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Strategic Foresight for Boards: Shaping the Future

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READING MATERIAL

Board Stewardship with Foresight and Future - Driven Strategies

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“Over the next decade, waves of exponential technological advance - ments will eclipse decades of breakthroughs in scale and impact. Emerging from these waves are 20 Megatrends, likely to revolutionize entire industries (old and new) and redefine tomorrow's generation of businesses and contemporary challenges and transform our livelihoods from the bottom up”, says Peter Diamandis, Founder of XPRIZE and Singularity University

Exponential/ Disruptive technologies are transforming and reshaping the world, and are leading to many of the current changes/ disruptions. Fusion of technologies is blurring the lines between the physical, digital, and biological spheres. Technological research is impacting life, societies, economies and the planet (environment, ecology) more and more. In another sign of times, much of this leading edge research is shifting from highly regarded and established academic institutions to technology giants like Google (Alphabet), Tesla etc. The research is also becoming increasingly aspirational and business-oriented (IPR creation for commercial exploitation being a major objective),

with moonshots being talked of and attempted almost routinely. Technology has turbo- boosted both the rate of the change in the world, and the scale of that change.

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How do Boards deal with the paradox exponential technologies are creating for businesses: a future where unlimited opportunities and existential threats coexist? What kind of stewardship is needed to harness the headwinds of disruption, and convert potentially destructive forces into energy for powering the sails for companies' continuing success and growth? What new skills and insights need to be acquired for this purpose?

Strategic Foresight

Strategic Foresight is an invaluable tool available to Boards for this purpose. It uses technologies like Artificial

Intelligence, Big Data to analyze trends, capture all current developments including weak signals, and visualize alternate possible future scenarios. Joseph Voros Futures Cone helps clearly define and bring out the different kinds of possibilities:-

- What are the possible futures? This is the full range of events that could unfold.
- What are plausible futures? This is what we believe is possible but unlikely.
- What are probable futures? This is what is most likely to happen.
- What are preferred futures? This is what we want to happen.

Armed with extensive information and deep insights offered by the above outcomes deriving from the Strategic Foresight process, the Board can deliberate and select the preferred future. It can then use backcasting and other Foresight tools and techniques for formulating winning corporate strategies to achieve the desired future.

Future-Driven Strategies

Let's look at how 3D printing can impact manufacturing, to illustrate how the

right expertise in strategic forecasting can save manufacturing companies. First off, 3D printing has been around for a long time in the manufacturing industry, being primarily used for research and development through quick prototyping. However, today's 3D printers are getting much more sophisticated and are starting to be used to replace multistage manufacturing processes into one or two steps. The process goes from raw materials like metal or plastic powder, directly into a fully functional and complex product. The more modern printers can do this using up to a dozen different materials. There is an immediate reaction from manufacturers to transform their old machines with 3D printing and given the efficiencies in doing that, and the increased speeds of the newest 3D printers, one would think this is a good move. However, 3D printers are also becoming available to consumers, in people's homes, in hobbyist's hands. And some companies like Hewlett-Packard, are offering 3D printing and shipping services if a consumer sends a 3D file to print.

Manufacturing companies cannot ignore the direct to consumer models emerging with cheap at-home printers and companies offering print-on-demand and ship services. Depending on what is being manufactured, a company may want to change their entire business model to mimic the HP print-on-demand model by partnering with fulfillment services to deliver direct to the client, bypassing middle-men in the process. Some manufacturing companies may consider changing their production altogether towards ones that require multiple materials or are too big in size for hobby 3D printing machines. Knowing what is soon coming up in artificial intelligence, 3D printing and materials research may disrupt your manufacturing business in a fundamental way. You can be a Hewlett-Packard, embracing the disruption and

being a first-mover in the space, or shift to new high demand manufacturing using more productive, profitable and sustainable methods by engaging future trends before they transform your business.

The message here is this: be the one provoking the change with the disruption as part of the plan, instead of reacting to the disruption along with everyone else. Being the leader means being informed, and being informed means having good strategic and technology foresight capabilities.

It is noteworthy that 3D printing is already much farther on the road to commercial level usage than is generally recognized. 3D printers are fabricating increasingly complex devices ranging from jet engines to apartment complexes, warehousing robots to circuit boards, real diamonds to shoes to prosthetic limbs. The technology will disrupt supply chains, transportation networks, warehouses etc., bringing in entirely new business models of manufacturing and distribution.

Let us now imagine a company in any sector/ business handling a project with far-reaching, strategic implications that will affect the future scope of operations, the company's value in the stock exchange and future investments. How will your company's Board of Directors prepare for such a critical decision?

Normally, it will pay close attention to potential risks and will determine the project's viability and to what extent the project may achieve the company's goals. As part of the validation process, the Board will analyze the project to anticipate global risks that could pose a threat to its success. That is strategic foresight, but does the board employ people with the specialized skills to do scenario planning, Delphi analysis, or trained in the Horizons Method?

What changes from boardroom to

boardroom is the methods used to determine probable outcomes and probabilities. If the company's analysts only project using historical data, then it is at risk of missing critical weak signals that a proper futurist would identify. It is getting more and more critical to identify these weak signals. In the old days, they were far in between, and black swan events were once per generation. Now, they are frequent occurrences. Directors can no longer roll the dice and take the chance that an unexpected event may not occur to disrupt a project. Companies must develop the ability to see these ahead of time to veer past them, or better yet, to take advantage of them while the rest of the world fumbles.

Anticipating Ethical Dilemmas

Ability to visualize the future also gives better insights into likely ethical dilemmas a company working on moonshots, and venturing into new areas with application of exponential technologies, may face. For example, AI is expected to become more intelligent and capable than human beings, leading to what is called Super Intelligence. There is a real fear that AI will reach Singularity within next two decades, whereafter it's development will be irreversible and beyond control. Science fiction depicting possible take over and control of humans by robots with AI is dystopian, but is not without some technological basis. Boards would need to be very conscious of possible implications of on-going developments in this direction.

