

Practicing *the Art & Science of “Self Regenerative” Organization*¹

Partha S Ghosh

"No great discovery was ever made without a bold guess" – Isaac Newton

During the past ten to fifteen years, several powerful trends, - a few visible and some less so, have been emerging at different speeds. Together they could directly and/or indirectly influence and if not fundamentally transform the shape of the global economic landscape which leaders of businesses cannot afford to neglect.

History shows that it is during times of mega-transition and/or discontinuities that new ideas are born and new rules take root. As partners of our clients, we continually examine how leaderships of organizations should find the bright spots that are often hidden in turbulent competitive landscape(s), in turn define the likely game changing plays that they could organize in moving forward.

Particularly, those industries like automotive, energy and minerals, pharma/biotech, and transportation which are technology and capital intensive, and form the fundamental backbone of the global economy, will need to adjust to the emerging trends so that the promise of value creation is continually advanced in balance with the various expectations of multiple constituencies/stake holders.

Indeed with the increasing speed of globalization and convergence of technologies across industries leadership of companies will be well served to (i) examine how the new trends could offer opportunities to unleash higher level of sustained economic yields (ii) explore how today's organizational models that might be constraining businesses from harnessing the new possibilities and in turn (iii) determine how the future models might evolve that will have functionalities of regeneration that will enable companies to continually adjust their agility and adaptability to navigate through an increasingly volatile environment.

Keeping the Emerging trends in Perspective

It is my belief that seven emerging trends will have profound impact on how industry leaders will *shape their strategies, develop their organizations and run their operations.*

¹ *Transcription of the keynote address at the Art of HR conference organized by Cortugli Business School, Dubrovnick, Croatia, September 2014*

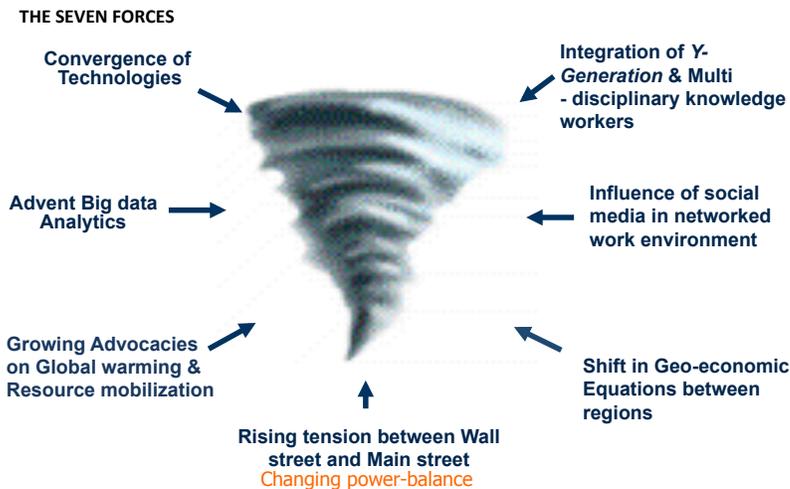
1. **Convergence of technologies** will create new economic ecosystems: Fresh perspectives on how new possibilities might evolve at the confluence of *tera-level to nano level* technologies will be essential
2. **Influence of Big Data and Advanced Analytics:** Velocity of value creation and speed of responsiveness based on real-time granular/high resolution insights on consumer/market and competitive behaviors, in turn industry dynamics that will define competitive advantage
3. **Intensifying concerns and advocacies on global warming and resource constraints:** Efficiency of resource mobilization in harmony with a diverse range of, frequently conflicting expectations of a full range of stakeholders and activists on preservation of the environmental integrity will need to be increasingly revered
4. **Y-Generation and “value mobilization” of knowledge worker:** Cross-generational organizational models must be nurtured in order to reconcile the increasingly diverse range of attitudes within the workplace and to create a common purpose and shared expectations in integrating/unifying increasing diversity of knowledge streams
5. **Deepening influence of social media on the evolving networked environment:** Leading (*distinct from managing*) in a world connected through social media will require higher level expression of genuine & dynamic empathy, transparency & ethics of thought and work flows, *through innovation in leadership development models*
6. **Shift in geo-economic equations between regions:** New modes of engagement with different regions will require approaches that are more tailored towards local communities, bound within a multifaceted, universally accepted global framework that sets out the precepts of *good corporate citizenship*
7. **Rising tensions between Wall street (wealth creation) and Main street (social good):** New operational models will evolve that dynamically integrate (not just balance) social consciousness/macro economic requirements with the investment community’s growing demands for better economic returns – perhaps charting a new course in the evolution of capitalism

It seems evident that the combined effect of these seven forces could create a tornado like effect (Exhibit 1) to transform the worldwide business environment. During such a time in history no organization can afford not to harness the influence of the above trends for exploring and securing the prospects of quantum leaps both in terms of value creation and value delivery.

