

Structural and High Intensity Change and the Redesign of Leadership

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Abstract

This essay is designed to describe the strategic and contextual nature of unprecedented change occurring in the environments in which enterprises and institutions must function. The change intensity is such that it compels a rethinking of traditional and conventional leadership models. The canons, under which those models have been developed and evolved, are no longer sufficient to facilitate and drive performance toward planned enterprise strategic goals and objectives. It introduces a new perspective through which high density turbulence and volatility resulting from change can be viewed and understood that further accounts for how this new environmental period is fundamentally altered. It can also be used as a tool to assess risk intensity relative to management capability response in the equity investment environment as well.

Keywords: Change Intensity, Ansoff, Turbulence, Volatility, Disruption, Leadership

Since the beginning of this new millennium, the world has witnessed an acceleration of unprecedented change, creating an environment with high density turbulence and volatility. This new phenomenon has created instability and has manifested its effects in nearly every strand of the human condition. It has also compelled a re-examination of how business enterprises and non-business institutions function in this new paradigm of unfamiliarity. There has been a good deal of research on the effects and results of change and the process of change management, revealing multiple strategies on how enterprises must adjust to be or remain competitive under changing conditions. However, little attention has been focused on understanding the strategic context and nature of change itself, which, at the current unprecedented pace, requires new understanding if appropriate change and leadership strategies are to be developed.

Schumpeter's "Creative Destruction" Theory

When Harvard Professor Joseph Schumpeter introduced and popularized the term *creative destruction* in *Capitalism, Socialism, and Democracy* (Schumpeter, 1942), he aimed to describe and give meaning as to how capitalism creates new markets and its resulting effects. He argued that the corresponding activities the introduction and opening of new markets trigger are consistently destructive by nature, because they destroy the old order to make room for the new as a matter of the natural evolution of capitalism. Economists ever since have essentially accepted this basic principle to account for human, material, and financial dislocation resulting from economic innovation, commonly referring to the set of dynamics as "free market forces". However, the contextual nature of change today goes far beyond the economic cycles Schumpeter used as the foundation for his theory, and has taken on new forms that require new understanding and definitions.

The Nature of Change

Myriad factors have contributed to the emergence of this new reality, however, to facilitate a scientific examination of this unique phenomenon, and the impact it has had on the nature and design of leadership, it is instructive and useful to view it through the lens of two important change categories. One can be characterized as a slow, but deliberate trend evolution over time, and the other, often very fast and without anticipation or advanced notice. The first category is hereby referred to as *Structural Economic Paradigm Shifts* (SEPS). The second will be referred to as *High Intensity Change Flashpoints* (HIC (1)).

Categorical distinction of change lends to a better understanding of the associated dynamics because each type has unique impacts and measurement methodologies.

External Environment

Environmental Turbulence and Leadership Theory

The late Dr. Igor Ansoff, often referred to as the *father of strategic management*, and a professor under which the writer studied, was among the early management scientists to attempt to explain the relationship between volatility in the environment and enterprise performance. He based his *turbulence theory* on three key elements: 1) complexity-the nature of change; 2) rapidity-the frequency of change; and 3) predictability-the degree to which change can be anticipated (Ansoff, 1990). His explanation of this relationship presents key indicators for the current leadership complex relative to developing capability response to the emergence of constant new challenges. The US Army War College began taking notice of this intensified change phenomenon in the late 1990s, and developed a description translated through acronym so that it could be better understood by military leaders. The acronym VUCA-“Volatile, Uncertain, Complex, Ambiguous”, is used to describe the new operating conditions driven by the rise of terrorism, global political instability, and asymmetrical warfare (Nussbaum, 2013).

However, this new level of volatility presents new challenges that have fundamentally altered the roles of leadership and created the need for the development of new models designed to elevate organizational performance. Specifically, the level of turbulence has dramatically decreased predictability. This lack of predictability, namely, the anticipation of emerging trends and events so that leaders can properly plan and respond to changing conditions, has created both environmental and market volatility, compelling leaders to re-examine the role leadership plays in their pursuit of effective enterprise performance.

Since the 1960s, there has been a good deal of research on leadership theory, going all the way back for example to “The Great Man Theory”, including motivation theories like *Maslow’s Hierarchy of Needs*, then trait theory, moving through behavioural and contingency theories, and arriving at transactional theory, and transformational leadership models designed to meet the challenges of new environmental change. And while there is scientific validity contained in all of them, many scholars agree that dramatic change has made some of them contemporarily less useful, while others have contributed to new evolutionary theories like *servant leadership* and *contextual leadership*, seen by some as being more relevant to meeting today’s new challenges. However, understanding the foundations and context of the current wave of change is essential to developing leadership models that best align with the changing conditions and challenges seen today. This understanding is a critical component of leadership analysis leading to improved enterprise performance. More on the attributes of turbulence and the leadership implications it portends are discussed later in this essay.

Structural Economic Paradigm Shifts

Thomas Kuhn first popularized the phrase “paradigm shift” when he described the nature of scientific revolution as compared to the pattern of normal scientific discovery bound within the framework of scientific discipline (Kuhn, 1962). He essentially characterized it as a “profound and fundamental shift”.

The concept of *Structural Economic Paradigm Shifts* (SEPS) advances that thinking by placing the nature of change within a specific context that is by definition structural, and thus, nearly irreversible or a near permanent state. SEPS are changes in our physical and natural environment that cause society to re-arrange the way it organizes itself. These socioeconomic, ecological and geostrategic phenomena arise from varied paths, i.e. the economy, technology, education, politics, culture, demography, religion, climate, and others. However, SEPS consistently render an economic impact-namely, the way we work and earn money; the way we spend; the way we live and organize our lives; and the way we interact with other human beings. Perhaps the most fundamental example of a SEPS is the discovery of fire by ancient humans approximately two million years ago. Once fire was discovered, it enabled tool making, which enhanced hunting for food, and the evolution of humankind was accelerated. So, it was a structural change that still embeds our fundamental life culture today.

