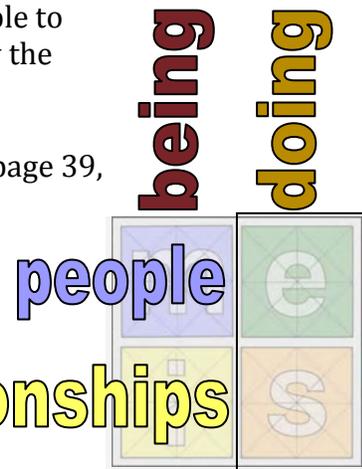
- health care (thalidomide)
- architecture (Kansas City Hyatt)
- structural engineering (collapse of “Gallopig Gertie,” the 1940 Tacoma Narrows bridge, from aeroelastic flutter [72])

all because we in the technical communities were too parochial to embrace ideas “from out of town.” Robert Maillart's 1923 empirically-derived arch bridge theory “infuriated many Swiss academics” because they were so fixed on real forms fitting theory rather than theory describing real forms. On the other hand, US designers and engineers failed to appreciate his ideas because they were too simple; lacking *analytical rigour* (remember, this theory was derived from actual bridges under actual loads), so they were blind to fresh possibilities because of their preconceived “requirements” for “good design.” [73]

Management sage Peter Drucker, in *The Effective Executive*, tells us why we have to face up to today's most favored excuse: I'm too busy! He writes that people “cannot be machined down or recast” so they are never an exact fit, genuine dialog is required, which requires lots of judgment, mentoring and a real relationship for people to deliver their best; not something that one who “manages by the numbers” wants to hear. [74]

As mentioned back in our discussion of reputation risk, on page 39, the very foundation of trust is not equal across cultures. Teaching ethics in South American cultures is particularly interesting, because their understanding of the rule of law is so different from that of the US and Canada. Seeing 400 page engineering contracts initialed on every page as means of preventing forgery, —first time I saw that, it wiggled me out.

When I was inspecting electrical towers in Northern Peru for a new transmission line to serve a mining interest; about three months after I left, there was a fatality, due to poor housekeeping practices on site. The chicanery and disrespect for the deceased man's family was unnerving. I had a unique opportunity to discuss a series of these experiences with a regional expert: A native of Cincinnati, OH, Fr. Eduardo Schmidt has taught ethics at the national level in six countries. He writes his works natively in Spanish and “has never bothered” to have them published in English. In a nutshell, what works is not ethics *per se*, but rather social norms driven by social stigma: *this is the way we behave in this peer group* and extend or repeat that peer-group facilitation, dialog and *journey-in-understanding* for each and every setting. It's time consuming and for Americans, mentally exhausting, but it is what works in these cultures. [75] GM learned its lesson the hard way with a car named the Nova (which means “no go” in Spanish)! Geert Hofstede's dimensions of culture models can be seamlessly integrated into the structured question/thin slice interview framework introduced in this paper. [76]



VIII. Future Directions

Merely being aware of risk is worthless. Effective risk analysis must either motivate the required change in people, process or product, or it must engage complementary structures that keep the status quo from blinding the collective wisdom of the design team.

It's almost a zen challenge: the more “expert” one is, the better they deal with a narrower slice of data. This emphasis on data effectively defines the problem facing organizations that want to mature in enterprise risk management (ERM): get beyond the tool and get to Chester Karrass's “real profits” to involve the messy, multi-variate, human-linked cause of the risk events and get the actual day-to-day workers involved in validating those risks, so that the financial/accounting model doesn't deliver extremely precise GIGO (garbage-in, garbage-out). [77]

The two most widely known ERM models COSO and CAS are both set up from a governance, compliance and audit perspective, meaning they have no engineering backbone to them, much less decades of experience specifically in system safety engineering woven into the core of their framework. The same shortfall applies to ISO 31000: great documentation, weak implementation.

