

# GLOBAL INTELLIGENCE BRIEFING FOR CEOs

MEGATRENDS

September 2011

3i:MIND



## Executive Summary

Most indicators suggest that global events in the first half of the 21st Century are likely to reflect an increasingly tumultuous and unstable world.

Growing and urbanizing populations in the developing world, especially in China and India, will drive accelerated demand for limited resources; populations seeking jobs in markets far from their homes will contribute to societal tensions and unrest if not well integrated into their new host nations; technological innovations will be increasingly capable of disrupting established markets; and the U.S. and other western nations will need to reconsider their place in the geopolitical landscape given mounting budgetary pressures, overextended militaries and China's growing economic and political influence.

The early half of the 21st Century will almost certainly produce increasingly complex operating environments for corporations, governments and other organizations. This, in turn, will yield a substantial number of high-impact, low-probability events—so called “black swans”. (Black swans of recent past include the proliferation of the Internet, the events of 9/11 and the fall of the Berlin Wall.) Faced with such events, multinational organizations will encounter new and more frequent disruptions that will pose significant complications for under and unprepared enterprises.

We have identified five (5) “megatrends”—overarching developments that will impact global operating environments and create new challenges for multinational organizations.

These megatrends include:

- Demographic Shifts
- Disruptive Technologies
- China's Economic and Diplomatic Development
- Continuing Globalization of Business
- Instability in the Arab World

The enterprise that understands these trends and their ramifications and is prepared to manage the disruptions certain to emanate from them will be poised for success in the 21st Century.

## Five Trends to Shape the 21st Century

### I. DEMOGRAPHIC CHALLENGES

The distribution and dynamics of world population growth is undergoing dramatic change. By 2050, the world's population will have grown significantly older, larger and more urban, albeit with significant variation across regions. This trend is already resulting in a distinct gap between low-growth, aging, developed nations, where most of the world's wealth and jobs are concentrated; and high-growth, young, developing nations, where the majority of the world's population is located. Such a combination is highly likely to exacerbate social tensions and competition for limited resources.

#### ***The Developed World: Low-Growth Rate and Aging***

##### *Aging Populations*

Birth rates in Europe and developed Asian economies (e.g., Japan; South Korea; Hong Kong SAR) are well below the replacement rate of 2.1, contributing to a contracting, aging population. An aging population presents an increased burden to state pension and health care systems, while shrinking populations have already rendered a number of these systems financially unsustainable. Overburdened social programs play a large role in concerns over a country's economic sustainability. Greece, Italy and Ireland among other nations are on the verge of economic default. The U.S. will also see an enormous drain of its treasury to support social security and health care systems as its “elder dependency” ratio is expected to increase from 19 to 38 over the next 10 to 15 years.

Japan, with a birthrate of 1.3, is confronted with a dramatically declining population. The Japanese population peaked at around 127 million in 2002 and by 2080 is projected to fall to a mere 65 million. Japan's low fertility rate, coupled with an exceptionally long life expectancy, is causing Japan to age more rapidly than most other developed countries. By 2020, 20% of Japanese are predicted to be at least 70 years old. The costs of sustaining this elderly population will be highly burdensome and could reduce Japan's economic power and influence in the near future.

##### *Immigration Tensions*

Because developed nations are not replacing their aging workforce through sustainable birth rates, they're relying on imported labor

to provide the human capital necessary to maintain their economies. Failure to adequately integrate this imported working population is highly likely to contribute to internal instability, ethnic conflicts and civil unrest. These tensions are particularly apparent in Germany with its growing Turkish population and in France with its large Maghreb population. Numerous conflicts in the Nordic countries have broken out surrounding the contentious issue of immigration, notably the riots surrounding the Danish cartoons and the recent attacks in Norway.

### ***The Developing World: High-Growth Rate and Youthful***

The demographic shift described above is affecting developing countries quite differently than their developed counterparts. Some 95% of the world's population growth is concentrated in the developing world, and a number of developing countries are already facing "youth bulges," or a disproportionate concentration of population in the 15-to 29-year-old group. Growing populations will spread already limited resources even thinner, exacerbating poverty, weakening state sovereignty and increasing social unrest.