Exhibit 1: Power of the Seven Trends = Tornado like effect?

Multiple Powerful Forces at Work?

Net, a Tornado is in the making?



On a philosophical level, we must realize that economic life across “*industries in transition*” is a grand dynamic experiment likely to give birth to new ecosystems; we may not know the best answers to emerging questions, but we do know that, when human ingenuity has been applied to creative work, our collective social intelligence has always uncovered *better ways to create and deliver value*.

Just as the steam engine revolutionized transportation, textile and metal-working industries, the internal combustion engine and electronics gave birth to mass surface and air transportation, and spawned a host of new industries such as industrial, consumer and commercial electronics, now, the convergence engine² is redefining and/or improving productivity of conventional industries³, and opening up new industries.

² Economic value created through the *convergence* of the four Cs: **C**ommunication (*broadband wireless connectivity towards “always on” infinite bandwidth*), **C**omputing (*distributed embedded intelligence with increasing processing power for crunching of data/information real time*), **C**ontent (*interactive knowledge- informative to insights*) and **C**ommerce (*electronic and mobile, - enabling short and long micro transactions*) leading to development of mobile 24/7 knowledge-based services and businesses

³ Thanks to the power of convergence, today the travel industry is able to make unutilized spots in airplanes and hotels available to last-minute consumers through Internet services such as Priceline, Expedia and their own websites. With greater visibility into their real-time inventory, airlines and hotels are able to generate incremental revenue at little to no incremental cost, thereby enabling enhanced market efficiency. Even with substantial discounts, this creates a win for the provider and a win for consumers. While such last-minute special offers are most profound and have become popular in the travel industry, real-time visibility into perishable and unutilized inventory combined with variable pricing models, creates breakthrough value in many industries.

Exhibit 2 briefly discusses the nature of transformational adjustments company leaderships might consider to make in order to avoid disruptions to their business models and to capture the significant value creation possibilities that exist on the upside.

Exhibit 2: Trends that will offer opportunities for strategic transformation

Seven Trends that will influence Business

Emerging Trends	Critical Observations	Strategic Implications
<p>1 Convergence of Technologies</p>	<p>Convergence of Nano/Opto/info and Systems level Technologies will drive value creation Cross industry innovation platforms will give rise to new & dynamic ecosystems</p>	<p>Integrating multiple emerging technologies such as imaging, sensing in synch with info, opto and nano sciences and conventional technologies will determine future competitiveness</p>
<p>2 Advent of Big Data & Advanced Analytics</p>	<p>High resolution data along with advanced analytics to bet on strategic and CAPEX options will require new skill sets and decision making discipline that will profoundly transform industry landscape</p>	<p>Building on advanced information processing technologies to characterize market behaviors with next wave of mass customization technologies will significantly enhance the economic yields of assets</p>
<p>3 Growing Advocacies on Global warming & Resource mobilization</p>	<p>International and National advocacies focused on Global warming and local ecosystems & conservation of national resources will continue to draw rising public attention</p>	<p>Increasingly holistic approach and higher level of sensitivity to resource development including CO₂ sequestration and water recycling will be expected</p>
<p>4 Integration of Y-Generation & Multi-disciplinary knowledge workers</p>	<p>As Y generation knowledge workers take increasing roles in the work space corporates will have to learn how to deal with multi-generational expectations and aspirations</p>	<p>Particularly to address the issues related with generational transition and convergence of multiple technologies, new organizational models to integrate diverse attitudes, skill sets and work habits must evolve</p>
<p>5 Influence of social media in networked work environment</p>	<p>Democratization of knowledge enabled through www and social media are transforming ways people interact in the work environment</p>	<p>In view of increased complexity & diversity of assets corporates must consider welcoming this trend to develop more network centric & transparent decision making architecture</p>
<p>6 Shift in Geo-economic Equations between regions</p>	<p>Emerging economies' share of global consumption & production power will go ahead of G8 which will lead to new models of "economic diplomacies"</p>	<p>Organizational processes will need to on one hand become sensitive to & customized to local environments, and on the other develop integrated innovative universal organizational framework</p>
<p>7 Rising tension between Wall street and Main street</p>	<p>Increasing media & advocacy focus on unemployment & income gap will require companies to participate in social & job creation programs while meeting higher economic expectations</p>	<p>Organizations will need to reimagine new forms of <i>Public-Private Partnerships</i>(PPP) and corporate citizenship in advancing social programs which are directly/ indirectly related to the core wealth creation process</p>