Influencing people's minds through targeted personalized marketing is no more in the realm of future. Google knows you better than your spouse. Amazon knows your shopping preferences and Netflix knows the kind of entertainment you like. Data collection, connected privacy issues and use/ misuse are already areas of major concern. In the words of Historian, Yuval Harari ("Will the Future be Human"), "We will learn how to engineer bodies,

and brains and minds, these will be the main products of the economy of the 21st century, not textiles, and vehicles and weapons. How exactly the future masters of the planet will look like, this will be decided by the people who own the data, those who control the data control the future, not just the humanity but future of life itself, because today the data is the most important asset in the world. Data is replacing machinery as the most important asset.” Strategic Foresight will help companies navigate through the complex developing ethical issues around data.

Engineering of “bodies, brains and minds” would raise even a bigger ethical issue”. Futurist Ray Kurzweil, talks about the use of machines not only to dramatically increase physical and cognitive abilities, but fundamentally change the trajectory of human life and experience. Transhumanists predict that a convergence of new technologies will soon allow people to control and change their bodies and minds. Science will allow us to take control of our species' development, making ourselves and future generations stronger, smarter, healthier and happier.

Much of the work in above pioneering areas will no doubt be done by mega-corporations, bigger and more powerful than many nations. But this is too important an area to be left only to governmental regulation. The entire society, private sector and corporate world, each company and organization across the globe, need to be conscious and informed about the societal implications of the direction application of technology could take. We need to use Foresight to be future literate, anticipate the future, and walk wisely through the maze of emerging ethical dilemmas.

Acquiring Foresight Capabilities

The author has been sensitizing, advising and training diverse sets of people on acquisition of Foresight

capabilities. A comparison of the experience at the global level indicates that the awareness and application of Foresight skills is very low in India. There is hardly any infrastructure or eco - system for imparting necessary capabilities or building in-house systems for this purpose. As against this, most large companies abroad have technology and/or strategic foresight capabilities. The likes of Microsoft, Apple, Amazon, Alphabet (Google) and Facebook all use foresight specialists and futurists to help with strategic planning, helping Directors in developing their strategies. Clever, smaller companies outsource their foresight work to gain advantages over their competition, preparing for major industry disruptions before they occur, catching others off-guard and ill-prepared.

A survey of 77 large companies prepared by René Rohrbeck of Aarhus University, and Jan Oliver Schwarz of Germany's EBS Business School, found that formal strategic foresight efforts add value through (1) an enhanced capacity to perceive change, (2) an enhanced capacity to interpret and respond to change, (3) more influence on other actors, and (4) an enhanced capacity for organizational learning. These outcomes are increasingly truer as the pace of change is accelerating all the time. There is a distinct divide in the ability to generate revenues, between companies which use strategic foresight and those who use only traditional statistical predictive methods.

Given the growing importance of foresight for Directors, the question arises: how can they develop their foresight skills or access strategic foresight capabilities? In the absence of any in-house capacity, the first step could be to tap suitable experts and organizations to help Directors fulfil their mandates. The consultancy provides valuable resources and insights, helping organizations integrate

forecasting capabilities within existing governance systems.

The experts/ consultants can do this through consultations, webinars, presentations, and direct involvement with internal teams. Advice given will depend on the specific industry and how future scenarios illustrate best approaches and technologies to invest in. Advisers may find the industry needs to look to exponential and sustainability technologies to lessen carbon footprint while increasing productivity. They will point out weak signals from other industries that may disrupt that path and how, so the companies in that industry can benefit from them as they reveal themselves. Impact and use of convergence of technologies is another major area for review.

Futurists and foresight strategists can support the work of Directors through the technological disruptions we see all around us today. They can help companies navigate new government policies by shedding light on opportunities emerging from those changes. Finally, futurist groups/ consultants can help develop the internal strategic foresight capabilities a company really needs to survive a crisis, grow beyond it, and compete at a global scale.

In brief, companies may consider engaging experts/ consultants for the following options, depending on the size and nature of the company:-

- a) Organizing generic, non-sector/ company specific webinars, workshops and training programs for awareness and sensitization about the concepts, tools, techniques and potential/ importance of Foresight.
- b) Working closely with individual companies to put in place in-house systems for insights into possible futures for the overall business scenarios and their respective sectors, and make Foresight an integral part of their corporate strategy formulation process.

Conclusion

Adopting future-driven strategies is essential for business success in the world of tomorrow. For this, companies need to develop necessary Strategic Foresight capabilities. Indian businesses and boards may set the ball rolling urgently with the help of currently available experts and consultants. However, this needs to be followed by putting in place necessary infrastructure and capacity building systems, for large scale development and application of Foresight expertise. Bodies like the Institute of Directors and

Industry Associations need to take the lead for launching a major initiative for this purpose.

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Previously, he has also been an Adviser to UNDP, IIT, IIM, Genomics Institute etc. Previously, as Secretary, Ministry of Corporate Affairs, Govt. of India (2006-09), he is credited with introducing the 'MCA-21 E-governance System', for which he received the PM's Award, other than creating new governance systems. He also conceived & executed the globally acclaimed plan to save Satyam Computers Limited within 99 days of a fraud of more than INR. 7000 crores. He also played a key role in operationalizing the Competition Commission of India (2009-14). ■

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Future Global Risk Report 2021 Special: India

*Mr. Roman Retzbach



Introduction - Foresight

Like other large nations, India will be particularly affected by a major restart, a reset, a paradigm shift, a transformation, and a new beginning after Covid-19. Up until 2030 we will be looking for new models for the economy, the environment, the climate, and our social issues since our current ones are not future-proofed. In 2030, the goal for India to transform into an industrialized country will finally be achieved.

In the long term, the democratic order will be a great advantage over neighbouring Asian countries. Until then the free-market economy will be able to reorient itself with more strength towards a global economy. Freedom of expression and choice will positively support critical social change. The list of necessary reforms is long and ranges from women's equality and the abolition of caste to secularization. By 2030, the Indian system will be more humane and successful than the Russian people's surveillance mentality and the Chinese social credit system censorship. While those two anti-democratic models are giving control over to Big Brother, India is going its own way towards more personal responsibility and

participation. India is going towards a soft integration of the people into political processes instead of instituting harsh punishments through its systems.