#### ***Unemployment & Disenfranchised Youth***

A large proportion of the growing youth population will live in cities with few job opportunities and unemployment problems will likely lead to increased migration to developed countries. Unemployed persons with few prospects for work or assimilation into their society are more likely to turn to radical movements and terrorist organizations for a sense of meaning and belonging. They are also more likely to engage in demonstrations and civil unrest.

#### ***Other Security Implications***

Other security implications of high growth rates in developing countries including environmental degradation and pollution (particularly in India and Sub-Saharan Africa); water shortages in the Middle East and Africa; and increased spread of infectious diseases. Finally, by 2015, for the first time more than 50% of the earth's population will be living in cities. This increased urbanization will put a strain on existing infrastructure.

Unmanaged hyper-urbanization is likely to produce a rise in crime and civil unrest over limited space, resources and jobs; and the more rapid transmission of communicable diseases.

Nevertheless, there will be opportunities. Urbanization and growing populations in the developing world are likely to generate new markets and drive the need for new products. Additionally, an aging population will increase demand for pharmaceutical, healthcare and gerontology-based products and services.

**Understanding these demographic trends and using that lens to analyze threats that emerge from them will be critical to maintaining a resilient enterprise over the next fifty years.**

## **2. DISRUPTIVE TECHNOLOGICAL INNOVATION**

Profound technological transformations, innovation and rapid advancements in the sectors of energy, transportation, nanotechnology and materials science, medicine and genetics, communications and information technology are almost certain to lead to expanded markets, but also to more disruptive technologies—those that cause significant change in the status quo (e.g., Ford's Model T; affordable cell phones; social networks). This increase in disruptive technologies will correspond to an increase in Black Swan (low-probability, high-impact) events.

### ***Disruptive Technologies***

The rate of technological expansion is almost certain to yield a more frequent emergence of disruptive technologies, significantly and sometimes permanently altering the business landscape. Disruptive technologies have the power to even recreate the geopolitical landscape. Advancements in the energy sector in particular are almost certain to significantly reduce the demand for oil over the next 50 years in favor of substitute sources of energy and super-efficient energy storage devices. In this case, countries like Saudi Arabia, Iran, Oman and UAE will have to shift the focus of their entire economies and are likely to lose significant influence both globally and regionally.

### ***The Democratization of Technology***

Innovations in computerization, miniaturization, telecommunications and digitization allow hundreds of millions of people around the world to have access to sophisticated technology and to rapidly exchange information, news, knowledge and financial resources. In today's world, it's the ordinary citizen and not only the nation state and large company who have influence over the distribution of information.

Social media has played, and continues to play, a critical role in the popular uprisings of the Arab Spring. In Tunisia and Egypt, country-wide revolutions have been called "Revolution 2.0" because they were facilitated by popular micro-blogs and social networks. In Syria, in light of the government imposed media blackout, social media platforms have all but replaced traditional news sources. Conversely, insurgencies and terrorist organizations also use non-traditional forms of technology to advance their causes. Hamas and Al-Qaeda employ video-sharing sites, blogs and forums for recruiting, dissemination of information and coordination of activities; the Taliban has

created a sophisticated media network to undermine support for the Afghan government, sending threats via text message and spreading its views through cassettes, DVDs and ring tones.

The democratization of technology also leads to the creation of novel and non-traditional uses of technology. Open-source operating systems are free to users who repurpose and distribute their underlying source code. Because these operating systems are often crowd sourced (altered through collaboration), they are likely to contain fewer errors and incite greater innovation.

### ***Black Swan Events***

The rapid increase in technical innovation coupled with non-traditional uses of technology is likely to increase the incidence of black swans. Examples of black swans include the 9/11 terrorist attacks, the collapse of the USSR and the current financial crisis—all of which were/are outliers with an extreme impact.