Indeed, it is interesting to note how industries are unlocking significant value by using the power of convergence in reconfiguring ways multiple industries interface with each other;

particularly as technological specialization continues and globalization enables more efficient division of skill sets (manual or knowledge workers) across global industries, companies' *competitive edge* will be increasingly defined by how "creative collaborative arrangements" are defined. For example:

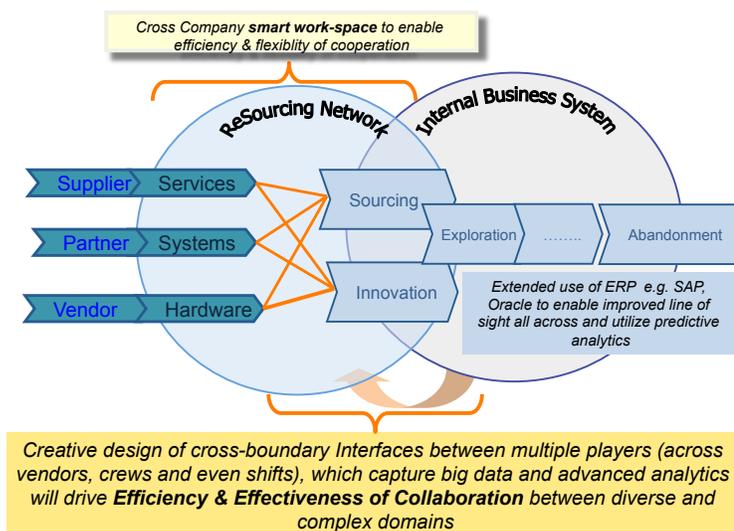
A recent collaboration between John Deere (JD), Dow Chemical and BASF provides an excellent example of how companies might develop innovative cross-industry collaborations to create new ecosystems and additional value, and/or improve productivity. When JD introduced an online service for farmers, Dow Agro Sciences and BASF collaborated, helping farmers make site-specific decisions about seeds and chemicals, as well as monitor crop development to improve yield and manage costs.

A cooperative R&D project sponsored by Chevron, ExxonMobil and Royal Dutch/Shell, in partnership with HJW Geospatial Inc. and the Geosat Committee Inc. The project proved that sophisticated airborne hyper-spectral sensors were capable of detecting oil seeps and oil-impacted soils. Similar partnerships and dynamic knowledge management will continue to play an important role in the future of evolution of industries.

Furthermore, every industry must realize that convergence engines (in the form of *i-phones and i-pads*) have put extraordinary power in the hands of executives. The convergence engine is transforming how people search for and process knowledge, but it also has the potential to achieve previously unattainable improvements in efficiency. Indeed new designs for *smart cross boundary workspaces* and new *dynamic formats of alliances enabling intelligent rhythms* of teamwork across industries, - could unlock significant gains in productivity (Exhibit 3).

Exhibit 3: Design of Smart Collaborative workspaces is Essential

For example in the Oil & Gas sector new intelligent collaboration models are evolving *through creative use of the power of the Convergence (of 4Cs) Engine*



Accordingly today collaborative business models assisted by real time big data and advanced analytics is potentially enabling organizations to (i) design experiments and pilots (ii) assess risks and choices (iii) manage technology pipelines (iv) control costs in mega-capital projects (v) capture behavioral trends of consumers to configure products/services to their real time needs, (vi) develop and track environmental-protection programs and community-focused services and, most importantly, (v) structure and make more insightful, real-time strategic choices (based on greater analytical rigor of the likely economic returns).