India, China, the USA, and Russia will become more economically autonomous by 2030. Nevertheless, mutual competitive pressure and global tensions between them are growing. These are burdening the world economy through repeated threats of trade embargoes and protectionist geopolitics. India will be the winner of globalization because it is open to the outside world more than the other great powers and thus may become the world champion of exports by 2050.

By 2030, India will become even more economically stable. This is only overshadowed and impaired by internal outdated structures. This socio-political weakness results from the excessive bureaucracy and the lack of emphasis on infrastructure development. The socio-economic imbalance as well as the socio-political discrepancy is caused by the great rich-poor division. These problems will worsen by 2030, and deregulation, market liberalization and de-bureaucratization are making slow progress. Only around 2030 can a

government be expected to implement these urgently needed reforms.

The solution to the Indian future dilemma can also be expected by 2030. India wants to modernize but the social system is lagging behind. The emancipation of women and social feminine justice are India's only upward and forward path towards the future. The current model of having a quota of women in politics and in management is not sufficient measures. Germany has also had this experience with executive board women quotas – it led down a terrible path. Only a female head of government in Germany brought the big change. The middle or golden path to the future was and is to give power to women worldwide to better handle future world crisis.

India should learn from the mistakes of Japan and China. Japan was the premium candidate, China had taken over the sceptre, but India can reach for the crown of the world's best location for production and remain ahead of Africa at least until 2040. Greater engagement in African countries can be expected starting in 2030. China has stopped promoting itself as the workbench of the world and is on the technological service

path, so the way has been cleared for India. However, as it stands India has not been able to grab the opportunities fully. Starting in 2030, a consolidated participation in the nuclear and climate agreement can be expected, but until then, India will be the biggest polluter, ahead of the USA and China. Fortunately, at that time, a green-oriented generation of young people will increasingly promote an environmentally sustainable bio-solar future fuelled by start-ups and innovation.

Indian future risk scenarios

2021-2030:

- 35% environmental
- 25% societal
- 20% geopolitical
- 20% technological
(*infrastructure, etc.*)
- 15% economical

At over 30%, environmental pollution is superficially the strongest obstacle to economic development over the next 10 years, and has a significant impact on social crises in terms of quality of life, health hygiene, supply and education. There are no real threats from the foreign nations, but the internal political unrest may externalize like in the old days when wars got started because of internal misery. This may not be the case with India. The 15% economic risk are effects of the anticipated environmental and social slip-ups, which also explains the 20% technology defects, which are essentially carried out by the lack of infrastructure.

2031-2040:

- 25% economical
- 25% environmental
- 20% societal
- 20% technological
- 10% geopolitical

The economic conflicts overtake the environmentally threatening ones. This is due on the one hand to the enormous costs borne out of climate change in India and the increasing loss of competitive power as a result due in part

by the rise of Africa as a new global industrial. The social deficits are slowly shrinking, as equality for all is slowly establishing itself in this new generation. India's growth has a stabilizing effect on foreign policy, which is why the likelihood of the worse scenarios are decreasing. The technical gaps remain the same, however, as a country of 1.4 to 1.6 billion people can only graduate to a high-tech structure in incremental stages.

2041-2050:

- 40% societal
- 30% technological
- 10% economical
- 10% geopolitical
- 10% environmental

Africa as the world's booming production center for goods and energy and is changing the world with Industry 5.0. Artificial intelligence has changed almost all manufacturing locations. 90% of all jobs around the world are disappearing, and basic income is not the preferred model to balance economic inequities. Social aid dominates, but societies around the world suffer from the loss of the importance of work. This explains why wealth inequities no longer divide rich and poor, and how people are finding new meaning in life. This is accompanied by technological innovation pressures on a growing space travel with interstellar aspirations and civilization plans on exoplanets. China and Japan work side by side and cooperate with the Europe-African Union in consultation with America. Since energy, living and everyday things are accessible to everyone at low cost, there are hardly any economic - ecological - political problems.

Futures Studies – 9 Risk Factors

1. The New Silk Road economic belt, which was imitated by China, is only partially accessible to India, namely via sea route. The overland route leads far to the north through Russian territory and thus remains

largely closed to India, restricted and dependent on Russia. We urgently need to develop our own trade routes in the future so as not to slow down globalization.

2. India is not a member of many Asian associations, including the Association of Southeast Asian Nations, so it cannot really have a say in many future decisions on the Asian continent.
3. The transition from agriculture to industrial to service is slower than in China, which is weakening economic growth.
4. There is too much unequal treatment and discrimination, from some ethnic groups to women.
5. India, like Pakistan, is not a member of the global nuclear agreement, which makes it a target in conflicts, e.g. between the USA and China.
6. There are many ethical and religious conflicts, and secularization must be pursued anew in order to avoid the risk of civil war.
7. There are many historical border conflicts afflicting India (China, Kashmir, Pakistan, Himalayas, etc.) that have not yet been resolved, which is a task for the future, because China has a stronger military and one that is being expanded.
8. Competition inhibits economic development, as more and more programs (5-year plan, China 2025 strategy, etc.) are being developed there. The Chinese have raised a lot of money and have bought companies and countries around the world and are active in African raw material markets. Made in China has become a brand.
9. China will soon be the largest economic power in the world and thus has great cultural and financial influence through investments

Prognosis – 10 Effects on Opportunities

1. India is the largest democracy in the world, which is a long-term advantage in future globalization and trade integration.
2. India can benefit from the growing trade conflict between the US and China as a laughing third party.
3. India is going through an economic boom through the Silk Road trade routes by sea.
4. The label and brand “Made in India” is gaining more and more international importance, for example as a drug manufacturer and as an excellent location for IT development.
5. Negotiating with other ASEAN associations, using something like free trade agreements, is advantageous for the future of India.
6. All of this helps India and China to expand its prosperity and to move from an emerging to an industrialized country.
7. India is a beacon of hope with a great future among the BRICS nations, unlike Russia and China, which is why the number of investments into the nation is increasing.
8. Although slowly, women are being given more rights and opportunities, which will have a gradual positive effect on the labour market. The advancement opportunities of women and the freedom from religion guarantee that no social unrest and civil war will arise.
9. China is a signatory of international nuclear non-proliferation treaties, which decreases the risk of even more nuclear accumulation and a first strike against India is reduced.
10. India's population will overtake China's in 2022, strengthening it as a consumer and trading power.

