

Mapping the Un-Mappable: The History Of TRIZ 2020-2030

Darrell Mann
Mubashar Rashid

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*“Merciless is the law of nature,
and rapidly and irresistibly
we are drawn to our doom.”*
Nikola Tesla

According to UN, the COVID-19 pandemic is wreaking havoc on the global economy and perhaps unleashing the worst economic downturn since the Great Depression. The pandemic has led to dire economic consequences across the planet. No country, no business and no population group are spared from the effects of the virus. Obviously, some are more resilient than other – yet the effects are felt strongly. Thriving industries has been turned upside down with massive layoffs, which enforce the negative spiral of dire consequences. For the ordinary man, the downturn came from nowhere and changed the face of life on our very own planet. At the time of writing, more than one third of the world’s population is under lockdown impacting lifestyle, social life and even survivability for the most vulnerable groups. However, for the expert this pandemic should not be a surprise. The governing bodies of the world has had ample time to prepare for a pandemic, as its cyclic nature is evident throughout the history. How could we think that it would not impact us? Nevertheless, here it is and with crushing and destructive impact on how things are and how things will be. IMF suggests the global growth rate to be -4.5%. The UN estimated back in April that global unemployment will wipe out 6.7% of working hours globally – a staggering number equivalent to 195 million full-time workers. Models from World Bank suggests that for some regions, the economic recovery will not be achieved until 2025 or beyond.

As observed by John F. Kennedy and on a frequent basis by others after him, though incorrectly, the Chinese word for “crisis” is said to be composed of two words: danger and opportunity. The truth is that crisis present choices and the notion of survival drives increased innovation. TRIZ being a powerful framework for enabling new thinking and innovation thus – in theory at least – becomes even more relevant. However, before we discuss the topic of innovation and its TRIZ connection, let us dissect the current situation and identify the challenges we are facing both at societal and business level.

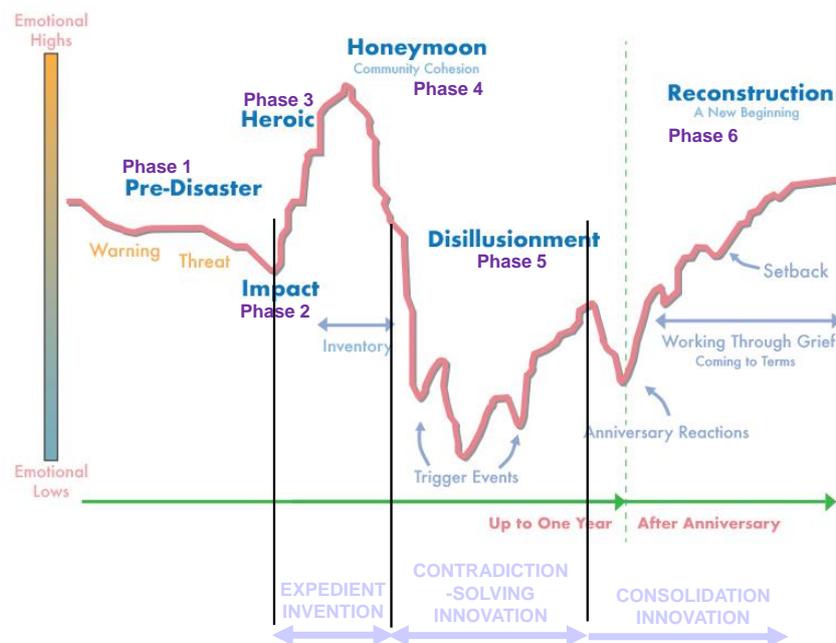
Societal Level Challenges

Hypothesising the society as a complex emergent system would tell us there is much that cannot be predicted. However, this is not the same as saying that nothing can be predicted. By understanding the society from the first-principle level, we can acknowledge we are not completely lost as there is much that can be anticipated and predicted about our emergent future. Events happen at random, but the society’s reaction to those events is not random. With this perspective, it is reasonable to claim that COVID-19 was not a black swan. Neither was the decision to not prepare for it. A pandemic outbreak at this scale was not unknown to the experts. Even we foresaw it using our 2009-published TrenDNA methodology (Reference 1). In addition to predicting the arrival of a 20-25 year ‘Crisis Period’ starting with 9/11/, the book also predicts that crisis will reach its climax

over the period 2020-2025, before society settles down into what might be thought of as a new meta-level S-Curve.