SEPS have helped to trigger the emergence of a new, and highly volatile environment in which enterprises and institutions alike must function, however, they have not been the sole factor contributing to the changed environment.

Other high intensity change factors have also helped to shape our world, and emulate some of the conditions described by Alvin Toffler in his characterization of the post-industrial world's *Third Wave* in his best-selling book *Future Shock* (Toffler, 1970).

Over the last decade, the continued evolution and impact of SEPS, including increased globalization, and the introduction of HIC₍₁₎ as illustrated by the increased frequency of disruptive innovation and geo-strategic events, have resulted in intensified volatility leading to high uncertainty, creating what some scholars refer to as *environmental complexity* (Alexander, 2006).

This complexity produces constant change as a new paradigm around which business models must be constructed. Complexity-driven constant change is compelling a leadership impetus toward continuous and perpetual innovation merely to stay competitive. One of the key leadership questions is if and how such a proclivity can be sustained or even if it should be replaced by alternative strategies. To begin the focus on SEPS, they can best be viewed and analysed through the prism of the remote segment of the external environment which examines economic, technological, social-demographic, political, and ecological factors that influence strategic behavior (Pearce and Robinson, 2011). Further examination of the recent acceleration of change and assessment of global factors compels the creation of a new category to be included in the remote external environment factor analysis: *geostrategic* (distinct from geopolitical)

Major Economic SEPS

Perhaps the most profound and enduring example of an economic SEPS in the United States has been the structural workforce dislocation resulting from the effects of globalization. The most visible impact has been the rather dramatic loss of manufacturing jobs that helped build a striving American middle class in the Post WWII period. The still emerging impact of this development was significantly and further exacerbated by the recession of 2008-2009 triggered by a global liquidity crisis. However, while the loss of manufacturing jobs was already in full motion, the rather swift transition from an industrial-based economy, to one driven by service and information has run parallel to this trend. The late Dr. Peter Drucker popularized a description of this development with the introduction of the term the *Knowledge Economy* in his book, *The Age of Discontinuity; Guidelines to Our Changing Society* (Drucker, 1969).

The decline in U.S. manufacturing began in earnest in 1979, as companies began shipping jobs overseas to countries with cheaper labor, leaving American workers behind. It has been a continuous decline until recently, in which some modest growth in manufacturing has emerged. However, the overall trend has continued to show modest growth in one month, and a decline the next, further embedding the reality that U.S. manufacturing is structurally depressed. According to the Bureau of Economic Analysis (BEA), from 2000 to 2010, the U.S. lost 55,000 factories and approximately 6 million manufacturing jobs, or about 33% of total manufacturing output. What makes this dramatic loss a SEPS is because for the most part, the segment of jobs lost will not return, and workers previously employed in them, have to be retrained for other types of employment, triggering a recalibration of living standards and their aspirations for the future.

The twin dynamics of structural manufacturing job loss and the transition to a service/information economy, has not only left many American workers untrained, and thus unable to secure the new jobs, but has dramatically altered the aspirational profile of large segments of workers that must be led. The contextual foundation that served as the unofficial covenant upon which workers had been led throughout the Post-WWII period, has taken a dramatic turn. What was once, the mutual and bi-directional social contract between employers and employees based on trust and loyalty, which enabled the execution of a command-control leadership complex, has all but disappeared. This breakdown can be witnessed in any of the Midwestern towns that were once home to thriving manufacturing plants, sometimes employing multiple generations of entire families that now stand idle as eyesores of urban decay. Another example of this erosion appears in the dramatic reduction in pension benefits once offered to workers as a form of lifetime security. According to the Bureau of Labor Statistics (BLS), the percent of workers participating in defined benefit pension plans dropped from 35% in 1990, to about 16.5% in 2011 (BLS, 2011). In 2011, the percent of all industry establishments offering defined benefit pension plans stood at only 10%.

Most workers today participating in any kind of retirement savings account are likely invested in 401K plans to which they contribute, and the employer may or may not make corresponding contributions. Most 401K plans are portable.

Meaning, workers can take them with them when they depart, even if working for another employer. These two dynamics, elimination of defined benefit pension plans, and the proliferation of portable 401K plans, help to further erode the social compact that once served as an essential pillar of trust in American industry. The implications for change-leadership are profound because the once reliable ability to win employee loyalty is now compromised as a result of reduced real and perceived security. At the height of the Great Recession, in 2009, U.S. unemployment rose to a high of 10.2% (BLS, 2011). Since the beginning of that economic decline, wage growth took a dramatic turn downward, and has essentially remained flat since (Shierholz and Mishel, 2013).

Recent census data reflects a shift. In 2015, median household income grew 5.2 percent from the previous year to \$56,500, the largest increase since the data has been collected. Meanwhile, the emergence of a national debate about income inequality—namely, the gap between working class incomes, and the very wealthy in the country, has sharpened the focus on the lack of wage growth for workers. At the same time, CEO pay has skyrocketed, further framing attitudes of workers that must be led. According to the Economic Policy Institute, the CEO-to-worker compensation ratio was 20-to-1 in 1965 and 29.9-to-1 in 1978. It took a sharp turn up in 1995 to 122.6-to-1. The gap peaked at 383.4-to-1 in 2000, and was 295.9-to-1 in 2013, far higher than it was in the 1960s, 1970s, 1980s, or 1990s (Davis and Mishel, 2014).

Technological SEPS

Since the mid-eighties, when the personal computer was first introduced, we've witnessed the introduction of one new breakthrough technology after another. However, of them all, the two that have structurally redefined society (SEPS), are the introduction of the Internet, and the explosive adoption of mobile wireless telecommunications as a primary source of not only communicating, but essentially knowing in real time, exactly what is occurring all over the world. The impact of these two technologies is rapidly expanding even more now as they have converged. Hand-held telecommunications devices are increasingly becoming a primary tool through which workers access the Internet to perform all manner of functions, including getting up-to-date information on industry trends, accessing customer information, and reviewing human resource needs.