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The Future of Corporate Decision - Making

*Sylvain Rochon



We are living in an age of accelerated developments, constant disruptions, and automation. We are in the era of the 4th Industrial Revolution where we are yet again fundamentally changing how we live, work, and relate to one another. This era is marked by extraordinary technology, yet somehow too many business leaders still take decisions like we were still in the 20th century. With so many disruptions constantly popping out from all industries, influencing each other, boardrooms must adapt their decision-making processes towards something nimble. Directors must move from extrapolation and strategic planning to developing multiple plausible scenarios leading to successful outcomes.

Fortunately, strategic foresight techniques have been in use since the mid-60s and are now valuable tools

used by some of the largest, most successful companies in the world like Google, Amazon, Facebook and others. The American, Canadian, Singaporean, Japanese government and the European Union have all embraced foresight to help guide policymaking too. Houston foresight's illustration of the foresight framework is one of the better ways to visualize how future scenarios emerge and how organizations take aim in these tumultuous times.

The most important aspect of strategic foresight is how it makes companies resilient against hard to predict political

and economic changes. This technique used by professional futurists involves looking for disruptive technologies and movements that can impact multiple aspects of our society. Disruptions can come from political shifts, economic trends, and social changes. When those disruptions impact extrapolated trends to take unanticipated paths, companies fail. Foresight also investigates how discrete events in different industries would affect each other. This analysis leads to scenarios of varying probabilities, some more desirable than others. Company leaders can then plan

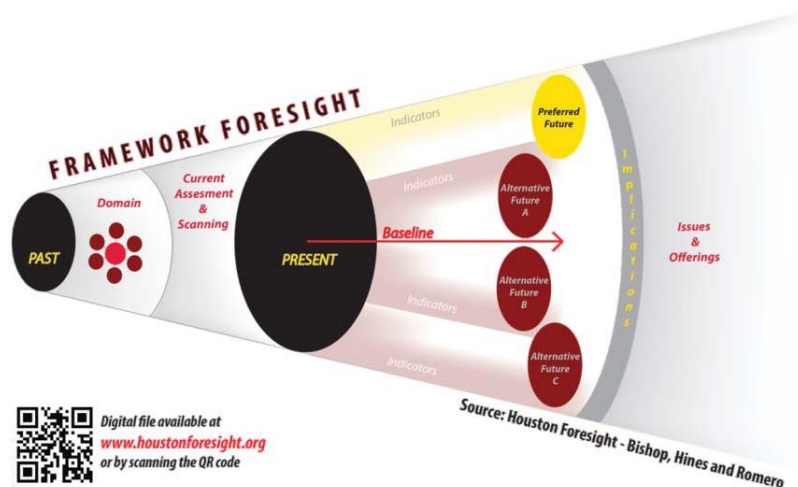


Figure 1: Houston University's foresight graph

contingencies for undesirable scenarios and actively help increase the likelihood of the desirable ones.

High-tech giant Apple under Steve Jobs is an outstanding example of how foresight was successfully used to pave the way for the company to become the goliath it is today. In the 1980s and 1990s, Steve Jobs envisioned how technology and the internet would affect daily life. He imagined everyone would eventually have computers in our pockets and we would connect them via what we now call the Internet. He knew that Moore's Law would still probably hold true into the future, therefore Jobs correctly assumed we would be able to cram powerful computers into something the size of a cellular phone and could bet on the approximate timeframe.

What made Steve Jobs special is that he invested resources to develop high quality, connected computers way before anyone else could see the patterns. In strategic foresight terms, he identified a few very likely future scenarios and worked invested on those desirable, high value opportunities to turn those desirable visions into reality. When the technology and infrastructure was ready for the connected devices he envisioned, his company was ready, he had the right engineers in place, the right marketing plan and distribution channels all thought through. Mr. Jobs crafted a path for his disruptive products to sell, using agile decision-making processes, and easily displaced any other competitor in that market because they were less prepared than Apple was.

The iPod, released in 2001 with brilliant success, displaced other lower quality digital music players that were then just testing the market. Jobs did not know back in the 80s that the first device would carry music files. He knew it would be something of consumer value that could be shared through the Internet. His team could have built a device to

cater to any type of digital asset. Music just happened to make sense in a world where digital music files were used to create expensive, hard to share music CDs. Once the iPod was a success, it was just a simple iteration to add more functionality to the devices, which eventually led to the first iPhone released in 2007 along with an application store that would, like the music, become a competitive media marketplace with new applications developed by creative people from all over the world. Apple remained focus on the hardware.

Companies that could not pivot by identifying disruption abound as well. The story of Blockbuster, an American video rental company is often mentioned as one of the biggest foresight mistakes of all time. In 2000, Netflix was a tiny company offering digital film downloads, while Blockbuster had hundreds of stores across North America. The internet was still growing out of its training wheels, stabilizing itself as the dominant platform for consuming entertainment media. Why did Blockbuster fail? Its board were not stupid. In fact, they had gotten at the top of their industry in America because of judicious decision-making for a long time. When they received an offer from Netflix founder Reed Hastings to carry their movies in digital form, they laughed at him. Blockbuster saw Netflix as a competitor and a parallel means of distributing their media. They meant to squash the small upstart with their brand popularity and relationship with movie studios.

One could assume they could have started their own streaming service to accompany their main business, but the truth is, Blockbuster's revenues were inherently tied to late movie rental fees. Being the bigger fish is not always an advantage. The behemoth was blindsided by Netflix' fast growth. So much so they could not have turned fast enough to morph their company into an

online distributor, without proper foresight and planning. The whale beached and the nimble dolphins dominated.

