

Game Changing Risk & the Forward Pass

John Marke, 2007

November 1, 1913, New York, NY – College Football

In 1913 the Ivy League owned college football, and Army dominated the Ivy League. That November, a small, financially strapped Catholic men's school went east to take a crack at the big guys. With over 5,000 spectators and sports writers from major New York news papers in the stands there was plenty of coverage for what promised to be a somewhat boring game between Army and a virtual unknown (at least outside of the mid-west).

Army was undefeated and had a shot at the National championship. That was until Gus Dorais threw something called a "forward pass" to a receiver named Rockne....Knut Rockne. During the game, Dorais completed 14 of 17 passes for 243 yards.

Defense? Army had no defense! According to Rockne, "Everybody seemed astonished. There had been no hurdling, no tackling, no plunging, and no crushing....just a long distance touchdown by rapid transit."



There were no play books for defense against the forward pass...this *had been* a game of pure muscle and beef on the line. With the operative words being "had been." Nobody had done this before. Rockne was catching on a dead run at 30, 40 and 50 yards. As the "Fighting Irish" marched off the field the score was 35 – 13, and the rest, as the say, is history.

There are lessons to be learned here. First, pay attention when the rules of the game change. Yes, the forward pass was legal, but heavily restricted prior to the 1913 rules change. The old regulations limited the pass to 20 yards forward of the line of scrimmage, and to a *stationary* receiver, i.e. he could not be in motion. Second, pay attention when the technology changes. Another 1913 rule change altered the shape of the football from oval to spherical, allowing it to be thrown harder, further and more accurately. And third, adapt your playbook or suffer the consequences.

November, 2007 USA – Global Supply Chain

For the past 20 years our focus in supply chain has been locked into a "running game" of taming "demand uncertainty." The state-of-the art being "just in time" manufacturing where little inventory is carried before put into immediate use. In addition, outsourcing has further reduced cost and transferred many non-core, and at times even core, business processes to globally dispersed, third party facilities to take advantage of low labor costs and cheap global logistics.

There is no free lunch. You want global reach? Well, you also get global risk. Today more things can also go wrong, in more places, and with more effect than ever before. Upstream trading partners are much less "visible" while simultaneously assuming more and more control over key manufacturing and process operations. **Supply side risk is the "forward pass" of globalization.** Is it a threat? Ask Mattel. Ask P&G. Ask Colgate. Ask Wall-Mart.

Asymmetrical football

Had Bob Costas been around in 1913 for Notre Dame/Army he might have called it “asymmetrical football.” That’s when the weaker opponent uses a “game changing strategy” to negate the strength of its opponent. Simple: if you can’t win against the muscle of the defensive line, put the ball in the air. That was a smart strategy for Notre Dame, but there is an even more important lesson.

A second definition of “asymmetric” involves the *multiplier effect*. That’s when one unit of input into a system yields *more than* one unit of output. Continuing with our football example, prior to the ND/Army game, football was *exclusively* a running game. One *new* unit of input into the game – the pass – yielded numerous outputs, i.e. different combinations of moving the ball forward of the line of scrimmage. You could still run the ball; you could do a short pass. You could do a “Hail Mary.” You could do a screen; you could do a lateral and then pass, etc. For the more mathematically inclined, outcomes were no longer linearly bounded¹. For coaches, it was a supreme headache! Passing exponentially increased the complexity of the game and made any sort of accurate play prediction virtually impossible.

And another thing, Dorais wasn’t just throwing *footballs*; he was throwing *bricks*! And the New York media made sure the other coaches got the message...like a brick in the head, the forward pass couldn’t be ignored. Unfortunately supply chain managers and their trusted advisors might have harder heads than college football coaches. Remember, people have the amazing ability to deny, displace, or otherwise ignore a threat, either failing to “notice” or failing to correctly interpret and/or act on *game changing* events.



