The new world battleground with Covid-19:
Challenges, partnerships, impact and business

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The current pandemic that is ravaging the world is a graphic reminder of how we all come to be connected and dependent on each other. So far, we are approaching 2,400,000 COVID-19 cases and 165,000 fatalities in 210 countries.

This is only the beginning of the trajectory upwards. Not so long ago, large bodies of water and slower transportation would have generally precluded the possibility that one infected person with a sufficiently virulent communicable disease could ultimately affect millions worldwide. Who could have predicted such far reaching consequences?

Emerging Global Landscape

Let's explore five significant trends changing our world and impacting business and life in general—**demographics, technology, institutions, relationships** and **speed**[1]—and review how these five trends are impacted by COVID-19 and what our call to action should be.

Demographic drivers and trends have been transforming the future - megatrends include the growth of the world population, aging of the population, and the effects of migration urbanization leading to mega-cities.[2]

▶ There are 7.8 billion people on earth today, with about one billion more expected by 2030. The global population is aging as fertility declines and life expectancy increases. The result: the number of older people is likely to double by 2050, while the population under 15 is expected to stay relatively stable throughout the century. Our experience with COVID-19 will likely adjust the figures relative to segments of our global population.

▶ The world's regions vary considerably in population size and density. Asia and Africa, the most populous regions of the world, account for 75% of the global population.

▶ And finally, the contribution of the net international migration to population growth varies by region. It is projected that after 2020, the population in Europe is expected to decline, while Africa, Asia, Latin America and the Caribbean will see a net increase.

What will be the impact on less developed countries and economies that need to interface with the more seasoned populations in developed countries? To complicate matters, and as it relates to OHS and public health specifically in the developed world, OHS and public health professionals are getting older and are not being replaced in adequate numbers.

In addition, generational fault lines are at work, with the future belonging to the Generation Z (born between 1995 and 2015). More recent articles point to yet another generation emerging (Generation C)–those who experienced COVID-19 with its varied challenges. Generation C includes people of all ages experiencing a major life event. How will Generation C reboot our world? How will they deal with climate change, with suboptimal infrastructure issues, with health care, technology, fractured education and government in general?

Emerging business and technologies have disrupted traditional work as we know it. This includes robots, 3D printing, displays for smart phones, social software, smart meters (sensors), environmental and personal sensing, on demand services, human augmentation, artificial intelligence, big data, the internet of things, cybersecurity, increased digitalized and intelligent downstream supply chains, sales to nonmanufacturing supply chains, the rapid rise of distributed manufacturing and micro factories, and machine to machine communication.

In many cases, we have been evolving from mechanical processes to information and technology based processes, with new ways of combining materials (both traditional and advanced), new ways of controlling processes, and mass customization on local levels.[3] With these changes comes the need for even more rapid and responsible assimilation of new knowledge and research, responsible development of reproducible practices and reliable products, understanding of risks we have not yet identified or quantified (such as COVID-19), and the development of global social and business relationship networks we have not yet appreciated. It is vital that mature businesses and economies recognize the value and critical need, to incorporate responsible OSH and public health practices when exporting thinking, skills and practices to developing economies.

Some of these technological trends have already led to **disruptive shifts in work and relationships**, shifts characterized by the following movements:

▶ from businesses that were "geographically limited in scope, community outreach and demographics" to businesses that are "larger than countries";

▶ from "employees" to a growing number of "entrepreneurs" not allied with a specific organization but supporting many organizations. This growth may well increase following the COVID-19 small and medium business challenges;

▶ from "permanent" to "Velcro" relationships;

▶ from "outsourcing" to "crowdsourcing";

▶ from "reliance/faith in physical infrastructures" to "reliance on digital infrastructures";

▶ from "desktops" to "devices";

▶ from a reliance on "career ladders" to the desire for "experience portfolios";

▶ from recognizing the "importance of organizations" to "increased reliance on social community and virtual networks";

▶ from "protecting knowledge" to "sharing knowledge".

▶ from CEOs focused on shareholders to stakeholders – which include employees, communities, suppliers and customers, as well as shareholders.

Speed in changes is unprecedented with the ability to assimilate and adapt always a challenge. Decisions that in normal times could take years of deliberation are passed within a number of hours.