**The organization that monitors the environment for indicators and signals of change is likely to be able to more easily manage that change and possibly benefit from it.**

## **3. CHINA'S ONGOING ECONOMIC AND DIPLOMATIC DEVELOPMENT**

Economic growth and diplomatic changes in China are likely to yield domestic and geopolitical pressures that will complicate the operational risk environment in China and around the world.

### ***A Burgeoning Middle Class***

China's economic model has brought the country sustained and significant economic growth. As millions of Chinese join the ranks of the middle class and experience globalization, many are demanding greater influence in local affairs, access to commercial goods and accountability of government officials; they also demand an end to censorship, security crackdowns and widespread corruption. Reactionary forces within the Communist Party have attempted to reinvigorate the cult of Mao in order to maintain a one-party state. And in the midst of China's rapid economic expansion, the nation's rural poor have been largely forgotten and China's cities have become overcrowded with migrant workers, thus lowering the demand for laborers and decreasing the price of wages.

It is a near certainty that tensions between progressive and retrograde forces will yield domestic turmoil. History notes, after all, that it is not the poor who revolt, but the nascent middle class, and as millions of Chinese join the ranks of that demographic and taste the fruits of globalization, they will be increasingly able to leverage their economic clout to exert pressure on Chinese authorities.

### ***The Search to Secure Limited Resources***

The need for resources to feed its economic development has forced China to engage with the developing world in search of raw materials. China's economic position has enabled it to expand through a global recession and position itself at the forefront of a quest for resource control. Its interest in securing limited resources to fuel its own consumption is likely to stoke tensions between China and other nations that require the same resources. The risk of significant tensions between China and other global and regional powers, especially the U.S., Russia and India, is high and mounting. China has effectively barred competing superpowers from securing their own nations' futures. That insecurity will create tensions difficult to mediate in a multi-polar world.

### ***Defense and Power Projections***

China's significant uptick in military spending and procurement of more sophisticated weapons platforms has created concern amongst Western nations and regional competitors, Russia and India. This military escalation, contrasted with military spending cuts and decreased capacity stemming from the U.S.'s budgetary crisis and fatigued military, is almost certain to lead to increased tensions between the two nations. China will find ways to test U.S. limits and its willingness to exert influence over China's sphere of influence. China will also press and probe against its regional rivals to test its ability to project power.

**Monitoring the way China handles its economic and diplomatic growth (and how the rest of the world reacts to it) will allow organizations to detect indicators of increasing pressure or potentially destabilizing incidents and give them advanced time to plan for disruptions.**

## **4. CONTINUING GLOBALIZATION OF BUSINESS**

Increased decentralized or "fractured" means of production is already in its second generation. Major companies that drive the global economy have outsourced virtually every facet of their business and there are no indicators to suggest that this trend will subside. Such a highly complex and intertwined system yields a global economic order in which a fire in a small Taiwanese factory can yield a crippling loss of market share for multiple international cell phone makers.

**As production methods become even more complex, operations and supply chains are likely to be more exposed to risk.**



**A globalized enterprise must be constantly aware of disruptive events and how they map against the enterprise's footprint and interests.**

The recent history of two companies offers a unique and insightful look at the impacts of globalization.

#### *IBM*

A generation ago, IBM manufactured and distributed computers in their entirety, from software to processors to marketing. As technology manufacturing grew more globalized and competitive, Intel began to make the chips, Microsoft the software, and the assembly of IBM computers took place in the very same overseas factories that built competitors' machines. Even IBM's call centers were being outsourced as labor abroad became cheaper and technology allowed for remote training of that workforce. With separate companies supplying goods and services to IBM more cheaply and effectively than they could themselves do, their computers increased in quality and decreased in cost. This process, whereby a company creates a superior product by relying on others to perform functions the business used to do itself, is known as a "fracturing" of business and it creates a complex pyramid of companies that serve and support each other.