Consider that as of 2013, the total worldwide mobile phone user population was 6.8 billion. It is estimated by industry analysts that the number of users has already surpassed total global population at this writing (7.3 billion) (Digital Trends, 2014). As of the fourth quarter 2015, the social media giant Facebook registered 1.59 billion active monthly users (Statista, 2015), or roughly 22% of the total global population. Twitter, the micro blogging service, accessed mostly through wireless devices, had approximately 310 million active monthly users (Statista, 2015). According to Pew Research, as of 2014, 90% of American adults own a cell phone and 42% of American adults own a tablet computer (Pew, 2012). Additionally, roughly a third of cell phone owners describe their device use as “something they can't imagine living without”.

Total online E-Commerce is estimated to have been \$347 billion in 2015 (U.S. Commerce Dept. 2015), reflecting dramatic growth of more than 50% from 2010.

This changing environment is having a profound impact on traditional print newspapers. Many industry analysts are suggesting that the era of print newspaper publication is clearly reaching twilight (Statista, 2015). According to the Pew Research Centre on Journalism & Media, 62% of U.S. adults get their news from social media, and not traditional news sources (Gottfried and Shearer, 2016). These are some of the contextual factors that create the leadership frame through which leaders must now engage in order to motivate people to produce optimal performance outcomes.

This technology SEPS is also a major catalyst for *High Intensity Change Flashpoints* (HIC₍₁₎) because of the impact it has on the speed of communication. Even what we now consider rather fundamental and an established component of the enterprise environment, namely, the use of electronic email, has had a profound impact on the proliferation of change because of the speed of communication it delivers. Beyond that however, the speed of digital communication in all forms of enterprise/institutional information systems has transformed the dynamic of change from one that occurs over time, to a process that can occur very fast, in real time, and without advanced notice. Chung, Lee and Choi found in a comprehensive study of digital communication and its impact on enterprise creativity that there was a high correlation between the implementation of enterprise mobile applications (EMAs) and the potential of increased enterprise creativity, controlling for organizational agility (Chung, Lee and Choi, 2015). The leadership question becomes how does digital communication speed get systematically harnessed, exploited, and leveraged to achieve enterprise strategic objectives.

Mobile Computing Era – Organizational Change

One of the most significant outgrowths of the technology SEPS is the proliferation of *tele work*, often referred to as *telecommuting*. Tele work is essentially the act of working from home or other remote location outside of the traditional office and thus also conventional organizational structures, by substituting technology for commuting to work (Nilles, 1975). It is enabled by the proliferation of so-called *mobile computing devices* (MCDs) that include smart phones, tablets, laptops and other hand-held devices. There are approximately 3.7 million non-self-employed employees working from home at least half the time they are required to work (Global Workplace Analytics.com, 2015). That population is expected to continue to rise in 2016, with regular steelworkers estimated to reach 4.9 million (Telework Research Network, 2015). Some experts predict that nearly half of the entire U.S. workforce could be engaged in tele work over the next decade.

Some of the leadership challenges that emerge from the growing phenomenon of telework are: 1) how do you motivate employees working remotely to be engaged and connected to the organizational culture? 2) how do you sustain long-term commitment and loyalty from those same employees? 3) How do you ensure that an appropriate accountability system is in place for remote employees? Beyond that, with increasing emphasis being placed on team collaboration as an essential tool to achieve enterprise strategic objectives, how do you lead dispersed teams, which are tele workers collaborating in teams, each from a different location?

While research on the effects of tele working is still quite limited, there are some studies that strongly suggest that leadership quality is a defining element of dispersed team performance outcomes. Because there is very little face-to-face communication, dispersed teams require rapid trust, reasonable norms, and a connection to culture, all driven by strong leadership in order to be effective (Marquardt and Horvath, 2001). This sub-SEPS example begins to illustrate the challenges today's leaders face, and why leadership models require redesign and will also require continual updates in terms of contextual relevance as a result of continuous change.

Social-Demographic SEPS

Three Generational Workforces

Other SEPS are also having a profound impact on societal organization, and thus, the new leadership paradigm. The dramatic shift of so-called "Baby Boomers" to "older American" status will reshape society and the workforce at-large. Once again, according to Pew, Baby Boomers as a cohort, occupy about 26% of the total U.S. population (Pew 2010). Between now and the year 2030, roughly 10,000 Baby Boomers will reach age 65 every day of each year. However, due to medical breakthroughs and modern technology, what had been the traditional retirement age of 65 (now raised to age 67 for social security benefits) is rapidly becoming obsolete for many whom in numerous surveys state that they "feel younger than their age" and "do not plan to retire until later".

Alongside those Baby Boomers still working, are Gen-Xers that occupy approximately 21.2% of the population and are in the middle of their careers. Then, enter Millennial, which as of 2015 surpassed Baby Boomers as the largest cohort. Many Millennial are in their early thirties and considered the first generation to have been exposed to the Internet during their formative years. Thus, they enter the workforce with a mindset that is uniquely different from both Baby Boomers and Gen-Xers, and with much different values and beliefs.

The leadership challenges already perplexing many enterprise leaders today is how to develop high collaboration models and teams with different cohorts in the workforce that also possess different beliefs and different perspectives about work itself.

Increasing Reliance on Technology

Another structural change that is a sub-element of both the technology and social SEPSs described above, is the impact of increasing human reliance on ever-increasing technology. As technology platforms have come to permeate nearly every aspect of daily life, humans are more connected than ever in history. They are able to connect through all manner of social media platforms both on personal computers, and now using an increasing array of hand-held devices in what is commonly referred to as the *mobile computing era*. While the effect of mobile computing has enabled significant flexibility in terms of when we are able to communicate, and from where, it has also rendered physical presence in offices no longer essential to performance sufficiency. What it has also done is to integrate what was a walled-off work platform, structurally and psychologically, into all aspects of our lives.