The Limits of today's Organizational model (?)

"Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it" — Isaac Newton -

In order to achieve such a virtuous dynamics at the different echelons of value addition, leaderships have to drive the convergence of multiple disciplines of thinking and engineering with as much vigor, as we have to think of new "R&D constructs", "Design & Engineering principles" and technology alliances with "out-of-the-box" possibilities, with "systems engineering" rigor in our minds.

While leaderships of many global organizations I have had the privilege to serve, have all made efforts to adjust to the new environment, only a very few have succeeded in fully embracing and benefitting from the value of the new environment. Most often organizations do not realize the nature of organizational shift that is required cannot be achieved with marginal changes in the organization model that evolved - influenced by (i) time and motion studies/industrial engineering and (ii) militaristic model of command and control to achieve efficiency and scale, through the nineteenth century and 20th century.

Exhibit 4: The limits of 20th century organizational model

Today we are indeed limited by the organization principles (e.g. Time-motion, Command & Control mechanisms) of the early 20th century

THE EMERGING ENVIRONMENT
(Global socio-economic dynamics)

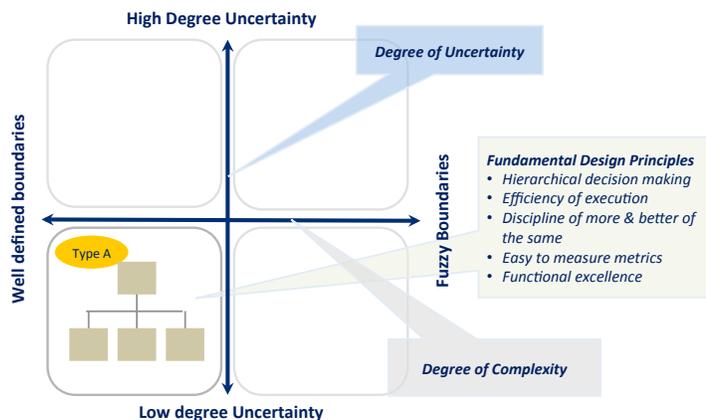


Exhibit 4 illustrates that when an organization’s environment is characterized by degree of uncertainty of the business conditions a business has to navigate through (the vertical axis), and nature of external interfaces an organization has to work with (the horizontal axis), much of the last 150 years, the corporations as we know them today evolved in the Type A mode

The fundamental organizational principles that companies have worked with were to enable

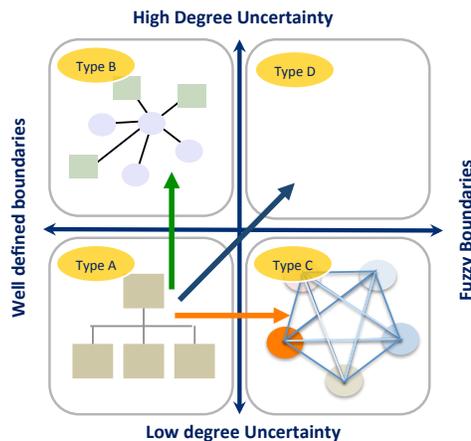
- *Hierarchical decision making following the command and control structure of militaristic system*
- *Efficiency of execution through heavy dosages of industrial engineering*
- *Discipline of more & better of the same to gain scale effect*
- *Easy to measure metrics that will track financial outcomes*
- *Functional excellence to enable specialization of tasks, often making integration increasingly difficult*

Given the fundamental nature of the above principles that have shaped decision making and working habits of executives through most of the 20th century, marginal efforts made by traditional organizations to adjust to the emerging environment shaped by the seven forces, have not had the desired out come. A few organizations that have tried to adjust to the new environment by (i) developing and accommodate different shapes and forms of start-ups and newer organizations to cultivate more flexibility to deal with uncertainty (Type B mode in Exhibit 5), and/or by (ii) innovating nexus with initiatives external to the organization in securing often fuzzy synergies between multiple skill sets (type C mode in Exhibit 5), have had limited success.

