Germ-Gaming: A Tool for Proactive Global Response

This is not a test. This is, in fact, real life. Welcome, folks, to a real-life wargame.

In life, you don't control the board. Most games are closed systems. They lead the player down a carefully designed path based on moves and choices. They are designed for winners and losers. Not so in the real world which has an infinite set of possible outcomes. We can't predict the future. Sometimes, life deals us a wildcard. Like the current COVID-19 pandemic.

Figure 1: We can't predict the future. Sometimes, life deals us a wildcard. Like the current COVID-19 pandemic.

Yes, we find ourselves immersed in a war game. It's unfortunate this is not a strategy building exercise. It is, instead a live test....and we know testing something live is risky business.   We must take biological threats seriously and invest in fighting them the way we would invest in fighting a war with a foreign country.

What if we could see the future? OK…we can't do that…but what if we could play the future? Well…maybe we can't do that either. But what if we could have a series of wildcards that we played out so that we could at least be better prepared for the future?

Athlete's know they have to practice to prepare, but that doesn't mean they know how the game will be played out. Corporations and governments don't practice as much. It seems to me most of our time is spent putting out fires, being reactive, and achieving success only through heroic efforts. What if instead, we did practice? Could we gain the insights we need to ensure we have the required resources in a pandemic? Could a game bring humanity closer together, removing country lines and individual objectives, bringing us closer together when faced with a world-wide crisis?

Bill Gates thought we could. So do I. I want to create a game. A game where all teams not only have to work together to "beat" the opponent, but a game that retrains the world to operate together as one.

Our current pandemic experience is messy because there is no global response system in place.   I am hopeful this is a wake-up call, an opportunity for us to embrace our humanity and work together to not only solve this crisis, but prepare for the future together. This TED talk

from Bill Gates on the spread of viruses was a warning- and he describes how we don't need wargames, we need germ-games --though they are the same thing.

They are both about finding holes in a strategy to be better prepared for the real war/pandemic. They are not intended to predict the future (no one can do that), but to better prepare for the things we can't see. Such games can point to areas where the system breaks down so we can modify the system and strengthen our preparation and response. Through these games, we can visualize how the public might react (what about spring breakers who don't listen?), how much bandwidth can hospitals take (run out of ventilators?), how could supply chains fail (no toilet paper?), what might airlines do (travel is banned for 30+ days!) and the questions and holes go on.

Having experience in business transformation efforts and wargaming for the US Army, I noted in conversation with friends that we are living through a real life wargame during the COVID-19 shutdown. To this I would get an eye-roll followed by "What are you talking about?". The questions my friends ask are not that different from those I receive at non-defense industry conferences. I get a lot of questions about the difference between a wargame and strategic scenario planning.

So, what's the difference? There are a lot of moving parts in war games - and they are much more immersive than role-playing in a scenario discussion while sitting around a boardroom table. Wargaming is not your father's scenario planning - it helps you pay attention to weak signals and is designed to test or improve tactical expertise. You *play* through it instead of *talking* through it. There are also other players responding to your moves, allowing you to test out tangible actions and discover uncertainties, as well as explore human decisions. I always remind everyone that wargaming is NOT about providing finite answers. It is about readiness and playing through game-changing events to help leaders know where to place their bets when investing scarce resources. Sounds like the perfect tool to prepare for a pandemic. Do we have a winning hand?

Figure 2: Defensive moves representing tangible actions to play in response to a world crisis

We need a Global Alert and Response System

So how might we go about implementing wargames and germ-games?

Going back to my description of wargaming, I left out that these are not off-the-shelf products. Game designers build them from scratch to represent specific cases. This means that the World Health Organization (WHO) might run a game to test a world-wide response. The United States could run a game to see how we may respond as a nation. The UK, China, Australia -- they could all run their own games. Hospitals could run a game. Individual states or cities. Companies. It boils down to the question, who needs to test out their strategy, their preparedness and response to a catastrophic event?

Not everyone can budget for this, but governments should...the world should. As Bill Gates called for, we need a global alert and response system. Our world-wide foundational structure should have an idea on how to respond to pandemics. This should not be something we are figuring out on the fly.

This global response system should have the equivalent of a competitive intelligence team; but instead of someone paying attention to your business model, the market, and your competitors, there is someone that is watching and analyzing health systems across the world. They should be paying attention to weak signals. This intelligence should be an integral part of the global response system's strategic planning. Gates feels we need to build into this emerging new system; stronger healthcare, advanced research, and mobilization -- as well as continuous germ-gaming of that system. Conducting these germ-gaming exercises will help identify strategies when triggering world-events occur.