And finally, **traditional Institutions** everywhere are changing and, in many cases, falling short of expectations which call for equitable impact across communities worldwide. These institutions include affordable and more technologically enabled health care, distance learning education, criminal justice, government, big business and unions. These gaps must be bridged by other entities or community social infrastructures and relationships. Ironically, the COVID situation has profiled the need for our traditional institutions and infrastructure to be strong in their efforts and impact in communities.

▶ The global OHS burden overlaid with public health issues

If we look at statistics alone, we already know that more people die each year from occupational injuries and diseases than from other major causes that are much more visible and increasing (armed conflict and violence, HIV/AIDS and road traffic).

The ILO and WHO statistics reflect that **global fatalities** have been as follows[4]:

▶ 2.78 million workers die each year from workplace causes, with 2.4 million of these dying from occupational diseases.

▶ By comparison, 381,000 of these die from occupational injuries. The total global fatalities amount to 7,600 deaths every day (or 1 death every 11 seconds).

Deaths per year worldwide

Category	Value
Armed conflict and violence	0.66
Road traffic	1.25
HIV/AIDS	1.00
Occupational injuries and diseases	2.34
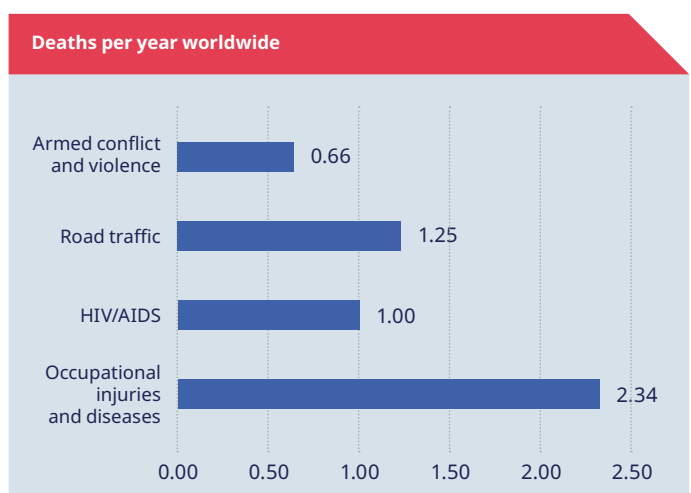
These official statistics do not reflect other growing trends[5], such as:

▶ Environmental impacts of workplace agents.

▶ Environmental impacts of and diseases exacerbated by workplace agents (e.g. silica-TB; asbestos-smoking).

▶ Blurred lines between workplace, home and community: exposed family, especially young and old vulnerable members.

▶ Workers in the developing economies who are not employed in formal sectors, with employment in the informal sector reaching 70%.

▶ Few medical facilities and treatment in emerging economies.

▶ Nonexistent public health registries for major illness and industry types.

▶ The reality that, while fatal illnesses outnumber the injuries, it is still "injuries" which are studied in detail, not "illnesses".

▶ The shortage of scientific skills (physicians and nurses, emergency response personnel, virologists, epidemiologists, public health experts, biochemists, bioengineers, occupational hygienists, safety professionals, to mention a few). This has truly been highlighted during this pandemic experience.

These statistics do not even consider the impact of the COVID-19 pandemic as an overlay to the existing global burden of disease and death (almost 4 months into 2020). The world has already experienced 2,400,000 COVID-19 cases, with 165,000 deaths, and may well exceed the annual loss experienced in traditional injury/illness situations. Final case and fatality outcomes will largely depend on rigorous physical distancing, the availability of testing, treatment options and vaccines, robust health care facilities, the availability of personal protective equipment and, most importantly, the sharing of knowledge, resources and strategy globally at a time when many countries are closing borders to mitigate the spread of the virus.

In 2014, Lucchini and London[6] stated that global OHS must be an international development priority. The reasons are compelling - economic globalization is leading to an increased OHS and public health gap. In developing countries, the absence of OHS infrastructure amplifies public health and development problems. Typically, existing occupational health institutions are underfunded. Additionally, only 5-10% of workers in developing countries have access to skilled OHS practitioners. Economists generally assume (shortsightedly) that OHS, emergency preparedness, response and recovery, and public health are later developments in the social maturity curve and should normally be undertaken once the economy is strong enough to absorb the additional expenses required by preventive action.