Exhibit 5: Vectors of Change

The emerging environment will require fundamentally new approach in the design of future organizations

THE EMERGING ENVIRONMENT
(Global socio-economic dynamics)



Only a few conventional organizations have taken zero based approach to evolve a new organizational model which could deal with high degree of uncertainty and high degree of

fuzziness at the same time to be in type mode D (Exhibit 5) which is independent of the legacy effect of the 19th and 20th century organizational constructs. After all we must realize as Newton concluded *"Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it"* apply to corporate organizations as well.

The New Art of HR: Cultivating Regenerative Organizations

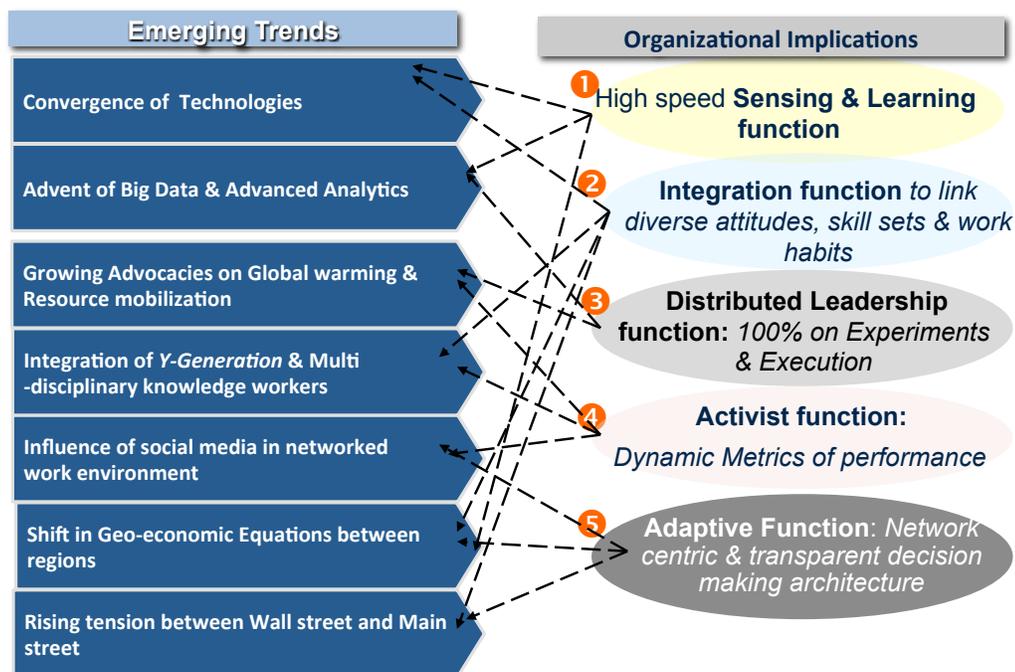
"Anyone who has never made a mistake has never tried anything new." - Albert Einstein

So we must first ask what must be the nature of change companies must embrace? In order to develop the likely answer(s) we must first envision what might be the new set of basic specifications organizations must satisfy to be able to embrace and leverage the seven trends that we discussed earlier.

Given the likely scale of impact and the degree of change that might be required to accommodate the organizational implications of the seven trends we have to begin the thought process with zero biases from the past models. Exhibit 6 outlines the five essential requirements organizations must meet to leverage the power of the seven trends.

Exhibit 6: Organizational Requirements to embrace the seven trends

So we have to understand how the seven trends might influence the future Organization



Organizations will need to reimagine new forms of Public-Private Partnerships(PPP) and corporate citizenships in advancing social programs which are directly/indirectly related to the core wealth creation process

In view of the fundamental nature of change that will be required, CEOs and the leaderships of organizations who are *not* continually asking themselves how they can harness the power of the seven trends and reflect the five specific functions in the day-to-day running of their enterprises, are likely to get blind sided. In order to avoid this, it is important to understand the importance of each of these functions and how they have to be synchronized so the future organizational model could emerge. Below we have discussed the strategic and operational significance of the five functions (out-lined in Exhibit 6).