In Eli Goldratt's bestseller, *The Goal* he writes it's not “exceptional brainpower” but rather “the courage to face inconsistencies” that opens the door to exceptional achievement . [78] The rise of social media and the renewed buzz around the timeless craft of storytelling shows yet once again that technology alone will never produce breakthroughs that transform industries and cultures.

As mentioned at the very beginning, the word *breakthrough* comes from a warrior culture that has many elements which we can carry forward positively, yet misleads us about the cumulative nature of innovation, collaboration and individual initiative—all vital elements in building a culture capable of delivering exponential risk results.

To encourage and foster the powerful overlaps between Systems Thinking and Systems Engineering, I chose to lead STETA: the Systems Thinking & Engineering Technical Alliance. I welcome feedback and participation from anyone, from any industry, who is committed to championing improvements that will take the state of the art in risk management, *beyond-the-enterprise*, to the entire value chain.

The most common question from silo thinkers is “what kind of risk does Systemkey™ handle?” At the end of the day, there are really only two kinds of risk across the board:

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and much more than can be shared here.

Proof of Concept trials mentioned above involved three unrelated business sectors, demonstrating the viability of this template, tailored solution for risk discovery, analysis and mitigation. All three trials used components and elements of the Systemkey Risk Intelligence Framework that have since been matured and integrated.

Motor Vehicle fleet: Battelle's Pacific Northwest Laboratories Division (pnl.gov) led all DOE in motor vehicle accidents in 1990-1991. This was as much a “political capital” as an economic issue. In the 1991-1992 program year, I directed a complete revamp of Battelle's motor vehicle training program, following the principles discussed in this paper. PNL achieved zero ‘reportables,’ [incidents resulting in greater than \$500 damage total including labor costs] within the first 12 months of program implementation.

Key elements of the implementation:

- Eliminate mass audience (180 *attendee*) sessions, the “big city” approach
- Drastically reduce class size to average 30 *participants*
- Drastically increase frequency, available 50+ times during the year, at the lowest available organizational level, following the “small town” approach. Group interaction was more intimate, people felt their voice would be heard, figuratively as well as literally.
- Diversity in content delivery: we taped a driving skills review session, covering local terrain and traffic patterns as well as specific DOE and Washington state regs, which third shift work teams checked out to fulfill their training objectives, the first time that all three shifts had been covered!

For the independent researchers scattered across the US, I took a novel—and very effective—approach, based on the remarkable results Battelle achieved. I had my staff contact the Motor Vehicle departments of every state where PNL had staff. We combined the state's driving manual, with portions relevant to PNL highlighted, with customized, personally addressed letters to the staff members (which I individually signed). Achieving our goal of an accident-free year shows these individualized messages carried high credibility, creating a great sense of personal responsibility which collectively produced stunning results. The structured question dialog style and “small town business intimacy”

convinced roughly 3300 people spread across 28 states to make personal daily decisions to change previous driving patterns and meet the company target of an accident-free year.

Warehousing/Logistics: General Motors, Reno/Sparks Parts Depot needed to needed to solve a warehouse conveyor problem. Essentially the same time every afternoon the Rapistan conveyor would shut down, leading to logistical bottlenecks. (Rapistan is now known as Dematic.) The first part of the solution was classical industrial engineering, to synthesize an “average weight per minute” passing a check point, because a washer and a transmission could be in consecutive bins. While I cannot release exact figures, around 1500 data points were sufficient to come up with a valid average. Since the total length of conveyor was known, the total weight loading could be estimated. A quick call to Rapistan’s head office with the serial number confirmed that the system was roughly three times over its designed weight.

What drove the discovery of the root cause was the methodical nature of the structured question framework, which includes the capacity to closely address the human element, such as demonstrated in the Toyota SUA example starting on page 31. Those immersed in the plant culture were blind to the true source of the problem. Once a particular supervisor who “just couldn't get quality people” took over night shift, this conveyor problem arose. This person had in fact, fired the previous 36 floor leads *because they were all incompetent. (I see the train a-comin'!)*. This individual was over-riding GM's dealer-driven demand software that scheduled parts ordering and delivery to instruct the night crew: “[expletive] ship it all!” with the obvious result that every afternoon, once the conveyor was beyond its weight capacity, it would shut down as designed, to prevent permanent damage. In round numbers, the estimated savings of getting the conveyor back into full-time operation were in the \$300,000/month range.