If John Antioco and his team at Blockbuster had done some scenario planning of their own, they would have noticed many years prior that the physical distribution model had a limited runway and they would have developed their own platform to digitally distribute all the movies in their inventory. Because they had long standing relationships with the TV and movie studios and important brand recognition, they would have likely outpaced upstarts like Netflix. At the very least, Mr. Antioco would have taken Reed Hastings' deal when they met in 2000 instead of declaring bankrupt in 2010. Unfortunately, they understood the market shift too late.

Toyota is another company that employs very smart futurists. The Japanese car manufacturer has had the vision of autonomous vehicles in mind for many years. The company has apparently made a deal with ride-sharing company Uber in 2018, where Toyota has invested large amounts of money for the privilege of being the primary manufacturer behind Uber's upcoming fleet of self-driving robotaxis.

Toyota has had the vision that self-driving electric vehicles will become the norm in our society, a reasonable assumption, and have put in some efforts to make that scenario a reality years ago. Toyota is leveraging its massive innovation arm to constantly move forward one small step at a time (kaizen) as the market and regulatory agencies wrestle with the concept of EV transportation. They do this to avoid spending too much on a production line that would cost billions but may not touch the roads in a while. Since autonomous vehicles are a certainty but not all the pieces are there to make it a full-fledged reality, the company has been taking on projects that would

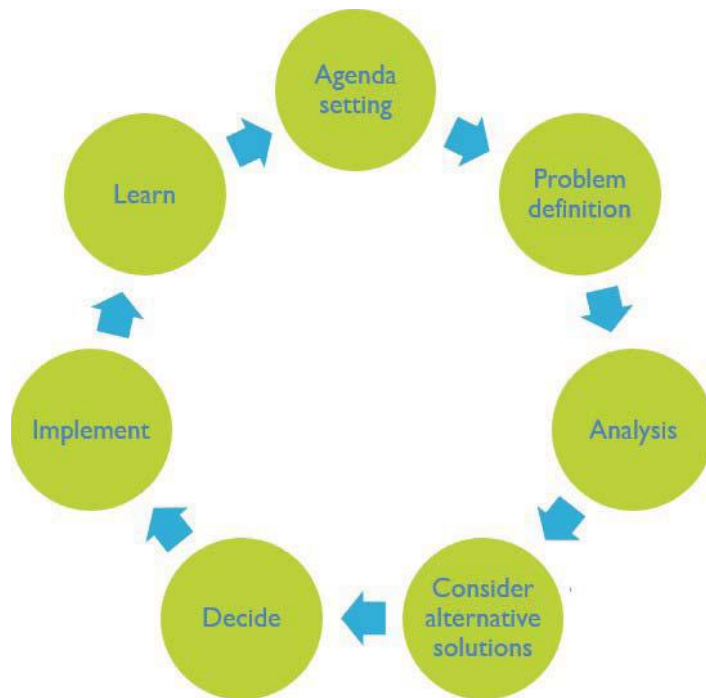


Figure 2: Decision-Making Process

position it as a leader in the space of autonomous driving with incrementally more audacious, yet entirely legal, autonomy features in their vehicles. These simple steps are getting people used to autonomous systems piecemeal, while Toyota measures people's interest in going fully autonomous. This is agile development at its best in an industry known for extremely high development, deployment costs and furious competition. Yet, the vision is clear, so when Uber and the regulators are ready to go full level 5 automation, Toyota will be at the head of the line along with very few others like Elon Musk's Tesla Motors.

Foresight is extremely useful for policymaking and embeds itself very well within modern agile processes. Any company can do it assuming they have the proper leadership willing to go from 5-year strategic plans doomed to failure to a modern cyclical assessment and visioning process that constantly takes future disruptions as inputs and adjusts a company's direction to adapt.

The decision-making process in Figure 2 seems standard, and so it should. It is a logical way to process problems and take decisions within an organization. In this age of constant disruption, however, the idea is to change how leadership processes each step to include strategic foresight and future thinking. Instead of completing one cycle every year or every quarter, following agile methodology, even large companies should cycle through this process monthly, bi-monthly, weekly, and even daily. This is how it works:

Agenda setting: Identify emerging issues and challenges the company faces.

Problem definition: Scan for disruptive forces in the future, short and long term that shows signs that things may be evolving.

Analysis: Clarify and test credible and vulnerable assumptions if possible. Explore how external change drivers are shaping systems. Develop scenarios to explore how the problem and its context could evolve. Test strategies to ensure

they are robust across a range of futures.

Consider alternative solutions: Scan for or develop novel approaches or strategies and document.

Decide: Take a decision that will align the company towards addressing the problem and towards more favourable scenarios.

Implement and learn: Deploy the solution and see how the world reacts. Iterate.

Implementing such a process in non-technology industries may seem daunting at first, but as illustrated in this article, companies that do not develop proper visioning processes, or don't have a leader that is using foresight as part of his leadership strategy and communication style, will be left behind by other companies that are better prepared for fast movie shifts in the commercial landscapes and disruption.

Hence, to develop such processes, leadership must find staff that can help build that in-house capacity, starting at the leadership level. Companies interested in being world leaders in the 4th Industrial Revolution must have managers, directors, and boards that will embrace foresight as part of their tactical activities. Mrs. Liselotte Engstam, executive leader with 20 years for technology and engineering experience in India, North-America and Europe writes: "Boards and leaders need to become better in creating insight from foresight. This is a great challenge in this world of extreme digital progress and pace of innovation. [...] The skill to think about the far-off future is a practical and required leadership skill, rather than just an exercise in intellectual curiosity that you can hand over to experts only."

According to Workable a large British cloud-based recruitment platform helping businesses find the right staff they need to succeed, the number one

quality of an amazing CEO is foresight. This quality allows a good industry leader to think outside the box, to spend time to weigh pros and cons of each decision they make and to keep abreast of development. Unsurprisingly, the 2nd best quality of a good CEO is adapt - ability, which falls in line with how executives need to think to guide their company through multiple phases of interconnected disruption.