In 2020, these shortcomings have become more urgent in terms of global pandemic preparedness, response and recovery. COVID-19 clearly depicts this in bringing the world (both lives and economy) to its knees.

▶ Today's Challenges—COVID 19 Pandemic Impacts

Changing Business Climate Trends and Drivers Impacted by COVID-19

In general, changing business trends and drivers impacted by a pandemic share the following characteristics:

▶ Globalization makes the world smaller, but during global emergencies, localized community infrastructures and their support grow in importance. COVID-19 is a classic example of decentralized governments picking up the ball and setting health and economic direction vs an overarching national or global strategy to leverage resources and knowledge. The initiatives and outcomes are often not seamless and sometimes fragmented within a nation.

▶ Global supply chains are under urgent scrutiny from an economic standpoint, but vulnerable to major world disruptions in critical supplies for certain regions during a pandemic (COVID-19 PPE, antibiotics and drugs needed to fight secondary infections from the corona virus for instance).

▶ When faced with sheltering in place, digital technology usage increases logarithmically, albeit with fewer face to face interactions, more isolation on the part of many employees and the profiling of mental health, depression, anxiety and other psychosocial issues.

▶ Cost & cycle time reduction is generally a key business element, but not during global emergencies when supplies are short, and outbidding becomes the norm.

▶ Increased offshore manufacturing has proven a terrific economic incentive, but it raises a concern for countries faced with the reality that their own critical supplies may not exist when the broader world competes for the same resources which exist outside their own geographical domain.

▶ The total work life cycle is impacted, with no differentiation between work, personal life and community life. On the other hand, during the pandemic, personal life and community life become very different. Personal life is isolated and tedious. Community life has virtually ceased due to physical and social distancing.

▶ Creation of business-funded learning organizations and platforms becomes even more critical during a pandemic. With brick and mortar learning institutions closed during COVID-19 and likely to remain shuttered for months as we recover from the pandemic, the proliferation of e-learning opportunities for workers and their families is important.

As markets, businesses and economies adapt to new norms during and after a major world event, so must global OHS and public health organizations and their leadership.

Our Call to Action

Crisis spurs radical solutions. The world we knew is no more; it is being replaced by transformational challenges and opportunities. Stepping up OHS and public health investments in people at all societal levels and in all market segments is the only way to ensure "capability" and "capacity". It is the new benchmark to making a sustainable difference in global OHS, public health challenges, and the promise of a brighter future.

Given the world's 24/7 evolving challenges with COVID-19, we need to step back and ask: why do we find ourselves in this situation? Did we not ever anticipate a pandemic of this magnitude in our lifetimes? Did we not prepare well enough to address the critical OHS, public health and economic challenges triggered by COVID-19? Did we not properly anticipate the longer-term implications of emerging markets and global supply chains, new technologies, the rising disaggregation of work, shifting traditional social systems, sheltering in place, working remotely, financial compression, and a perceived retreat from globalization and a rise of the nation state as governments struggle like hoarders in a supermarket to make sure their own households are stocked? All this-- in the face of a potentially deadly biological enemy which is now disabling our men and women daily in over 210 countries.

Undoubtedly, this pandemic presents an opportunity to re-evaluate what we really need moving forward, what we really value. **We need** global governments and partners to work collaboratively and strategize seamlessly when the earth's population is at risk. **We need** sophisticated e-learning platforms to support traditional learning so competencies can be strengthened and shared everywhere and efficiently. This means strengthening and geographically distributing capacities in the basic sciences to minimize the gap between the developed and emerging worlds' resources and capabilities. **We need** education and employment opportunities for men and women at all ages and throughout their lives. **We need** engaged local businesses and communities that often are the only reliable delivery resources able to deploy key advice and practices properly at the grassroots level. **We need** a focus on public health as a critical component of incident command centers for catastrophic multi-disciplinary planning, preparedness and recovery. And finally, **we need** one respected voice to aggregate information (both scientific and best practices) to be delivered by a unitary source for understandable public consumption vs the proliferation of contradictory science and best practices so prolific today.

Most of all, **we need** to learn from the strengths and vulnerabilities that this pandemic has exposed so we approach the next crisis with better leadership, better preparation, and better execution. We must keep center the concept that we need global unity at a moment of a true global crisis. Our societies will not be the same after the crisis and the world we live in will also be different. Our decisions over the course of the next few weeks and months will determine what the world will look like in the future.

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