So, checking email, receiving and responding to texts, verbal communication via Smartphone, and other digital activities are now behaviours that workers engage in nearly every day of the week, and including time that had traditionally been considered non-work (leisure) time. This constant connection with technology, according to cyber anthropologist Amanda Case, is crowding out the need and the time for “mental and personal reflection”, a recognized component of sound mental health (Case, 2010).

Noelle Chesley conducted a comprehensive study, the findings of which are presented in “Information and communication technology use, work intensification and employee strain and distress” (Chesley, 2014). Her research found that ICT (computer technology) “use is linked to higher levels of employee strain and distress via a work intensification process that is indicated by faster-paced work and greater levels of interruptions and multitasking” Further, research is emerging strongly suggesting that Millennials particularly, will lose social development skills because of their reliance on technology as a primary mode of human interaction.

In a survey of technology experts and relevant stakeholders conducted by Pew Research and Elon University, 42% of 1,020 respondents believe the so-called “wired” mentality will actually impair cognitive ability. The report states the prevailing view that by 2020, Millennials will “spend most of their energy sharing short social messages, being entertained, and being distracted away from deep engagement with people and knowledge.” It goes on to suggest “they’ll lack deep-thinking capabilities and face-to-face social skills” (Anderson and Rainier, 2012).

This development will create significant and numerous leadership challenges throughout society, but particularly in the enterprise environment. It potentially presents obstacles to efforts to build creative cultures, widely predicted to be the new competitive arbiter that determines which enterprises succeed, and which fail. This new creative emphasis relies on the ability of enterprises to build effective teams and cross-matrix functional processes that depend on human interaction in order to work as designed. If a portion of the workforce shows a marked disdain for human contact, overcoming the obstacles will be challenging to be sure. Consider the challenges presented in the process of building effective customer relationships. While a good deal of customer contact today is executed digitally, direct verbal and face-to-face communication is still integral features of normal business operations.

Political/Social SEPS

Trust in Institutions at All Time Low

One of the most alarming and potentially challenging SEPS likely to create leadership struggles for at least a generation, is that trust in institutions is at all-time lows, and this is particularly true in the Millennial demographic cohort, but holds true amongst baby-boomers, and Gen-Xers as well. A key element in American society that separates it from just about all others is its emphasis on honesty, integrity, ethics, and the rule of law. In other words, the basic belief that serves as a societal foundation is that people are expected and assumed to behave with honesty, with integrity, within an ethical framework, and within the boundaries of the rule of law. Attached to those fundamental values is a belief that when they are violated, there are both societal and legal remedies available. That general set of values does not accommodate corruption or other criminal activity as a behavioural norm so often a part of the daily fabric of other countries in the world. These fundamental American values rely on the bedrock principle that institutions also carry the banner of their intent in how they conduct their business and how their leaders conduct themselves. That’s why it is particularly concerning and portends a portfolio of challenges to current and future leaders that most Americans have lost faith in the very institutions that have served as societal pillars since the country’s inception, upon which the nation’s system of values began and is sustained.

One of the key and important categories in which people register confidence/trust is government institutions that set the framework for how we live. A 2015 Gallup survey found that only 16% of respondents had a “great deal” of confidence in the presidency of the United States-widely viewed as the most important institution in the country. That same survey found even less had high levels of confidence in the U.S. Supreme Court (14%). Public schools earned only a 12% high confidence rating, while the criminal justice system got 9%. Congress registered a dismal 3%. Confidence in police was 25%, banks came in at 12%, while big business also got only 9% (Gallup, 2015).

Some scholars argue that a decade's long failure of government to solve problems has significantly contributed to this loss of confidence and trust. A near 30 year-long process of partisan conflict, accelerated since the election of Barack Obama, the first African American to hold the office of president of the United States, has put heightened emphasis on the question of whether or not government can function as it should in the modern era. Or, has the kind of cooperation needed to sustain the country and build a better future, been so damaged that the system that once stood as a beacon of democracy to the world, has now been melded into something most do not recognize. The 2016 presidential election between Hillary Clinton and Donald Trump will likely be regarded as one of the meanest and perhaps dishonest elections in modern history, and many scholars express the view that it has hurt American democracy in lasting and profound ways.

Some social scientists believe the rise of *ethno-nativism* and *geo-nationalism* by a significant segment of the U.S. population is driven on its face, by concerns about the effects of illegal immigration, but in reality, is a reaction to changing social demographics resulting in making the country "more brown", and threatening the social status quo that has wielded economic and political power since the nation's inception. Fishman offers insightful analysis regarding this social phenomenon in his essay: *Racial Attacks on President Obama and the White Nationalist Legacy*, in which he focuses on the impact of change in the Executive Branch of the federal government on social attitudes along racial lines (Fishman, 2013).

However, running parallel to those dynamics, and in many ways further exacerbating them are both apperceived and very real diminution of economic opportunity, caused in part by the off-shoring of jobs overseas, the rising costs of a college education, and the lasting effects of the recent recession. However, in having a sense of well-being threatened by a panoply of events and conditions occurring with increasing frequency, this convergence and combination of factors all serve as an underpinning to an alarming sense of insecurity and helplessness within the core American demographic that crosses social stratification, particularly amongst working and middle-class cohorts.

The Baby Boomers had to deal with the Vietnam War and Nixon/Watergate; Gen Xers were confronted by the Savings and Loan crisis, Iran-Contra, and Bill Clinton's infidelities; but the Millennial have been swamped: sexual abuse in the Catholic Church, Bernie Mad off's embezzlement schemes, multiple instances of market manipulation, numerous Congressmen and Governor's confessing their transgressions... the list is long. But five key examples of institutional failure stand out over the last twenty years that illustrate why trust degradation has a correlative effect on the ability to lead, and why this factor has framed an entirely new set of conditions under which leadership models must now be developed if they stand a chance of being effective in this new environment.