Military: Navy Missile Launcher Design

For a Minnesota-based global defense contractor solving engineering challenges was the easy part. Multiple inter-contractor squabbles were delaying required technical reports, as well as spawning meeting after meeting where aimless wandering was the key agenda item. One of the more severe challenges that the Systemkey framework helped solve was the suggestion that this new launcher software should have commands that none of the 30+ year old hardware in the fleet could respond to, (because these commands were hard-coded, updates meant physically replacing boards). The bottom line was that if these command sets were implemented, Commanding Officers would have no confidence in the missile inventories reported by their Combat Information Centers. As bizarre as it sounds, this idea held sway for weeks. The rigid syntax of the risk intelligence framework allowed the system safety engineering team to:

- focus on the process at multiple levels without confusion
- strip away the personal egos, to document the engineering elements of the meetings
- methodically step through the requirements

and independently validate that such a deliverable would be rejected (in formal terms, not pass Milestone B). One of the lesser achievements was driving a polarity reversal in the missile-to-launcher physical interface, based on the systems modeling during launch phase. This change ensured a clean cable separation at moment of launch.

Overall, I used the structured questions and thin slice interview techniques to drastically improve turn-around time on required safety milestone deliverables, as well as to enroll other engineers in the assessment sequence, so that we had a shared assessment process in place and work breakdown structure (WBS) manning levels could be parsed per subtask, to take advantage of “throwaway” bits of time that typically gets wasted.

Military: Tri-Service Fuze Standards Compliance

A boutique defense contractor at Naval Weapons Systems Command, Dahlgren, <http://www.navsea.navy.mil/nswc/dahlgren/default.aspx> had landed a contract for analysis of an advanced tri-service (Army, Air Force, Navy) munition (tank round) with a state-of-the art fuze element. The issue at hand is that the governing standard was older than some of the analysts and had not been updated to account for today’s reality of ubiquitous software which massively leverages the warfighters’ speed, accuracy and other factors. A sanitized version of what the Systemkey framework enabled was to “extend the ammunition model” to include the momentum of the round as it left the barrel. Various calculations and data transmissions ensured that the technical performance of the round was essentially flawless. If it wasn’t, the round was not activated in flight. With the “embedded intelligence” in the structured question framework, working with others, we evolved a new model for assessing the round’s compliance with a safety latch requirement. Successfully demonstrating MIL-STD 1316 compliance had failed twice before so the team was open to rigorous yet novel ideas. Documenting these discussions, I was able to walk the senior officials through the acceptance logic to demonstrate that the fuze met MIL-STD 1316 requirements and thus clear away a logjam over standards, gaining acceptance for the fuze.

Future Research for the framework can take many directions. One of the most evident is the need for a better way to transcribe heat transfer. Other deeply linguistic elements in both technical and social domains remain promising topics for further investigation. Those who wish to learn more about Systemkey can visit systemkey.net for technical background or further examples and systemkey.org for upcoming programs of the non-profit business league STETA group.

Matthew Weilert, (Texas A&M '84), helps leaders and the people they serve, to achieve profound clarity in seeing beyond the enterprise to the entire value chain, through the lens of system-wide risk. As an international innovator in system safety and risk, Matt recognizes his achievements only come through meeting people and their needs. Advising billion-dollar brands like Kraft, Coca-Cola, Bacardi, GM & the US Navy on what it takes to go from "good to great" in performance improvements (ops & finance), Matt is a "global mindset thinker" (Thunderbird Graduate School 2011), who has the privilege of working with networks of leaders across industries (see <http://is.gd/JNTxkg>) to deliver better results across the board.

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