Back in 2009 it wasn't possible to predict that it would be a pandemic that would trigger the climax of the Crisis Period, it was able to foretell that, because society has many wobbling dominoes during the Period, it only takes one to fall over to trigger the fall of many more. Thus, in the UK for example, the crisis is highly likely to grow bigger with the negative consequences of Brexit. Not to mention growing climate change issues. While it is difficult to predict when and where the first domino will fall, the sequence of the other falling is mappable.

The next 4-5 years will be worrying for many people on the planet. That said, it is also clear that there are always winners as well as losers during crisis periods. Periods of crisis tends to spark enormous amount of innovation. The types of innovation opportunity we can expect to see during next 5 years can be plotted using the Disaster Cycle. Before we sketch out our expectations, let us build on References 2 and 3 by taking a look at the Disaster Cycle and its phases:



- **Phase 1**, the pre-disaster phase, is characterised by fear and uncertainty. The specific reactions a community experiences depend on the type of disaster. Disasters with no warning can cause feelings of vulnerability and lack of security; fears of future, unpredicted tragedies; and a sense of loss of control or the loss of the ability to protect yourself and your family. On the other hand, disasters with warning can cause guilt or self-blame for failure to heed the warnings. The pre-disaster phase may be as short as hours, or even minutes, such as during a terrorist attack, or it may be as long as several months, such as during a hurricane season.
- **Phase 2**, the impact phase, is characterized by a range of intense emotional reactions. As with the pre-disaster phase, the specific reactions also depend on the type of disaster that is occurring. Slow, low-threat disasters have psychological effects that are different from those of rapid, dangerous disasters. As a result, these reactions can range from shock to overt panic. Initial confusion and disbelief typically are followed by a focus on selfpreservation and family protection. Hoarding

of essentials is one of the most visible signs of this phase. The impact phase is usually the shortest of the six phases of disaster.

- **Phase 3**, the heroic phase, is characterized by a high level of activity with a low level of productivity. During this phase, there is a sense of altruism, and many community members exhibit adrenaline-induced rescue behaviour. As a result, risk assessment may be impaired. The heroic phase often passes quickly into phase 4.
- **Phase 4**, the honeymoon phase, is characterized by a dramatic shift in emotion. During the honeymoon phase, disaster assistance is readily available. Community bonding occurs as everyone works together to create expedient solutions to the urgent problems that arise (e.g. lack of PPE). Optimism exists that everything will return to normal quickly, and so many organisations will seek to 'batten down the hatches' and weather the storm. As a result, numerous opportunities are available for providers and organisations to establish and build rapport with affected people and groups, and for them to build relationships with stakeholders. The honeymoon phase typically lasts only a few weeks or months. In the current pandemic disaster, it feels like it will come to its end before the close of the year. A lot will depend here on the results of the upcoming US election.
- **Phase 5**, the disillusionment phase, is a stark contrast to the honeymoon phase. During the disillusionment phase, communities and individuals realise the limits of disaster assistance. As optimism turns to discouragement and stress continues to take a toll, negative reactions, such as physical exhaustion, emotional stress, and/or substance use, may begin to surface. The increasing gap between need and assistance leads to feelings of abandonment. Especially as the larger community returns to business as usual, there may be an increased demand for services, as individuals and communities become ready to accept support. The disillusionment phase can last months and even years. It is often extended by the fall of successive societal dominoes.
- **Phase 6**, the reconstruction phase, is characterized by an overall feeling of recovery. Individuals and communities begin to assume responsibility for rebuilding their lives, and people adjust to a new "normal" while continuing to grieve losses. The reconstruction phase often begins around an anniversary of the disaster and may continue for some time beyond that. Following catastrophic events, the reconstruction phase may last for years.

Usually, as soon as we have the impact (Phase 2), the survival kicks in and a lot of initiatives are launched to find new ways or different solutions to cope with the disaster. However, mostly, all this effort leads to expedient invention. The real innovation, as we see it, does not start until the "Disillusionment Period" (Phase 5) properly kicks in. This is in part because, after the heat of the moment, people are finally able to take a breath and actually start thinking about the problems that need to be fixed. But mainly it is because it is only during the disillusionment phase that the contradictions start to become clear. And as is commonly known in the TRIZ community, the vast majority of all actual innovations come when contradictions get solved. How far societies fall during the next 4-5 years will largely be determined by how well the emerging contradictions are or are not resolved. We talk more about this in Chapter 18 of Reference 4. Here, meanwhile, in keeping with the focus on TRIZ, we will zoom in and look at the world of business, the contradictions it is likely to face, and who the likely winners and losers are going to be in the coming years:

Business Level Challenges

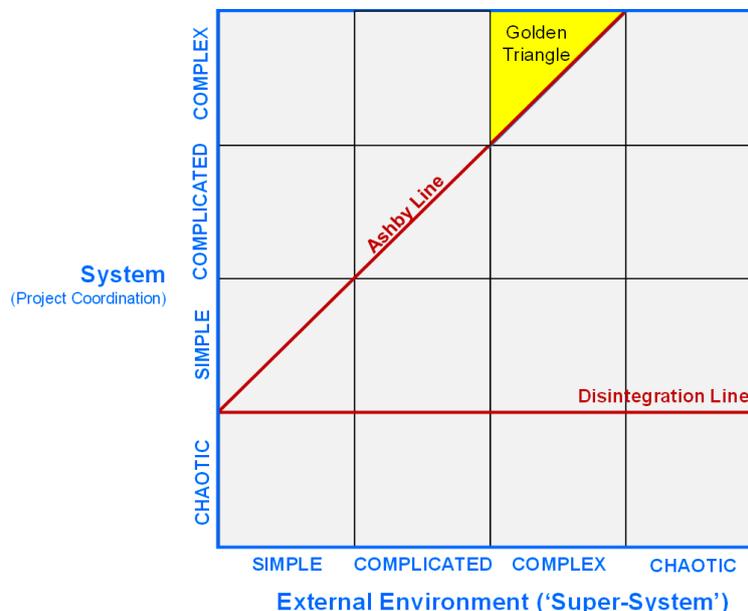
The business paradigm throughout 20th century has been efficiency – mostly disguised as standardisation and optimisation. Reference 5 reports on a number of pioneering

organisations that have experienced the contradictions emerging from this paradigm and what the likely new post-Crisis business paradigm is going to look like:

	20 th century mindset...	21 st century mindset...
Paradigm	Human beings at work are factors of production, charged with producing goods and services.	Human beings at work are factors of meaning creation, charged with improving quality-of-life for all.
Problem	In business, the primary challenge is to maximise operational efficiency by reducing variances and excising waste.	In business, the primary challenge is to maximise effectiveness by empowering people to do what's best for customers
Principle	Operational efficiency is maximised through stratification, formalisation and standardization.	Effectiveness is maximised by eliminating distance between employees and customers, turning employees into a coherent eco-system of entrepreneurs.

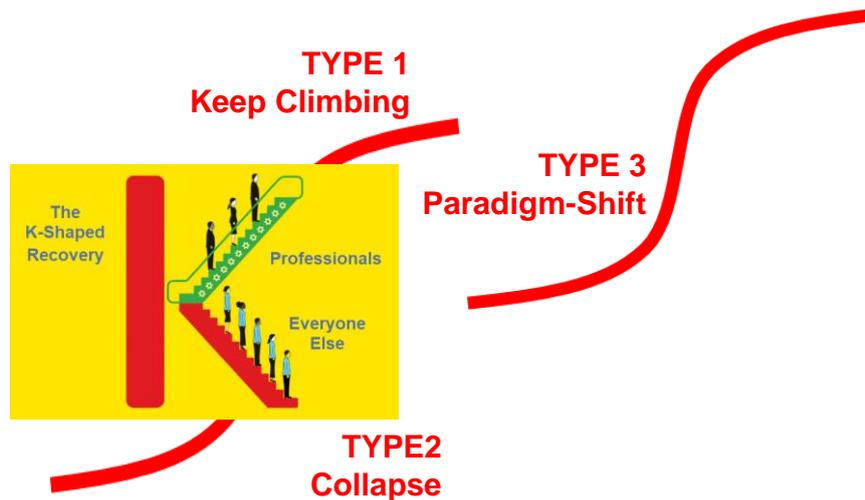
Companies has, being faithfully to their “business advisors”, hammered out variation from their business and opted for such simplification, which reduced their prevailing complexity. This is fine as long as the environment also remains simple, but as soon as the environment shifts towards higher level of complexity, as described in our Complexity Landscape Model (CLM) (References 6-8), the simplification inevitably pushes the business over the edge and into chaos. In other words, such simplification has made business vulnerable against change and stress from the environments.