Bush v. Gore

First, the 2000 presidential election, some scholars argue, created an unprecedented confidence/trust gap in how government institutions were supposed to function up to that point. The U.S. had been heralded all over the world for its ability to conduct valid, fraud-free, national elections, witnessed by international observers. When the Supreme Court, in *Bush v. Gore*, ordered a recount in the Florida presidential election to stop, and then in what seemed to many to be an arbitrary decision, awarded the presidency to George W. Bush, even though there was evidence that Al Gore might have had a slight numeric edge in the actual physical popular vote count, that triggered a severe decline in national trust in the judicial system. It raised the question of whether or not the court, constitutionally declared as the final arbiter of the law, had moved from objective legal analysis, to being a partisan political institution tilted toward whichever party affiliation controlled the majority. That trend of lack of confidence/trust has continued during what is commonly referred to as "the Roberts Court," "according to recent surveys, including Gallup (Gallup, 2015).

Enron Scandal

The second event that illustrates some of the factors leading to this significant lack of confidence and trust in institutions is the Enron Scandal. In 2001, it was discovered that executives at Enron Corporation in Houston, Texas, had been engaged in massive accounting fraud that resulted in thousands of then current and former employees losing the pensions that some had worked more than thirty years to build up. It ignited a round of audits of most major pension funds in the largest corporations, and what was found was that many were not solvent relative to actuarial statistics and legal reserve requirements, placing the ability of those working to ultimately collect pensions at risk.

A May, 2015 report issued by UBS, indicates that among the Russell 1000 companies, the solvency ratio of retirement plans fell from 87% to 81%. 80% solvency is viewed to be the lowest level considered safe for pension plans. The number of “poorly funded plans out-numbered well-funded plans by a ratio of nearly four to one”, the report states (U.S. Company Pensions - Reuters, 2015).

September 11, 2001 Terrorist Attacks on U.S.

On September 11, 2001 (9/11) the entire world changed when four coordinated terrorist hijackings of U.S. commercial aircraft from Boston’s Logan Airfield took place, with two of the planes crashing directly into the twin towers of the World Trade Centre in New York, a third crashing into the U.S. Pentagon building in Washington, D.C., and a fourth crashing in a field in Pennsylvania, after also being aimed for Washington. The attacks were the worst since the WWII surprise attack at Pearl Harbour by the Japanese, and by far the worst on the U.S. mainland, leaving 2,753 casualties, with more than 6,000 others injured (CNN, 2015).

Prior to 9/11, the U.S. had experienced its worst homeland terrorist attack in 1996, led by former U.S. Army and Persian Gulf War veteran Timothy McVeigh, disillusioned about his life prospects back home after returning from the war, when he and accomplices placed explosives next to the Alfred P. Murrah Federal Building in Oklahoma City and blew it up, leaving 168 people dead and hundreds more injured. The 9/11 attacks represent one of the unusual developments that was triggered by an HIC⁽¹⁾ event that also resulted in a significant structural change in and of itself.

It completely altered, almost overnight, the security complex in airports all over the world from being quite loose in terms of who could come and go freely in facilities and board airplanes, to strenuous checks and profiling for potential would-be terrorists.

Numerous scientists from different disciplines have examined the post-9/11 effects ten years out, including notable psychologists. Eisenberg and Silver found that general anxiety relative to safety, but particularly as it relates to shelter from future terrorist attacks rose sharply, and that the effects of that over-arching psychology remain with us today. It was reflected in the rhetoric, often corrosive, displayed in the 2016 presidential election debate. However, they found that the effects on young people were particularly acute, having grown up under the cloud of the post-9/11 ethos (Eisenberg and Silver, 2011). Many of those young people are now the so-called Gen-Y generation-*Millennial* currently stocking the American workforce that must be led, and some doing the leading.

Additionally, it has been widely debated by scholars and military experts alike with significant agreement that the invasion of Iraq that followed, based upon the false notion that there had been collusion between the 9/11 terrorists and Iraq’s dictatorial leader Saddam Hussein, and that he was harbouring Weapons of Mass Destruction (WMD), none of which were ever found, destabilized the entire middle east. But perhaps most importantly relative to the leadership question being examined here, it shaped the perspective of a generation of workers in the form of returning young veterans that now suffer a catalogue of post-war trauma maladies.

2003 Iraq Invasion

U.S. invasion of Iraq under the false premise of *Weapons of Mass Destruction* resulted in some 4,490 American soldiers killed, another 3,480 American contractors killed, and another 500,000 wounded. Many returned to the U.S. disoriented from trauma and the discovery jobs they once had or might have had were shipped overseas.

Accounting for the cost of the war has received a good deal of attention and approached from different angles, however, most scholars believe the hard costs amount to approximately \$3 trillion, which will rise to about \$7 trillion in coming years when future interest on borrowed funds is included (Kelly and Ingersoll, 2014). That money could have been spent on numerous programs to help advance a long list of American priorities, not the least of which might be to fix the nation’s crumbling infrastructure, i.e. roads, bridges, airports, railways, etc.

The Great Recession

The fifth and perhaps most significant event that illustrates the confidence/trust challenges leaders currently face was triggered by the global liquidity crisis that erupted in the Fall of 2008, that nearly brought down the entire financial system, not just in the U.S., but around the world. That crisis erupted when banks, being over-leveraged in what are called non-securitized credit instruments that were highly speculative, all wrapped up in an overheated housing bubble that burst, faced near certain collapse.

When institutions discovered they could not cover the actual value of the instruments they had placed into capital markets, a panic set in that spiralled out of control. The Federal Reserve had to step in and provide backstop funding to several of the nation’s major banks, both to ensure they had sufficient cash to meet their obligations, and also in an attempt to restore confidence in the financial system itself.

While some \$700 billion had to be put forth to stem the impact of what has been described as a “financial crash”, and which saw the highly prestigious investment bank Lehman Brothers dissolve, the very notion that bankers had been so highly speculative in their investments created a confidence/trust gap that most scholars believe will take years to restore, if at all.