Strategic foresight has come to the fore in the boardroom around the world. Companies that embrace iterative agile decision-making involving strategic

and/or technology foresight become the giants of our time. Any company can develop those capabilities through well-established processes, training existing staff, and building a foresight-based mindset. That can make any company not only resilient to any probable future scenario but also help them create new desirable scenarios their competition will not see coming. Today is not the time to simply follow trends. We are living an age where the best companies create their own trends surrounded by uncertainty, but with the processes to quickly adapt a plan for maximum

benefit. The world is full of surprises. Be ready for them with foresight thinking, and all surprises become an advantage.

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Strategic Foresight in the Boardroom

*Prof. Colin Coulson-Thomas



Becoming a company director today involves the assumption of onerous responsibilities at a time of uncertainty and multiple challenges. Directors and boards can sometimes be subject to forces beyond their control. Those whose prospects depend upon the decisions they take, can only hope that they act responsibly and achieve an appropriate balance between reacting to events and being proactive in the pursuit of corporate purpose and priorities.

From the myriad of developments and events happening around them directors need to do their best to distinguish and focus upon those that are strategically significant. They should be alert and as prepared as is possible to deal with the unexpected, as well as being open to new possibilities. They should never become so distracted, or allow their individual and collective batteries to be so run down, that they are unable to respond or lose sight of what is important.

While wrestling with current issues, directors must not overlook or forget that the provision of strategic direction requires them to look ahead. Too many directors devote an excessive

proportion of their time to revisiting the past, whether finalising the financial accounts for a previous financial year, monitoring the implementation of past decisions taken when a previous set of considerations applied, or assessing compliance with policies whose review might be long overdue.

Being Sensitive to Signals and Signs

Directors need to be alive, vigilant and sensitive to what is happening around them. Like members of many other species, they should be aware of early signs of impending storms and avoid becoming surprised and trapped in situations from which escape might be difficult or costly. Sadly, successive crises and economic downturns or recessions regularly reveal that in a changed environment some businesses have the flexibility of a beached whale.

Awareness does not just happen. Sometimes one needs to actively look for signals and signs. The monitoring of external trends and developments and the assessment of their possible impacts upon an organisation and its stakeholders is one means of preparing for aspects of the future. However,

discontinuities sometimes occur and the nature and timing of occurrences may be uncertain if developments speed up, slow, come to a halt, reverse or change direction.

Certain events can accelerate change and spur innovation, lending support to the suggestion that necessity is the mother of invention. Successive wars have speeded up scientific progress in a variety of fields. The Covid-19 pandemic accelerated online shopping and working from home. Advance warning and forethought can sometimes allow one to react more quickly than others who are still trying to understand what is happening around them and to them.

Confronting Uncertainty

As well as looking ahead, directors should endeavour to be prepared for a variety of eventualities. The threat or onset of a major disruption or discontinuity can often lead to uncertainty as to possible outcomes and the scale and/or trajectory of a development, transition or recovery. Events can sometimes result in unexpected opportunities. Rather than a sense of foreboding, there might be a buzz or feeling of excitement around

what could be possible. Boards need courageous people who can rise to the occasion and members who are resilient and can bounce back like a coiled spring.

With some disruptive technologies, the uncertainty may not be about whether they are feasible and/or usable. It might relate to how they could be applied, where, when and in what way and by whom, or which party or member of a corporate network could use them and for what purposes. Rather than hurriedly search for right or wrong answers and quickly take 'go' or 'no go' decisions, there may be potential to evaluate and multiple possibilities to explore with those who have relevant expertise.

Hindsight is sometimes more evident in discussions than foresight. A chorus of post-event critics may question why action was not initiated earlier, or different steps taken to prevent the worst of what happened. Being wise after a crisis is often easier than determining the best course of action in the heat of a situation. Carping from spectators who sit on the fence or colleagues who avoid involvement can irritate those who roll up their sleeves and engage.

Remaining Balanced, Positive and Responsible

Warnings from persistent doomsters can also irritate. Foreseeing the future can smack of clairvoyants, crystal balls and con artists. However, vision and purpose can enable people to keep going and continue to explore. Proceeding with caution while remaining positive could indicate that both challenges and opportunities may lie ahead. Anticipation, forethought and preparedness might be regarded as prudent and evidence that acumen, prescience, foreknowledge and forewarning are valued.

Some opportunities are well hidden and a situation may appear bleak right up

until a dawn of new possibilities breaks. One may need to be alive, awake, solvent and supported to take advantage of what emerges. Without being naïve and irresponsible, directors can help to maintain morale by remaining positive and preserving sufficient capability to be able to flexibly respond, while balancing courage and initiative with circumspection and vigilance.

Where appropriate, directors should challenge. When post-crisis reviews occur and inspectors and commissions of enquiry get to work on events ranging from fires and floods to failed new products and company liquidations, warning signs and tell-tale seeds of what happened are sometimes quickly uncovered. Early suspects might not last an inspection and become the root causes of what transpired, but evidence may be uncovered about what some people knew and what others might have foreseen or uncovered if they had asked the right questions.

Forecasting and Scenario Evaluation

Environment scanning sometimes enables the first drops of what may become a deluge to be spotted. For some directors, far horizons can seem too remote to justify the commitment of effort to advance preparation. Forecasting when events are likely to occur may help the planning and implementation of measures to mitigate, prevent or insure against adverse impacts. It may be feasible to put policies and arrangements in place to take advantage of possible opportunities. However, the impacts of the form an event might take and its implications may be very difficult to assess.

Forecasts are only as reliable as any estimates provided by the experts consulted, the data examined, or the assumptions made in whatever model is used. Significant differences of view

may be encountered among those contacted. Not only may authorities disagree, the subjective assessments of individual specialists can sometimes vary from day to day when the same question is repeated or similar evidence is provided.

Forecasts involve probabilities. Distribution curves of possible outcomes might give decision makers more of a feel for the uncertainties involved than a single number. When situations and circumstances change forecasts can also quickly date.

Despite their limitations, possible scenarios and their consequences may need to be evaluated before contingency measures can be put in place to address the most probable outcomes. Sometimes the descriptions of possible scenarios become so alluring that achieving them in a particular form becomes a business objective. When enough forecasts come to similar conclusions to create a bandwagon effect, and/or a possible outcome appeals to sufficient people, a self-fulfilling prophecy may occur.