According to Nassim Taleb, when businesses have become fragile, they are highly prone to failure upon their first encounter with real change (Reference 9). While it may sound like most businesses are doomed, they can actually choose to respond by moving away from the 20th century paradigm and build in more resilience into the way they operate. The key differentiator here is how a business manages the complexity landscape within their structure and systems against the external environment. Using the Complexity Landscape framework, the ideal spot to be on is the Golden Triangle, which enables a company to handle complex systems against a complex environment.



Reaching this place, not surprisingly, requires a deal of internal innovation and innovation capability.

Inevitably, every expert has a view on the current crisis, the economic recession and possible recovery. We believe that the current crisis really emphasizes the survivability and recovery of a business in direct proportion to how resilient it is in its own management systems. As such, we believe this crisis will filter out the winners and losers based on principles in a K-shaped pattern in which we can see three types of enterprise. Type 1 enterprises are those lucky enough to be in rising-tide industries and are able to adapt to the crisis and will therefore keep climbing and be successful. Type 2 enterprises, on the other extreme, will be those stuck in declining sectors and who cannot adapt and escape from old routines. Their most likely destination is collapse. Then there are the Type 3 enterprises. These organisations will be the ones to leapfrog to the next business paradigm s-curve, escape from optimisation dominated practices, and from complexity-incompatible command-and-control management, and become something close to anti-fragile. They will be the biggest winners coming out of the Crisis.



In more specific terms, the three Types presently look something like this:

Type 3: New World

US leading digital companies				China leading digital companies		
Amazon USD107.01Bn	eBay USD85.92Bn	Overstock USD1.66Bn	Alibaba USD394Bn	JD.com USD64.6Bn	Dangdang USD1.48Bn	
Facebook USD17.9Bn	Google USD74.54Bn	LinkedIn USD2.99Bn	Tencent USD15.82Bn	Baidu USD10.51Bn	SouFun USD883.51Mn	
Trip Advisor USD1.49Bn	Expedia USD6.7Bn	Uber USD10Bn*	Qunar USD843.9Mn	Ctrip USD1.82Bn	Didi Kuaidi USD12Bn*	

Type 1: Command+Control Goliaths

Type 2: Command+Control Dinosaurs

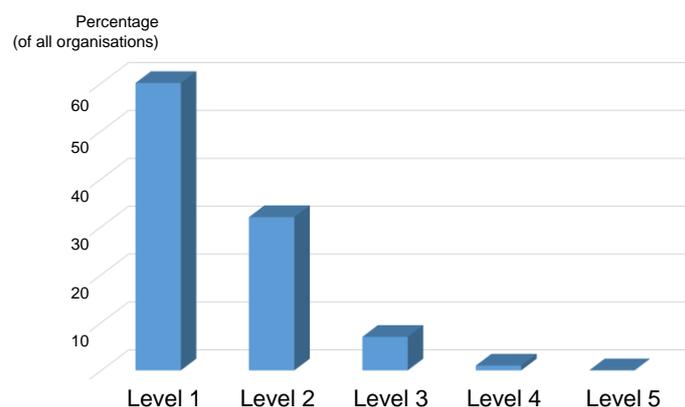
So much for the likely evolution of the business world in the next 4-5 years. Let's now zoom-in one more time and look specifically at the world of innovation:

Innovation Challenges

The past many decades demonstrated how fragile businesses have become by entirely focusing on the advisory and consultancy mantra of optimisation and simplification – often disguised as ‘operational excellence’. While operational excellence is good in the true sense of becoming very good at the routines required to run your business, it often is mistakenly used to remove variations and simplify the business to the point that they are no longer capable of innovating. Unlike in Operational Excellence World, in Innovation World, variation is good. Innovation has been little more than a buzzword in most organisations for the past 40 years (Reference 10). Most likely because nearly all the people in the Board Rooms of the world got there by being Operationally Excellent, rather than breaking rules, disrupting continuity and risk-taking inherent to the innovation process. In practical terms therefore, the large majority of business leaders do not have a clue what real innovation is.

Let us take a step back and redefine the innovation. What is innovation? Without any doubt, innovation requires new ideas, but new ideas alone are not enough. Some would argue that the ideas need to be implemented into practice before it classifies as innovation. Now what if the implemented idea is a failure? Would it still be considered as innovation? We believe that innovation is solely “*successfully*” implemented ideas. The definition of successful can vary and depend on different factors according to different sectors – yet it would imply some kind of beneficial implementation contrary to the ideas which failed implementation.

