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Uncertainty as Normality: Navigating Through Complexity

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Outline



We live at a time of grave confusions as the world undergoes tectonic shifts



- The most significant change in this century is **global re-balancing**, evidenced by the rise of China, India, Indonesia, Brazil and other emerging countries
- Global rebalancing is a shift yet to be fully understood by both advanced and developing countries
- **Technology and global-interconnectedness** have enabled firms to operate from multiple locations and supply chains to spread out geographically
- With greater inter-connectedness comes heightened vulnerabilities and risks

A confluence of other factors leads to increased upheavals and uncertainties



- Other parallel transformations include: a demography of **growing population, ageing in the advanced economies and rising youth unemployment**; an acceleration in **urbanisation**; and the threats of **climate change, terrorism and natural disasters**
- Disconnect between the real and monetary sides of the economy remains unbridged
- With this confluence of tectonic shifts, we have seen the deepest financial crisis since WWII, and in short order since the beginning of this year, an Arab Spring, a fiscal crisis in Europe, credit-rating downgrade of the US and another step-down in the financial markets

Current analytical tools inadequate for making sense of the world



- Stormy seas are now the norm – a business which waits for calm to return before sailing will wait forever
- Our current tools of analysis have failed us, in terms of flawed theory, faulty data, wrong diagnosis and blundering prognosis
- **“The difficulty lies, not in the new ideas, but escaping from the old ones.”** – John Maynard Keynes
- To shed light on the new tools, 5 questions and some possible answers to help us think through the new tools

Five questions (and some possible answers) to help us think through the new analytical tools



- Q1: What is the new economic framework to understand this constantly changing world?
- Q2: What kind of leadership is required for today's challenging and unpredictable conditions?
- Q3: How can risk be managed and mitigated, in the face of persistent global uncertainty?
- Q4: Is there a limit for markets and institutions to continue as before?
- Q5: How can businesses, especially Asian businesses, weather complex uncertainties ahead?

Q1: What is the new economic framework to understand this constantly changing world?



- **Markets and social systems are networks.** We cannot understand global inter-relationships between technology, finance and the real sectors by just looking at the parts, but must study the interaction between the parts
- Networks are governed by 'self-organisation' and the equilibrating process (transition from one stable state to another) could be stochastic, highly dynamic, not easily predictable, abrupt and even disastrous because **behaviour is non-linear**

We need a holistic, system-wide, multi-disciplinary framework to understand the world



- We have to move out of the partial analysis of economics into systems thinking that has been widely applied in ecology, biology, physics and other disciplines
- **Systems-thinking** is line with “old school” Asian perspectives and require us to study not only the architecture of networks, but also the standards, incentives, processes and feedbacks
- A network analysis is useful for 'mapping' how markets interact, evolve or adapt as a series of complex, scale-free networks that possess key characteristics

Q2: What kind of leadership is required for today's challenging and unpredictable conditions?



- Even though the government has, particularly in Asia, taken a lead in driving economic development, the ability to effect change depends primarily on the private sector, especially **business leadership**
- Given that the room for leadership in the public sector is likely to be limited and limiting, the only breakthrough possible is for the private sector, especially business leaders, to seize the initiative for change

Right framework and mindset are cornerstones of solid leadership

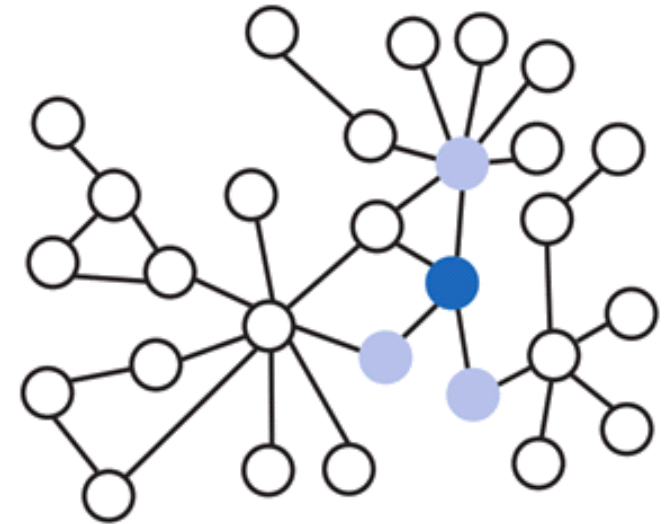


World Bank TORR Framework		PEST+ Framework	
Transformations	What underlies structural change? Power shift from Advanced to Emerging Markets – beyond Washington Consensus	Political	Global collective action trap with national gridlock
Opportunities	Equitable sharing - Broadening opportunities through research on inequality, gender and governance	Economic	Global re-balancing, but resource constraints from climate warming
Risks	How to manage vulnerability to environmental, trade and financial shocks – importance of social safety nets and global commons, food security etc	Social	Need for massive job creation and green lifestyle + dealing with social inequities
Results	Policy prescription on best practice, best fit, what works	Technology	Social media changing feedback mechanisms that create 'flash instability', but also opportunities for social interaction
		Mindset	From partial to Systems-thinking; from self to global community (the debate is over who governs the global community)

Q3: How can risk be managed and mitigated, in the face of persistent global uncertainty?