Implications of Future Possibilities

Some future scenarios may have implications for the board itself and how it operates, for governance and risk management, and for key relationships within certain stakeholder groups. Directors may also need to consciously focus upon implications for a company and its stakeholders and avoid becoming distracted by possible consequences for themselves.

When particular scenarios have distinct implications for particular stakeholder groups, advantaging some and disadvantaging others, directors may find that the future interests of different groups have or might become misaligned and as a result diverge. Political skills may be required to navigate between contending interests as balances of power, relevance,

significance, costs and benefits quickly change in the course of unfolding events.

Boards that have achieved some balance, understanding and stability in respect of different views about a present situation and context may find a greater divergence of opinions about what is possible and desirable in relation to the future. Recent debates may come to be viewed as the calm before a succession of storms. People may disagree fundamentally on objectives, strategies and priorities relating to anticipated events and situations when very different options emerge and stark choices are involved.

Direct and Indirect Impacts and Consequences

When alerted to what may happen, the first thoughts of some directors might concern how they are likely to be impacted. Boards often focus first upon the possible or expected direct impacts of trends, developments and forecast events and situations, and how these will affect the activities, operations and capabilities of the companies they are responsible for. Yet their indirect impacts or consequences for customers and other stakeholders may give rise to business opportunities to help them confront challenges and exploit related openings.

Insecure and uncertain boards sometimes exhibit negative and defensive reactions to forecasts and possible scenarios. More confident and positive boards might proactively look for opportunities to renew, reposition, repurpose or reinvent. Roles and corporate relevance should never be taken for granted. Boards should expect to confront difficult issues and encounter unfamiliar and unexpected events that cannot be easily delegated to others to address. They should be on the lookout for the next wave and leave some slack and spare bandwidth for dealing with it.

Positive and confident directors should

not be inhibited by whatever their companies lack, when there may be other people and organisations they could collaborate with. Smart entrepreneurs and alert and flexible boards might be able to quickly align purpose, vision, mission, goals and objectives to aspirations that appeal strongly to certain communities of interest and are attainable with collective effort. Some causes go viral and shared objectives can sometimes gain sufficient momentum to crash through obstacles and bring them about.

Complexity and Simplicity

Boards should avoid placing too much confidence in particular forecasting models and tools just because they are complex and a lot of effort and cost have been devoted to developing them. Some advocates of quantification become over dependent upon numbers that give an aura of rigour, even though the data used may pre-date significant recent developments and a company might be transitioning to a different business model in an altered context.

Because of difficulty in quantifying them, important considerations may be overlooked when models are constructed and estimates are made. Re-reading the work of futurists many years later can be sobering. Certain scenarios and prognostications seem like comets or orbiting planets that appear to return and be discussed every so often. Sometimes what is considered to be highly probable and tantalisingly close does not subsequently occur, becomes long-delayed or later emerges in a very different form from that originally envisaged.

Within some sectors lead times are longer than in others. A nuclear power plant may take many years to commission and may not be viewed as a viable option without long-term commitments from external partners and other parties. In different fields, greater

flexibility may be possible, allowing more rapid adaptation to changing priorities and requirements.

Indicators of what is likely to be required or clues as to what could be needed in the immediate future might be all around us. However, the time available to exploit a straightforward opportunity might be limited. In fluid, uncertain and evolving situations directors may try to avoid getting locked in to complex and long-term arrangements that might become redundant and prove difficult to unscramble.

Collective and Collaborative Responses

Many contemporary challenges are global in their impacts and implications. Because addressing them may require collective effort, more Governments may realise that they need to form coalitions of countries and international organisations with similar objectives to tackle them. International threats may require collaborative responses, yet the past year has illustrated the inadequacy of national responses of varying effectiveness in the face of a global pandemic, the likelihood of which appeared on many risk registers.

Even with international cooperation, Governments may not be able to deliver what is needed without the active engagement and contribution of businesses. Boards need to think through the implications of having to negotiate, cooperate and form alliances and public-private partnerships. They may need to both govern and ensure the effective management of collaborations with public bodies and companies from different countries and business sectors, with varying technologies, infrastructure and constitutions and subject to diverse laws, regulations and other pressures.

Certain collaborations may involve technical issues that have policy implications. Some directors might need to acquire, develop or secure access to

diplomatic and scientific awareness and skills. Addressing threats ranging from extreme weather events to terrorist attacks requires international action. Sometimes when it rains it pours. The coronavirus pandemic has highlighted the harm a more toxic pathogen could cause. Many companies and public health systems could be better prepared for certain eventualities. They may need to work together to increase national and international resilience.

Awareness, Understanding, Commitment and Action

Directors should be ever alert for possibilities and prepared for various eventualities. Foresight can also be about resilience and ability to recover from the impacts of crystallised risks. Coping with consequences and recovery

to a situation in which a company and its stakeholders are better positioned to cope with future disasters can take time. Ideally, business models should be sufficiently fluid, organic and able to adapt and evolve to match whatever is determined or materialises.

Awareness of what might happen and an understanding of possible consequences may not be matched by commitment to prepare and the action required for an effective response. Both boards and Governments are sometimes inclined to put off expenditures relating to scenarios that could have significant and even catastrophic impacts, because they are regarded as unlikely to occur and/or because of a reluctance to cause alarm. In some cases, the capability, equipment,

measures and supplies required to respond might also have a limited shelf life.

Various changes and developments suggest future high impact events may become more frequent. Their consequences might also be more severe. Recovery activities and the overlapping timescales involved while transitioning to a more flexible, resilient and sustainable model of operation creates a requirement for the governance and management of multiple initiatives, programmes and collaborations. Forewarned is forearmed.