The impact was huge and devastating for many. The Economic Policy Institute reveals in a report titled *The State of Working America*, that in 2008 and 2009, the U.S. labor market lost 8.4 million jobs, or 6.1% of all non-farm payroll employment, noting this was “by far the most dramatic employment contraction since the Great Depression” (Mishel, Bivens, Gould, and Shierholz. 2012), According to the Federal Reserve Bank of St. Louis, in a comprehensive report, household wealth plunged some \$16 trillion from the top of the real estate bubble in the third quarter of 2007, to the bottom of the burst in the first quarter of 2009. And while 45% of that loss has been regained, the rise has been mostly driven by the stock market in which the wealthiest Americans invest – not as a result of increased housing value, which is responsible for most of the wealth of middle-class, working households (Von Constantine. 2013) Realty Trac.com reports that from January 2007 to December 2011, more than four million home foreclosures had been completed, and another 8.2 million had begun (Blomquist, 2012). Additionally, working-age household income dropped \$2,700 from 2007 to 2009 (Mishel, Bivens, Gould, and Shierholz. 2012),

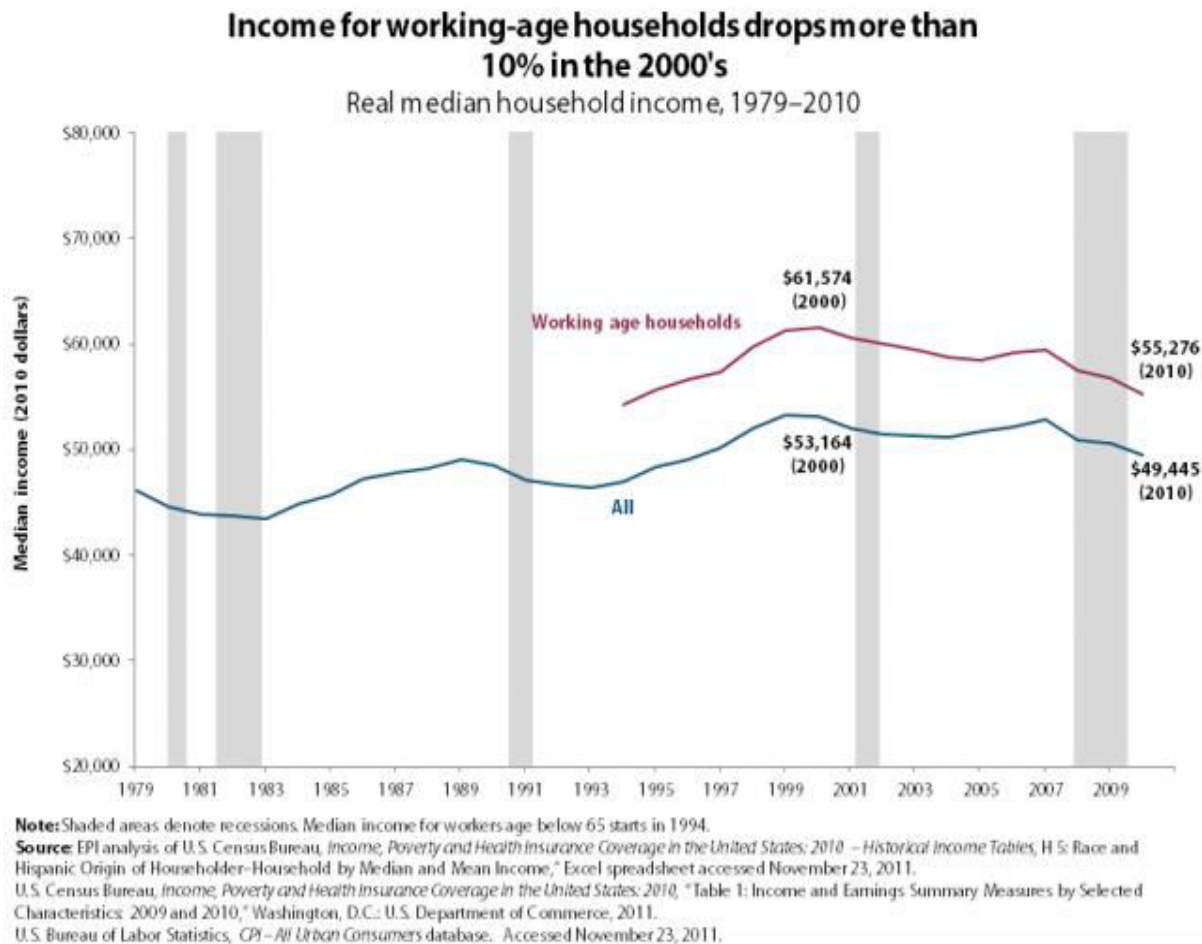


Chart: (Income for working-age households drops more than 10% in the 2000's
<http://stateofworkingamerica.org/great-recession/falling-income-rising-poverty/>

Confidence/Trust and Innovation

The 2015 Edelman Trust Barometer describes a gap that can be characterized as the culmination of the SEPS discussed in this essay, combined with a series of recent HIC⁽¹⁾ High Intensity Change Flashpoint events that raises important leadership questions. Edelman states that “the Barometer reveals a strong correlation between a country’s trust level and its willingness to accept innovation.”

Stating further “The pace of change has never been faster and innovation has become an even greater imperative for business success.” Edelman concludes “Innovation should be a trust accelerator, but today it is not. To invent is no longer enough. There must be a new compact between company and individual, where companies demonstrate that innovations are safe based on independent research, provide both societal and personal benefit, and are committed to the protection of customer data.” More on the building blocks of innovation and the leadership challenges it creates are presented later in this essay.