- Networks connect with each other through **nodes, hubs** and **links**
- A complex system can collapse if disruption occurs in a sufficient number of nodes
- **Looking at networks** forces us to examine vulnerability of nodes and links, feedback loops, system standards, channels, hidden connections, and weakest links, as well as network behaviour, such as herding or cyclicity



Contagion risks are now concentrated in three areas: public health, finance, and critical infrastructure sectors



Global shock	Hazard	Precursors	Uncertainties	Global vectors	Frequency
Pandemic	Human influenza	National epidemic threshold exceeded	Location and timing of onset, attack rate, morbidity and mortality	Travel in aeroplanes, wild aquatic birds	μ ~30 years
Critical Infrastructure Disruption	Zero day exploit of virus or worm code	Terrorist threats made in advance	Cross-border interdependencies	Internet, USB keys, DVD, CD, floppy disk	?
Financial Crisis	Massive bank illiquidity/ insolvencies, currency crisis, sovereign default	Asset bubbles, sudden rise in spread of bank rates	Amounts of bank debt exposures	Interconnections of bank debt holdings, common currencies and pegged currencies	?
Geomagnetic storm	Geomagnetically induced current	Coronal mass ejection	Ranges of latitude exposed to direct impacts	Critical infrastructure disruptions	Peaks during 11-year solar cycle
Social unrest	Political revolt or revolution	Riots, protest demonstrations	Duration, severity, credibility	Affiliation of political, religious or cultural identity	?

Source: OECD Future Global Shocks Report, July 2011

Some basic tools in examining networks and managing risks



- First, networks should be 'mapped out' to find out the size and vulnerabilities of the nodes and linkages
- Second, **dynamic modelling** of the system so that there is a systemic perspective to the feedback loops and inter-relationship of shocks as well as direct and indirect costs
- Third, '**stress test**' should be applied at the nodes and crucial linkages plagued by vulnerabilities
- Fourth, **end-to-end forensic studies** to trace the evolution of transactions, products and processes as they move throughout the system

Q4: Is there a limit for markets and institutions to continue as before?



- Fundamentally, we have two simultaneous crises with one common origin – **overconsumption of global resources financed by over-leverage**
- The first is a short-term financial crisis, largely a crisis of fiat money, with central banking that essentially ignored the monetary and financial stability impact of credit created by the shadow banking system
- The second is a medium to long-term crisis of global warming or ecological degradation. Pressure on fossil energy, water, foodstock of marine life, tropical rainforests and polar ice-caps may ultimately lead to irreversible damage to our eco-system

Post-crisis, global institutions at government, business and civil society levels will emerge



- Partial and self-interested mindsets create **fallacy of composition** (the problem does not add up) and failure to arrive at common solutions for global and national problems (**collective action trap**)
- More frequent crises (**Black Swan is New Normal**) provide impetus for governments to work together to avert future shocks
- Businesses and NGOs which were previously national will create new global institutions and forums for global solutions.

Q5: How can businesses, especially Asian businesses, weather complex uncertainties ahead?



- To deal with the complexities of a sustainable global new order, we need to break out of the gridlock that appears to haunt global and regional room for manoeuvre
- It is common to call for leadership, but in the absence of such political and intellectual leadership, what should Asia do?
- In the meantime, the rise of Asia has brought about expectations over its role in shaping the future world order



Asian cooperation is likely to be bottom-up rather than top-down

- The interpretation of Asian economic cooperation starts with the growing level of intra-Asian trade, today at nearly 55% of total trade, not the stop-start phases of Asian political cooperation
- Asian cooperation has been **pragmatic** and **business-like**, driven more by the formation of the Asian global supply chain than regional diplomacy
- We need more than ever a broader, inclusive analytical framework so that Asia can engage the world in global discourse as partners of global sustainable development

A complex adaptive system of Asian cooperation is likely to be multi-dimensional, with increasing business-to-business interconnectivity



- Social networking is integrating Asia (not just within Asia, but with the rest of the world) in ways we could not imagine only five years ago
- Institutionalisation of business communities, civil society and even government bureaucracies will be transformed by the new Social Networking
- The Fung Global Institute (FGI) is one such institutional innovation to generate and disseminate innovative thinking and business-relevant research on global issues from Asian perspectives

Seven Lessons for Leaders (1)



Lesson #1: Promote systems change, foster community and cultivate networks

Lesson #2: Work at multiple levels of scale

The challenge for change agents is choosing the right level, or levels, of scale for the changes they seek. The answer is often working at multiple levels: top down, bottom up, outside in, and inside out.

Lesson #3: Make space for self-organisation

Fritjof Capra: "Life constantly reaches out into novelty, and this property of all living systems is the origin of development, learning, and evolution."

Lesson #4: Seize breakthrough opportunities when they arise

From time to time, however, a system encounters a point of instability where it is confronted by new circumstances or information that it cannot absorb without giving up some of its old structures, behaviours, or beliefs. That instability can precipitate either a breakdown or — due to systems' capacities for self-organisation — a breakthrough to new possibilities

Seven Lessons for Leaders (1)



Lesson #5: Facilitate – but give up the illusion that you can direct – change

Humberto Maturana and Francisco Varela, "You can never direct a living system. You can only disturb it." How do you disturb a system?

- By introducing information that contradicts old assumptions
- By demonstrating that things people believe they can't do are already being accomplished somewhere. By inviting new people into the conversation
- By rearranging structures so that people relate in ways they're not used to
- By presenting issues from different perspectives

Lesson #6: Assume that change is going to take time

"Quick fixes are an oxymoron," says Margaret Wheatley. "If leaders would learn anything from the past many years, it's that there are no quick fixes. For most organisations, meaningful change is at least a three- to five-year process"

Most importantly...



Lesson #7: Be prepared to be surprised

- Change in living systems is nonlinear
- As they develop and evolve, living systems generate phenomena that are not predictable from the properties of their individual parts
- Frequently, it is the unanticipated consequences that are the most rewarding and effective results of immersion in dynamic systems

THANK YOU