1. *High speed sensing and learning function:* In an accelerating knowledge intensive environment, which is vulnerable to sudden disruptions, an important function an organization must continually develop is its ability to sense and learn from the emerging trends; in large extent increasingly an organization's capacity to win competitive games will be determined by how sharper and smarter is this function relative to its competitors. In turn corporate leaderships should aspire to cultivate a culture of intellectual ferment that is enduring and self-energizing, and truly celebrates "*the spirit of inquiry*" and cultivate the courage for "*imaginative leaps*".
2. *Integration function:* Organizational mechanisms, *both formal and informal*, that enable cross-pollination and/or cross fertilization of new trends/thought streams in turn enable germination of ideas within an organization, across business units and the corporate center, to enhance an organization's ability to drive new advances, will need to be established. Integration mechanisms should also facilitate collaboration with the innovation centers external to the enterprise such as technology vendors, partners and academia/national labs.
3. *Distributed leadership function:* An organization's ability to develop and empower executives to make bold decisions (based on analytical rigor) and to inspire teams close to day to day operations, will determine how it speedily responds to rapidly evolving opportunities and/or competitive threats. CEOs must pay considerable attention to cultivating a leadership culture that (i) ensures everyone in the company feels genuinely responsible for their domain of influence – from immediate areas of interest to the widely accepted precepts of protecting the natural environment and meeting social obligations, (ii) engenders a high degree of commitment to performance, so that every one across the value chain at all levels of the organizational hierarchy naturally manage their individual and collective performance with a Kaizen spirit (continuous improvement) – *to continually seek higher levels (benchmarks) of productivity of assets and resources (hard and soft) worldwide*, (iii) goes beyond incremental improvements and searches for and implements big game-changing shifts with the potential to revolutionize the industry.
4. *Activist function:* It *represents a discipline* that will provide an organization with the ability to challenge status quo and move out of comfort zones to find new sweet spots. This function must help executives challenge current value creation thesis and business model in structuring new choices accordingly organize myriad of ideas/conceptual

breakthroughs into discrete, new and meaningful innovation platforms. Executives responsible for such a function should, as a matter of course, assess outcomes from a range of experimental perspectives, while ensuring that specific micro and/or mega forces that are triggering and driving the trends in the environment are continually examined in relation to current business model.

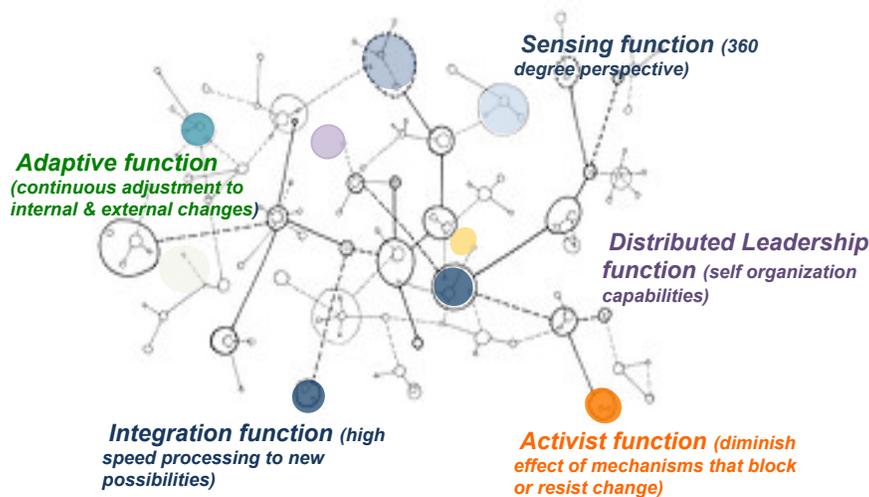
5. Adaptive function: This function must be embedded in organizational units so that both corporate center and business units have the flexibility to make rapid organizational adjustments in terms how resources are mobilized and how the reporting lines are rewired; so that when required a company has the ability to switch from one game plan to another game plan in navigating through an increasingly turbulent competitive environment. Particularly in those industries where rapid convergence of technologies are increasing the likelihood of unforeseen outcomes leading to sudden disruptions, the adaptive function must keep the innovation process alive, in turn often serendipitously expand the possibility of specific outcomes

Accordingly the nature of strategic/operational orchestration and cultural change that will be required to instill and build the five functions, active engagement from the CEO and senior leaders is essential. In the context of the evolving environment, the role of the CEO must shift from “conductor of the orchestra” to “scope enhancer and harmonizer of multiple orchestras”, - each orchestra representing each of the five functions in a networked organizational model (Exhibit 7).