Pre-1913 College Football

Running Game

Playbook – simple

Skills – running, tackling, blocking

Orientation: brute force

Strategy: “right up the middle”

Post 1913 College Football

Running & Passing Game

Playbook – much more complex

Skills – *passing*, running, tackling, blocking

Orientation: brute force and finesse

Strategy: “maneuver warfare”

¹ Outcomes were no longer *linearly bound*, i.e. the game became non-linear, dynamical, and (in a mathematical sense) chaotic...all this jargon simply means that life just got complicated and our old predictive models do not work very well anymore....just like globalization knocked out *the exclusive use* of predict-then-act, demand driven models, introducing supply uncertainty.

Pre-Globalization

Vertical integration

Supply *chain*

Visibility: good

Values: shared, long term

Logistics – local, global is *expensive*

Timeframe operations: weeks/months

Timeframe investors: hours/real time

Paradigm: analysis, Newtonian/reductionist

Demand uncertainty

Risks:

Too much inventory

Cost control

Change – moderate, incremental

Threats: well defined

Consequences: relative mkt. position

Vulnerability: less exposure/defined

Globalization

Vertical *disaggregation*

Supply *network*

Visibility: opaque

Values: divergent, short term

Logistics – extended, global is *cheap*

Timeframe operations: days/weeks

Timeframe investors: days/near real time

Paradigm: synthesis, quantum/holistic

Demand *and* Supply uncertainty

Risks:

Not enough inventory

Adulteration, counterfeiting, quality

Change - catastrophic, sudden/discontinuous

Threats: emerging

Consequences: existential

Vulnerability: more exposure/ “unk-unk²”

2007 was a game changing year for global trade/supply chain every bit as much as 1913 was for football? Mattel, Proctor & Gamble, Johnson & Johnson, and dozens of other global companies got caught flatfooted when tainted, adulterated or counterfeit products from a global supply chain vaporized brand, eroded consumer confidence, and took toys off the shelves weeks before Christmas. Like the forward pass, supply uncertainty was always there. But globalization is game changing:

- ✍ What was once infectious disease effecting a local population is now a “pandemic” spreading around the globe and closing nation-state borders.
- ✍ Terrorism was local, politically constrained, and aimed at changing national policies; today it is transnational, unconstrained, and rooted in cultural and/or religious beliefs.
- ✍ Organized crime was local, and focused on narcotics and prostitution; today it is global, with counterfeit products more profitable and less risky than the drug trade. Trade associations estimate that as much as 10% of aircraft replacement parts are counterfeit.
- ✍ Food safety focused on reducing pathogens in food processing and preparation is re-oriented to food adulteration and counterfeiting on a massive and global scale.

² “unknown-unknown” an engineering term of art used at Boeing and by Sec. Def. Donald Rumsfeld to describe uncertainty...There are things we know. There are things we know we don't know (where we anticipate uncertainty); and finally unk-unk's or *unanticipated* uncertainty (completely flat-footed...which should be familiar to Mattel (lead toys), J&J (counterfeit blood sugar strips), and P&G (IAMs cat /dog food).

The following excerpted from John Marke's
"Surviving 21st Century Risks: An Overview"... Systemic Threats

MAIN POINT: Each one of these threats is a public policy and/or business problem waiting to be solved, i.e. a potential service offering...involving global trade, risk, supply chain, strategy...

Catalysts (Amplify or Dampen Threats)

- ? Global trade & logistics
- ? Global capital markets
- ? Fall of the USSR
- ? Demographic shifts
- ? Global Communication (24x7)



Systemic Threats

- ? Terrorism/Organized Crime
- ? Natural/Ecological Disasters
- ? Infectious Diseases
- ? Food Safety/Counterfeiting
- ? Industrial Accidents
- ? Capital Market Melt-Down

Sure, we've known about terrorism and infectious disease, etc. for years. But today's "drivers" supercharge the threats...sort of like putting a normal, healthy athlete on steroids.