When there is so many opinions and definitions of a word like innovation, it is beneficial to use a method to measure the Innovation Capability in a company. Innovation Capability Maturity Model (ICMM) (Reference 11) could be one such method to establish deeper understanding to how a business actually is performing with regards to innovation. In our ICMM, the result of 38 years of innovation battle scars and 11 million cases studies, we have defined five levels of maturity where Level 1 is the lowest and Level 5 is the highest. Here’s how the world’s enterprises break down across the five Levels:



The relevance of this picture to the TRIZ world is that the majority of the TRIZ tools and certainly it’s overall philosophical pillars demand Level 4 capabilities in order to exploit them properly. This fact is probably not good for the immediate future of TRIZ. Later on, when the world has more Type 3 organisations – ones that almost by definition have achieved ICMM Level 4 or 5 status – then TRIZ tools and methods will in effect be the only game in town.

The fact that TRIZ currently over-shoots the capability of its market probably explains its position on a Gartner Hype Cycle (Reference 12):

Again, 'TRIZ' is not our word to play around with, so ultimately it is not up to us to decide if or how it is presented to the world in the coming years. Based on the last decade of working with hundreds of clients in over 50 countries, what we can say with a high degree of certainty however is that innovation demands complexity-compatible strategies, whereas too many TRIZ providers stuck in 'complicated' world. Further, the words 'Russian' and 'business' are oxymoronic, such that the 'TRIZ' word is pure poison in the Board Room. Alas, this is where the money required to innovate is located, and so becomes a core contradiction that needs to be solved.

So, where does that leave us?

A few things we can say with a high degree of certainty:

- 1) contradiction-solving is the basis for innovation now and in the future
- 2) Hegel/TRIZ/TOC are the homes of contradiction solving
- 3) the 'TRIZ' name has no serious future...
- 4) ...for the next 4-5 years its best role is 'underground'...
- 5) ...all the time getting ready for 2025 coherence...
- 6) ...when the world will be ripe for a scalable innovation process that will be used by a large proportion of the workforce.

Just like everyone else, in other words, the TRIZ 'community' has 4-5 years to get itself in order, to re-invent how we work together and present ourselves to the world, to create as many Phase 5 Disaster Cycle Disillusionment-contradiction-solving success stories as possible, to help as many enterprises as possible to become Type 3, ICMM Level 4 innovators, and to get ready to rise, phoenix-like from the ashes of the old societal S-curve to take its place at the core of the new S-curve. Which means we have to collectively get out of our current ICMM Level 0 'start-up' position and to create resilient (nay, antifragile) business models (Reference 14). The prize is enormous. And it is ours for the taking so long as we keep it clear in our minds that the 'enemy' is not the other TRIZ providers, but rather the Operational Excellence consulting Goliaths – companies like Deloitte, KPMG, Accenture and the like – that played such a major role in causing the Crisis the world is now in.

References

- 1) Mann, D.L., Ozozzer, Y., 'TrenDNA: Understanding Populations Better Than They Understand Themselves', IFR Press, 2009
- 2) SI E-Zine, 'Crossing The Crisis Threshold', Issue 217, April 2020.
- 3) SI E-Zine, 'Disaster Cycles & Innovation', Issue 218, May 2020.
- 4) Mann, D.L., Ford, B., 'Everythink: A Gravesian Approach To Getting More Out Of Yourself And Your Relationships With Others', IFR Press, 2020.
- 5) Hamel, G., Zanini, 'Humanocracy: Creating Organizations As Amazing As The People Inside Them', Harvard Business Review Press, 2020.
- 6) Mann, D.L., 'A Complexity Landscape', www.darrellmann.com, 31 March 2019.
- 7) SI E-Zine, 'The Resilience Zone', Issue 205, April 2019.
- 8) SI E-Zine, 'The Innovation 'Golden Triangle'', Issue 206, May 2019.
- 9) Taleb, N.N., 'AntiFragile', Allen Lane, 2012.
- 10) SI E-Zine, 'Defining Innovation (40 Years Too Late)', Issue 221, August 2020.
- 11) Mann, D.L., 'Innovation Capability Maturity Model: An Introduction', IFR Press, 2012.
- 12) SI E-Zine, 'TRIZ And The Hype Cycle', Issue 85, April 2009.
- 13) SI E-Zine, 'TRIZ 4.0', Issue 219, June 2020.
- 14) Mann, D.L., 'The Hero's (Start-Up) Journey', IFR Press, 2020.