Social Media Proliferation

It is due in no small part to this profound degradation in trust of American institutions that the proliferation of social media abounds. Data shows that this lack of trust is particularly acute among Millennials, who have sought to democratize many features of their personal and societal life. The use of social media, both in society at-large, and within the enterprise environment, has enabled and empowered the building of flat communities, that go around, over, under, and even sometimes right through hierarchical authority structures and seek truth through informal systems of networked exchange. These exchanges, which can sometimes be combative, but more often are a collaborative form of framing what is true or not true, what to believe or not, and the terms under which this tech-savvy generation interacts with each other, create a completely new environment without precedent in the enterprise environment and society at-large. Websites like Facebook, Tumblr, Instagram, Snap chat, YouTube, and Twitter, drive independence from authorities and places power with individuals themselves who can post whatever content they like, even if it is incorrect, completely false, profane or indecent. In other words, new beliefs and values are being created with each post and each exchange in this digital, unregulated media. It is so prolific, that it has spawned the new concept of *fake news*-published stories made up of non-facts designed to support a propaganda-driven narrative or conclusion.

However, this medium is also helping to shape Millennial views on race, inter-racial marriage, same-sex marriage, justice and fairness that diverge widely from the more conservative U.S. traditions that dominated the 20th Century.

Further evidence of the impact of trust degradation is reflected in what has come to be known as *The Snowden Effect*. In 2013, Edward Snowden, a Millennial himself and a systems administrator for consulting firm Booz Allen Hamilton, a U.S government sub-contractor, used the Internet to begin releasing about 10,000 documents that had been *classified* (secret) by the Central Intelligence Agency. The documents revealed numerous conversations and exchanges between government officials, both American and foreign, and some embarrassing to U.S. foreign interests relative to American allies. Snowden is wanted by the U.S. government on espionage charges, charges for which he is avoiding trial while in exile in Russia. However, what has emerged since in the way of public opinion, encapsulated in the so-called *Snowden Effect*, presents even more new considerations under which leadership models must be designed.

After Snowden’s document leaks, which exposed the wide scale efforts of the National Security Agency’s (NSA) domestic intelligence apparatus, the trust gap amongst Millennials, already rising, became even more acute. While most Americans believed Snowden should be pursued for criminal charges, some 53% disapproved of the NSA’s surveillance techniques. That number rose to nearly 60% amongst Millennials. The Pew Survey also showed that Millennials (ages 18 to 33), most have very low levels of social trust, revealing only 19% believing people can even be trusted. Some social scientists suggest that this lack of societal trust is both triggered and reinforced by the ever-increasing participation of both youth and young adults in electronic games that offer little to no social interaction, and thus no exercise to develop appropriate social or coping skills. When you combine extraordinarily low trust in institutions, and even lower trust in societal inter-relations (percent of people that can be trusted), a clarion call for transparency in all public institutions, and the social media tools to bring public attention to anything with which disagreement is found, all conventional traditions of the past relative to leadership are rendered either somewhat, or completely obsolete. How leaders are able to channel and marshal these new values and corresponding behaviors will have a profound impact on how leadership is defined in the 21st Century.

Other SEPS

There are other SEPS that will also impact how leadership models are designed that include:

Ecological SEPS

Climate change now represents an existential threat to human existence and portends all kinds of implications for the leadership complex. The structural nature of change is evidenced in the rush to identify and cultivate alternative fuel sources to replace fossil fuels.

However, for example, in California, water scarcity is resulting in water rationing mandates that impact both individuals and corporations alike. There are numerous calls to reduce the nation's carbon footprint-the amount of carbon-based emissions used in society. The concern has been culminated in the international Paris Climate Agreement, in which the nations of the world, through the framework of the United Nations Framework Convention on Climate Change (UNFCCC), all agree to reduce carbon emissions. This rising concern will likely reinforce emphasis on increased telecommuting. It will also raise concerns among workers that the enterprises for which they are employed pay careful attention to issues like sustainability and social responsibility. These issues are likely to be key concerns amongst highly skilled associates in their consideration matrix of which firms they'd like to work for. Data contained in recent so-called *Best Places to Work* surveys bear out this emerging trend. Studies show Millennial are particularly concerned about issues surrounding "saving the planet", and are more engaged than past generations discussing it on social media.

Geostrategic SEPS**Islamic Radicalism**

Geostrategic change such as the European refugee crisis and terrorists operating under the banner of Islam will have enduring implications on global organizing, the strategic potential of enterprises looking to do business in various regions of the world, and how Americans view their position in the world.

Technological SEPS**Cyber-Security**

In the so-called *cyber world*, new thresholds are being crossed daily in terms of criminals being able to penetrate enterprise network systems, and personal digital devices alike. Concerns over both enterprise and personal data security are mounting, such that a structural paradigm shift is already in progress that will change economic behaviour. For example, the digital security chips that have long been a feature in European credit cards, have now arrived in the U.S. after several major hacking episodes have resulted in the theft of millions of individuals having their personal information stolen, i.e. federal government, 2015. Concerns amongst workers will also likely rise as a result of multiple hacking episodes, perhaps the most serious of which was the theft of personal information of at least four million federal employees (Forbes, 2015)

Healthcare Technology Advances

Advances in healthcare technology are changing life expectancy rates. According to the Centers for Disease Control and Prevention (CDC, 2013), average life expectancy in the U.S. is 78.8 years. In 2000, life expectancy was 77.9 years, which represents a significant increase by historical standards. Globally, this increase is particularly acute in developed nations. With what is being called the "Longevity Boom" (Wheeler and Marcellin, 2010), comes increased demands on the U.S. and global healthcare infrastructure. As a result of workers living longer, and increased concerns over security and well-being issues, the ability of employers to either provide or help with the cost of medical insurance will be a chief concern amongst workers young and old. With SEPS creating the structural and contextual foundation of change, now, *High Intensity Change* (HIC(1)) events are triggering environmental turbulence, resulting in high volatility in ways that are unprecedented in the modern era.

High Intensity Change (HIC(1))

The fundamental definition of change is to alter a state or condition of something (Merriam Webster, 2016). The conventional understanding of change has been that its impact and effects often spread over time and in some instances, even while change is occurring, it is not readily detectable to the naked eye. The nature of Structural Economic Paradigm Shifts (SEPS) is largely consistent with that understanding.