IBM's example of globalization made technology broadly accessible and made computers available to the average American. A decade ago, a personal computer cost an average of \$3,000. Now, a barebones desktop can be acquired for less than \$500. Today, IBM has exited the manufacturing market all together, focusing on consulting and software development. Through extensive acquisitions and a mantra of adaptability, IBM has succeeded in finding a competitive niche in the global market.

#### *Boeing*

There is no doubt that Boeing has benefitted in innumerable ways from globalization; the company could not compete without relying on foreign production. Nevertheless, outsourcing its production line had severe negative implications for Boeing's most recent massive project: the construction of the 787 Dreamliner.

Approximately 70% of the Dreamliner's components were manufactured by foreign contractors. This meant that parts could be produced simultaneously and less conjoined space was required to manufacture the massive plane, saving both time and money. As the process got underway, however, it became clear that such extensive outsourcing had several drawbacks. Coordination issues prevented the timely assembly of the plane and communication missteps resulted in the production of incompatible components.

Though globalization has created many positive opportunities for businesses around the world (as it has for IBM), the trend is not an unequivocal force for good. The case of Boeing provides an example of how globalization can result in inefficiency and an inferior product.

## **5. INSTABILITY IN THE ARAB WORLD**

The spate of domestic uprisings in the Middle East and North Africa are almost certain to reshape the geopolitical map for generations to come and Arab Islamic extremists who reject the West and modernity will continue plotting actions to disrupt the interests of Western governments and affiliated organizations.

### ***Political Liberalization?***

In the Spring of 2011, people in various countries across the Middle East and North Africa demonstrated their intolerance for continued rule by despots and extremists, attempting to oust oppressive regimes that had ruled for decades.

States like Saudi Arabia, Qatar and Kuwait, often functioning as petro-monarchies, escaped significant revolution and remain largely unchanged. A major shift in areas where populations can forgo a Western level of freedom in exchange for distribution of oil wealth from the state is unlikely. In other countries, regime power has faltered, but lingers as revolutionary factions attempt to overthrow the despotic regimes that have governed their countries.

The struggles of Libya, Syria and Yemen demonstrate how vigorously revolutionaries yearn for democratic reform and how desperately rulers cling to old conceptions of power. Revolution in the name of democratic reform has been successful in toppling despots in various countries. Egypt and Tunisia have hope of establishing strong democratic governments tied to Western economic and cultural traditions.

Such transitions will have an impact on the region for generations to come; this revolutionary time serves as evidence that those who yearn for democracy and achieve their ends without Western intervention, a notion that can be drawn on for future revolutionaries.

The Arab Uprising could very well lead to a new era of political liberalism and democratization in an area wracked by decades of authoritarian rule. If economic conditions improve steadily and improvements have a broad effect, the area could witness an unprecedented degree of regional stability, innovation and entrepreneurship. On the other hand, the transition away from autocratic and repressive rule may drag on or may never occur, leading to prolonged chaos and civil wars.

Widespread instability in the region will accelerate movements of populations into Europe, further exacerbating the existing sectarian and cultural tensions between locals and Arab and Muslim communities that are having difficulty assimilating into the larger European and U.S. communities.

**Tracking the progression of the Middle East and North African nations rising against their authoritarian pasts will be essential for any enterprise with interests in region. Possessing insights that indicate when it is safe to move back into the region, or when it is unstable enough to withdraw or restrict business in a given country can provide market advantages and ensure the protection of interests and operations.**

### ***Arab Extremism***

Though only a small fraction of Muslims adhere to an extremist version of Islam, one of the lessons of 9/11 is that we live in a world where a small number of individuals can kill massive amounts of people very quickly. Despite the death of Osama bin Laden, Islamic extremist organizations will continue to plot disruptive terrorist attacks to bring attention to their causes and attempt to persuade the U.S. and the West to withdraw from the region.

Radicalism stemming from the Muslim world remains a foremost foreign policy concern for the U.S. and the West. Islamic radicals are indoctrinated with the idea that Islam mandates violent attacks against Western civilization. Combating this extremist version of an inherently peaceful religion will continue to play a large role in the foreign policy of nations concerned with terrorist movements.