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Five pivots to Future Governance

*Mr. Shailesh V. Haribhakti FCA



Pivoting Mind-sets

Mindsets are pivoting from Profit to purpose; from hierarchies to networks; from controlling to empowering; from planning to experimentation and from privacy to transparency! The emerging Digital world must be built from the board downwards, using a completely new mindset and culture. Future boards must be capable of creating a new culture in which:

- Managers get ready to be exponential, and not linear in their thinking.
- The company creates and improves value for customers, through innovation and process improvement.
- Foresight, not just a vision drives all impulses. Foresight is the deep understanding of trends and technology, demographics, regulations and lifestyles, which can be harnessed to rewrite industry rules and create competitive space.

High growth companies do not assume anything. The Board should persuade the leadership team to constantly innovate to rise above competition and not imitate products. In times of uncertainty, the key to success is to

change the mental model of the company's business. This is to be done by looking outside the industry. Customer service is not good enough, but value creation is the key to making strategic differentiation in the marketplace.

Customer experience management through a 'Process Change' and 'Value Creation'; e.g. The Toyota way via lean principles i.e. Capacity = value + waste.

'Value Innovation' is about offering unprecedented value, not technology or competencies. One tool that is often overlooked is 'Conjoint Analysis'. Conjoint Analysis measures consumer response to different bundles of products, a technique that allows marketers to uncover preferences, better gauge the strength of certain kinds of product features, and understand which customer problems will be most advantageous to solve.

Time and Event Pacing

Time pacing, Harvard business review articulates is the creation of relentless sense of urgency around meeting deadlines, and concentrates people on a common set of goals in terms of introducing new or improved products.

Time pacing is the strategy for competing in unpredictable markets, by scheduling new product introductions at predictable time intervals. Event pacing on the other hand means changing or introducing new products in response to a certain event like drop in profits, market shares or when a competitor introduces new products. In stable markets event pacing is good yet it is reactive and not proactive.

Requirement for Board Ready Future Directors is:

a) Personal:

- Ability to build trust, through a means of offering clarity amidst growing complexities.
- Seek to better understand the interconnectivity across environmental, social and governance challenges, and ensure alignment across the short, medium and long term.
- Utilize technology in driving data driven solutions, that uphold health and privacy in highest priority
- Is socially responsible and recognizes the idea of social license to operate.

- Love the planet and be willing to speak out on environmental stewardship, and drive investments and mindset changes, towards goals that will eliminate pollution and degradation of nature.
- Is sensitive to best practices in Governance, and seeks to bring them into boards served on.

b) Competencies

- Deep understanding of emerging risks and opportunities, and how they impact capital allocation decision making in practice.
- Understanding of fiduciary duty
- Climate competencies and its relation to business strategy
- Continuous learning attitude that brings in fresh ideas for the board to adopt.
- Is cognizant of Global changes, so that the entity business model can be protected from disruption, or when the model has collapsed, can bring about quick dissolution so resources can be redeployed.
- Is a champion of value creation continually.

c) Stewardship in the 21st century

- Inclusivity, Diversity and integrity.
- High level of transparency and accountability
- Understanding the role of the company in society
- Courage, curiosity and clarity in articulation.

Major Corporate Disruptions

The Three main streams of learning and growing adoption, are disrupting today's world:

(a) TECHNOLOGY:

The emerging technologies are transforming into forces of rapid digitization, and are combining and

converging at a furious pace, never known before! Without them we would not have got a workable set of vaccines to give the human race hope and confidence in this pandemic era. Their major changes and impacts, include:

- Blockchain', leading to digital currencies and a super valuation for bitcoins.
- Frictionless Value Transfer', disrupting all credit and debit cards and Chequers.
- Mobile Connected Devices', driving up e commerce to almost 20% of all purchases.
- Internet of Things', driving 10x productivity gains.
- Cloud Computing', leading to non siloed digital data driving fresh insights.
- Neural Networks', powering 'Machine learning' through powerful algorithms
- Reusable Rockets', creating a ubiquitous internet with download speeds never known before.
- Adaptive Robotics', making dangerous work safe.
- 3D Printing', promising to eliminate the 1.2 billion homes shortfall to deliver homes for all.
- Autonomous Mobility', making Tesla the most valued automobile company, Elon Musk the richest human on the planet and all car Companies and all FAANG reaching out to dominate the phenomenal Mobility market.
- Battery Systems', to power mobility.
- Gene Editing', leading to the promise of health care.
- Immunotherapy Sequencing Technology', providing for human chosen longevity.

(b) SUSTAINABILITY

The 17 SDGs issued by the UN in 2016 have now been merged into the ESG framework, and entire nations and entities in numerous ecosystems are adopting these as inputs to their Strategic planning processes. Measurement systems are being evolved and converged to track outcomes, using the ESG framework.

The Corporate Outcomes are now internationally being reported, using the six capitals of 'Integrated Reporting':

- Physical
- Environmental
- Social and relationship
- Intellectual
- Brand and intangibles
- Financial

(c) SPIRITUALITY

TRUST, COLLABORATION AND SELF CONFIDENCE

The true measures of spirituality are these key attributes which were specially realized during the pandemic. As a result, there is a natural move towards responsible capitalism, with a tremendous thrust on social equality and a sharing of the commons, like:

- Wearing the lens of Strategic Foresight, to project into the future,
- Governance systems are pivoting; from conservative Risk Management to taking calculated risks to achieve escape velocity
- From "Net Zero" of current business models, to "Gross Zero" for all new initiatives.
- From Global supply chains to digitized, localized, production and delivery through automated processes.
- From being human labour led to ML and AI led, highly productive systems harnessing converging technologies.

- From being satisfied by linear growth to shooting for exponential growth, using disruption as the leading paradigm.

Conclusion

We are therefore seeing e-commerce overwhelming physical retail; EV vehicles being preferred to ICE vehicles, Genomes being aggressively mapped to tailor made food, medicine and supplements; education going online

and driven by AR- VR; and entire communities being housed in 3-D printed homes, and entire factories and warehouses being operated by a few people. Data is increasingly becoming the new oil, and data entry is giving way to data set capture in a world which is seeking to fulfill emerging demand, tailor made to the individual consumer. Mass personalization is the new mantra. All the 6 Ds of disruption, digitalization, demonetization,

dematerialisation, deception and democratization are working overtime, to create a new world. To this world, we invite you to participate as future Board members and drive it to fruition.

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