Drivers *amplify* threats (and for that matter, consequences and vulnerabilities as well). The Organization for Economic Co-Operation and Development (OECD), The National Intelligence Council³ and The United Nations Millennium Project⁴ are among many organizations that provide excellent studies examining the relationships between systemic threats and drivers, and provide a good foundation for identifying and understanding emerging threats. The following examples illustrate this point:

"The large scale disasters of the past few years – such as the terrorist attack of September 11, 2001, the appearance of previously unknown infectious diseases, extensive flooding in Europe – have brought home to OECD governments the realization that something new is happening. Such "mega risks" have the potential for inflicting considerable damage on the vital systems and infrastructures upon which our societies and economies depend, and create serious difficulties for traditional risk management and risk-sharing actors....preparing to deal effectively with the hugely complex threats of the 21st century is a major challenge for decision makers in government and the private sector alike.⁵"

According to Gail Fosler, Senior VP and Chief Economist of The Conference Board, "The most serious economic consequence of the current global security threat is the vulnerability of the United States and other countries that depend on global trade to shocks from actual supply interruptions and to the sharply changed incentives that have promoted globalization⁶."

Do you think the college football coaches of 1913 liked the forward pass? Not likely! The forward pass introduced a lot more uncertainty and complexity into the game....it required new tools, new techniques, and a whole new game plan. This was scary stuff for coaches; and, today, for global

³ *Global Trends 2015: A Dialogue About the Future With Nongovernmental Experts*, Dec. 2000

⁴ <http://www.acunu.org/>

⁵ Ibid.

⁶ "War and Terrorism Put Globalization at Risk", The Conference Board, March 2006

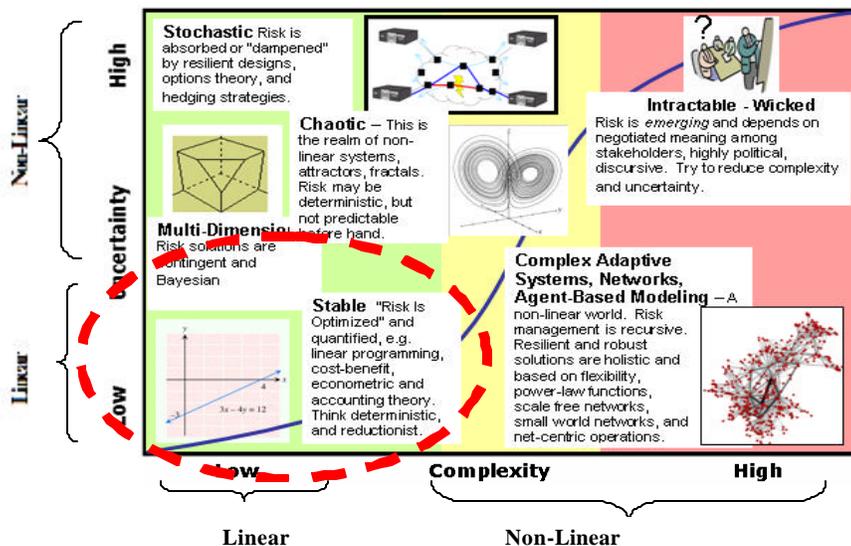
trade and supply chain managers (and their trusted advisors). If you made your professional bones on the “running game” or on predictive demand modeling, would *you* want anything to change? But life isn’t necessarily about what we want; it’s about adapting to what *is*.

The strategies for reducing supply uncertainty risk are diametrically opposed to strategies that reduce demand uncertainty risk:

- ✍ One tries to take slack *out* of the system, the other puts it *back in*.
- ✍ One is based on cost optimization; the other based on resilience or the ability to recover from a catastrophe.
- ✍ One is based on “just-in-time” while the other is “just get it here!”
- ✍ One is based on assumptions that are relatively simple, linear, deterministic, and grounded in predict-then-act modeling. The other assumes complex systems that are often chaotic and operating on the edge of catastrophe (defined as sudden, discontinuous change), non-linear (we’re dealing with exponential effects) and based on hedging and resilience strategies.

Parting thoughts...You gotta adapt your playbook...

Real strategy starts *outside* the red circle. In a globalized world you will loose if you try to stay inside the red circle. The increased uncertainty and complexity of globalization pretty much knocks the hell out of these linear assumptions. Put another way...staying inside the red circle is a lot like using a hammer to repair a lap top....sure, it might work, but odds are it will do more harm than good. It’s time to think about different ways of defining and managing **operational risk** – for both public and private entities.



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