When Bill Gates delivered his talk, the last germ game had been done in 2001. There was another game done (finally) in 2018. This was called [CladeX](). In MIT's Technology Review, they show how the game did not end well – "by the end of the first exercise a first vaccine has failed, tens of millions have died, stock markets are down by 90 percent, the president is sick, and the US is forced to nationalize the health-care system". The lessons learned from that game included that "the U.S. should invest more heavily in ultra-fast paper diagnostics and new vaccine manufacturing systems that could provide antidotes in months rather than years. But we have to get it into our heads that it's a real threat, and get the politicians to understand that there is stuff we could do. It's going to cost money, but not impossible amounts of money."

Given the current state of affairs, I'm not sure anyone listened to the last germ-game. Which, brings me to perhaps a final rule to wargaming that is critical. In wargaming, managers must be willing to change strategy. If they don't pay attention to the feedback from a game and move forward anyway with their original plans, then you will have wasted time and energy creating and playing the game. In germ-gaming, world leaders have to be willing to act cooperatively based on feedback for the good of humanity and the world as a whole.

There is a difference between my game and the germ-games run in 2001 and 2018. I am suggesting that they are not reserved for such large-scale exercises for only the top of the system. I am suggesting these games can be created for anyone in the system that needs to

responds to a catastrophic event. I am also suggesting they be more playful, interactive, and modular.

To create the game, a foundation in business architecture, or ability to break things down into manageable chunks, can help. We already know that the world is categorized into multiple kind of industries, such as defense, telecom, retail, healthcare, and media. But what if we could apply a business architecture framework to the real world? What might that look like?

Let's take healthcare, as that is one large industry suffering right now. The Business Architecture Guild suggest we use four enablers to assess the maturity of capabilities in an organization – people, processes, tools, and information. I added a fifth enabler – culture. Something was needed to help show that just because the other enablers were in place did not mean the culture would accept it.

Examples for Healthcare for each of these would be:
- People – do we have enough resources? That is the staff, nurses, doctors.
- Processes – are there emergency response systems in place to prevent overcrowding?
- Tools- do we have enough ventilators?
- Information – do we know what the virus looks like, what medicines may help, etc.? to treat it?
- Culture- are we proactive and resilient, able to take on chaos when it comes?

Figure 3: Wildcards for Germ-Games that can impact enablers of any system: people, processes, tools, information, and culture

We can look at other industries too, such as food stores and airlines. How might food chains handle empty food shelves? How might airlines have to react when people are afraid to fly? How about not being allowed to fly?

These games could test how the world would operate from a virtual perspective and how we may engage in psychological warfare. Isolating humans puts us in the stress response-however given our amazing technology are we actually doing ok? Maybe. We're finding out as we go instead of testing these theories out. Do we have a culture that can handle being virtual? Are there different factors with the elderly, or poor areas? How about between companies? This is where culture maturity comes into play.

I am seeing companies all across the spectrum – from a high level of maturity, which is resilience, to low maturity in a more reactive state. A high maturity will have signs such as changes to way of life coming naturally, and everyone is informed at all times about everything. The low maturity has need-to-know communications, blame culture, and minimum or inconsistent training. I've been fortunate that my work has allowed me to work at home and the transition has been seamless. I have a friend whose company had zero automation and was ill-prepared. They scrambled to try to figure out how to get their workers home, and now are paying their employees 80% of their pay. To me, that sounds illegal asking someone to do the same task. Time of task and location of work should be irrelevant. All of this uncertainty and inconsistency kicks our primal stress response into gear.

To end on a note of humanity, we are seeing a lot of hero's and people looking out for one another in this current sCOVID-19 situation. While these are good news stories, I don't necessarily think it is a good thing. It indicates a need for heroics. A great outcome of a game like this is that the world would require less heroes. We are seeing billionaires and tech companies step up and figure out how to help find solutions to things like lack of ventilators. That is fantastic -- but if we had a system in place, we would not need these heroic efforts; or at least not as many. Nurses, doctors, and grocery store managers would still be heroic, but hopefully their risk would be less. It puts us in a proactive state, rather than a reactive one.

I suppose time will tell if we look out for each other in the aftermath, or if we allow fear and greed to take over. I am hopeful the economic system does not get reshaped in a negative way. I am hoping we can reshape how we treat one another and prepare for the future to reduce the stress response. We can increase efficiency in response and reduce cost. I have faith that our humanness will kick-in and the world can work together now to solve this as if we were all part of the same system; because we are. And as for the future? We know we can't predict that. There will always be wildcards, but if we embrace human's love for play and work together, we can architect a system to boost both readiness and compassion. We can use germ-gaming to help.