Exhibit 7: Future Organization: Network/Orchestra of the Five functions

In the process both Internal & External Innovation Networks could emerge with “adaptive and agility” properties

NETOWRK OF FIVE ESSENTIAL FUNCTIONS OF THE FUTURE ORGANIZATION



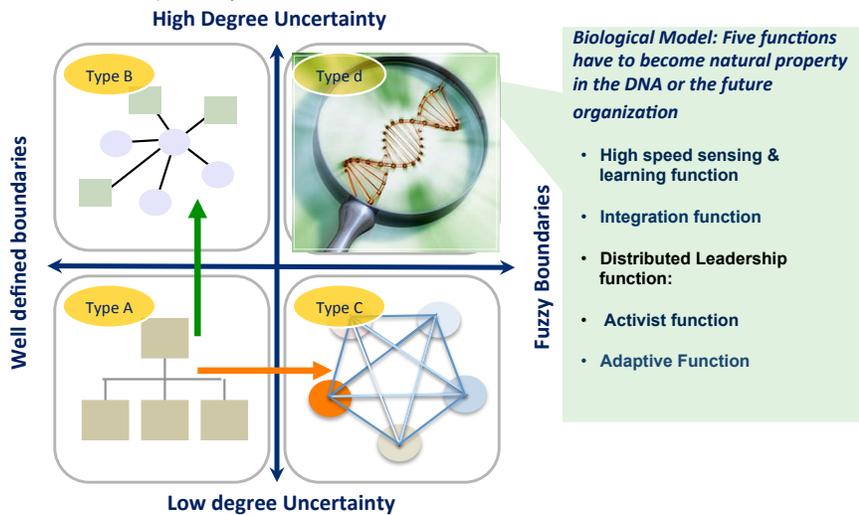
In partnership with the leadership of Human Resource/Talent management, the Chief Technology Office (CTO), and the Strategic Planning office, the CEO will need to nurture an innovation culture, so that the company can go beyond incremental improvements and search for, pilot and test, scale and implement game-changing strategies with the potential to revolutionize the industry. As the five functions mature in organizations, CEOs must continually challenge the boundaries of their businesses and inspire their organizations to renew their value propositions, with a broader and deeper understanding of economics across the value chain of the industries they play in and serve.

In summary, for organizations to achieve their full potential they will need to shift from a mechanistic command-and-control model to a self-enriching, adaptive biological model (Exhibit 8). This would improve the management of knowledge as enabled through organizations’ learning, information processing and knowledge (creating, sharing and filtering) management capacities and capabilities. Each process is *self-enriching* when managed correctly, and *self-consuming* when managed poorly. It is important the CEOs and their leadership the teams, help their immediate environment invent new organizational mechanisms which “*involve and inspire*”, are “*knowledge enriching*” centric, and not “*command & control*” and/or “*ego-centric*”.

Exhibit 8: Future Organization: Network/Orchestra of the Five functions

Accordingly the emerging environment will require fundamentally new approach in the design of future organizations

THE EMERGING ENVIRONMENT
(Global socio-economic dynamics)

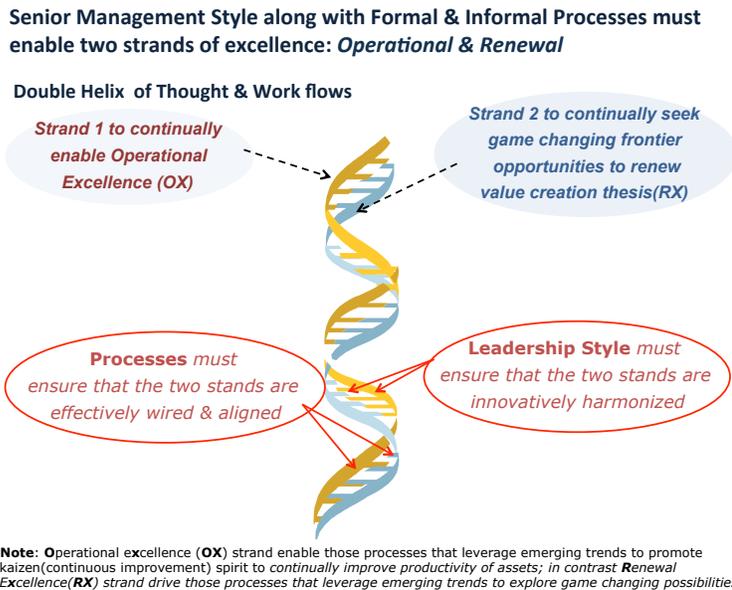


In order to make the biological model with the five critical functions become active, organizations will need to sync two fundamentally different initiatives:

1. Short-term “quick win” initiatives: to do more with less, and reconfigure and improve value propositions from the past for future use
2. Longer-term “change” initiatives that will enable the development of new pathways to value capture/creation and economic advance

The Double Helix organizational construct (Exhibit 9) will enable the evolution of two kinds of independent thought-flows and workflows. Strand 1 in Exhibit 7 shows how the five functions can be best configured to achieve Operational Excellence (OX) for current business models. Strand 2 focuses on Renewal Excellence (RX) to leverage the same five functions to pursue transformational game changing opportunities.

Exhibit 9: Double Helix Organizational Construct



What is important is that leadership of organizations on one hand support the independent development of both strands to the fullest extent, while on the other hand ensure that there is smoothness and a natural rhythm in the working dynamics between the two.

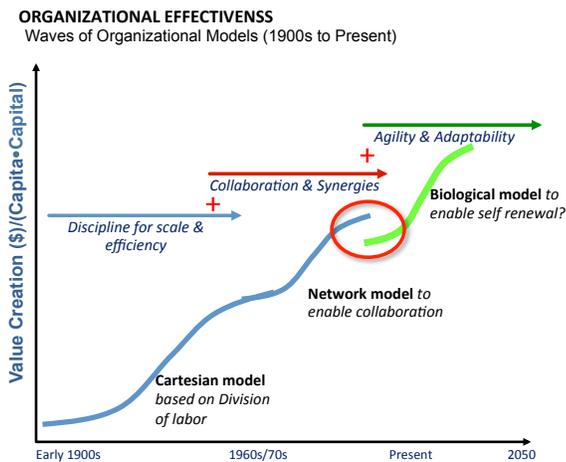
Parallel to the day-to-day initiatives aimed at achieving performance excellence, companies must develop a culture that makes sense of and engages with creative, un-tested opportunities ahead of their strongest rivals. Corporate leaderships have to find ways to explore the frontier trends by developing and fusing new skill sets with conventional wisdom that they have earned over decades of experience, - to drive the *next era* advancement of the industry. There

are no best practices for nurturing innovation; the CEO must create an environment that will cultivate internal structures, processes and leadership styles suitable for this purpose – and make the double-helix organizational processes a reality.

As the Exhibit 10 illustrate we are indeed entering a new era in the evolution of organizations, one that will require *new thoughts* and *new responses*. Since the early nineteen hundreds the essential focus of organizational design has been on the discipline of managing efficiency and scale, then over the past three decades, additional thoughts have developed around collaboration and synergies, and since the beginning of the new century the need for agility and adaptability have increased significantly. The real test in the drive for progress is, perhaps, how courageously and effectively leadership of companies can balance the opportunities for a *paradigm shift* with the successful execution of the day-to-day requirements of running a globalizing enterprise.

Exhibit 10: Eras of Organizational Development

We are indeed at the cusp of renewing the Art & Science of how organizations will work in the future



In the next decade, with so many changes occurring in and around every sector of the global economy, it is my firm conviction that those companies that will have the courage to experiment with new arts & science of HR, will define the future of the global enterprise and determine how businesses will transition to a *new era*.

* * *

Triggered by the emerging seven forces, the changes that are taking place in the global economic landscape are indeed significant. Equally significant will be the nature of changes the organizations will need to undertake to serve the emerging opportunities. It is my hope the new dynamic will not only create a new wave of profound innovations in product design, market mechanisms, and value delivery processes, but will also significantly enhance how organizational units will work with each other and imagine possibilities beyond our normal comprehension.

Particularly as the world shrinks and get exposed to higher level of economic and political turbulences, the resulting interactions between different human tendencies and inclinations will have profound impact on interpersonal relationships and ways companies do business across the globe. Significantly more softer elements of leadership will be important: - the values and beliefs of the corporation have to be strongly embedded in the decision making architecture of the global enterprise so that managers closer to where competitive games are played are fully empowered to be able to make quick and informed decisions. The New Art and Science of HR will get accordingly defined, as it will define the future organizational models.