That's why most enterprises do not adjust leadership strategies during periods of change, and often not even after the change has taken hold either until a market impact is felt or a crisis arises. However, with SEPS defining the foundational and environmental context, the acceleration of unprecedented change has been brought about by the new change category introduced here, *High Intensity Change* (HIC₍₁₎), creating even more complexity in which leadership models must be considered.

HIC₍₁₎ results from unanticipated or rapid short-term trending events-*change activators*, that are disruptive in nature and that fundamentally alter a status quo condition. For convenience, they can best be examined through the same prism of the remote segment of the external environment used herein to examine SEPS. The categories are again, economic, technological, social-demographic, political, and ecological, adding the new category of geostrategic. The socio-psychological and behavioural shifts triggered by HIC₍₁₎ argue significant implications for the context and direction of leadership.

Disruptive Technology Activators

Social Media Adoption

Thus, the proliferation today of disruptive technology is an example of HIC₍₁₎ that falls into the economic and technological category that can also include social-demographic. With the SEPS creation of the Internet as the foundational context, the explosion of social media from just 2006 to 2007 as the activator is an example of HIC₍₁₎. In each case in the chart below, first year growth was explosive, and created new forms of social interaction and communication, putting a significant dent in traditional media usage, almost overnight (Pew Research, 2015). As previously indicated, according to the Pew study, slightly more than 60% of all American adults get at least some of their news from social media, which has a significant impact on shaping their views and frame of reference.

Social Media Usage 2006 – 2010

Year	Facebook	Twitter	LinkedIn	Word Press (blogs)	Tumblr
2006	12,000,000	1,000	8,000,000	600,000	0
2007	50,000,000	750,000	15,000,000	2,000,000	170,000
2008	100,000,000	5,000,000	33,000,000	4,300,000	1,000,000
2009	350,000,000	75,000,000	50,000,000	8,000,000	2,000,000
2010	500,000,000	145,000,000	75,000,000	11,100,000	4,400,000
CAGR	154.07	478.23	74.98	107.39	195.8

Source: Pew Research: Social Media Usage:2005-2015

The proliferation of social interactivity on the Internet was so significant, that in 2006, Time Magazine's Person of the Year was "You", reflecting this growing phenomenon.

Amazon vs. Retail

When Jeff Bezos began Amazon, Inc. in 1994, his vision was for the company to ultimately become the largest retailer in the world, a title Wal-Mart held at the time. Beginning with book sales, the company's technological impact rendered all but a handful of the nation's largest book sellers impotent in their ability to respond to this new HIC₍₁₎ activator. Many well-established book sellers like Borders surrendered to the emerging retail juggernaut Amazon soon became, and it was even more difficult for independent books stores to survive. In the last five years, from 2011 through 2015, Amazon's 5 year average revenue growth rate was 25.62% compared to the entire retail sector's growth rate of 6.77% (CSIMarket, 2015). The disruption this HIC₍₁₎ activator has created, like its entry into the book selling space, has triggered a reassessment of traditional retail business models across product sectors. The disruption Amazon is able to engineer is a result of a multi-prong business strategy. First, because of size and scale, it is able to commoditize nearly every retail product it sells. Then, through the creation of advanced technology, it is able to produce devices like the Kindle that become destination platforms for additional products they sell. The company is heavily invested in the new cloud technology that also enables the firm to continue to advance disruptive innovations long into the future.

Amazon Com Inc Growth Comparisons

AMZN Revenue Growth Rate Comparisons	Company	Industry	Sector	S&P 500
Y / Y Revenue Growth (Q1 MRQ)	28.22 %	22.97 %	8.66 %	-
Q / Q Revenue Growth (Q1 MRQ)	-18.51 %	-15.79 %	-5.01%	-
Y / Y Revenue Growth (Q1 TTM)	23.33 %	17.13 %	24.73%	%
Seq. Revenue Growth (Q1 TTM)	5.99 %	2.15 %	0.4 %	2.52 %
Revenue 5 Year Average Growth	25.62 %	36.66 %	6.77 %	17.51 %
Expected Revenue Growth (Y/Y)	-0.58 %	-	-2.48 %	0.08 %

Source: CSI Market, 2015

Geostrategic Activators

The term geopolitical refers to the body of political considerations affecting a given geographic area. By relation and distinction, geostrategic pertains to a combination of geopolitical and strategic factors that characterize a particular geographic region (Merriam-Webster, 2003). Geostrategic events, actions that are disruptive to the geographic and geopolitical context of a given area are examples of HIC₍₁₎. Consider the Syrian crisis that has lasted for the last several years, suddenly worsened by Russia's recent military intervention, on behalf of the besieged government there, triggering a refugee crisis, almost overnight for the entirety of Europe as an HIC₍₁₎ event. That heightened attention to Europe's immigration and refugee crisis, exacerbated by terrorist attacks from Islamic extremist ethnic minorities in France and Belgium, and in Bakersfield, California, has triggered extensive, sometimes even violent debate and social and demographic polarization across Europe, and also a re-ignition of the often testy U.S. debate over illegal immigration. The refugee crisis has become such a significant issue that it is credited with the recent and historic vote by the United Kingdom to leave the European Union, commonly referred to as "BREXIT", in an election that has essentially surprised the entire world. This latest development potentially results in a geostrategic SEPS that now renders a near permanent realignment of the European continent, a potentially destabilizing result.

While the majority of Americans, according to Gallup polling data (Gallup, 2015), are in favour of immigration policy reforms that provide a path to legal status for those in the U.S. illegally, this renewed debate has caused certain demographic segments to take a harder line on the issue and has resulted in increased lack of trust in those that are different from oneself (New York Times, 2016). This schism can be demonstrated on the shop floors of American businesses where workforce diversity has become a cultural norm in many parts of the country, creating a new leadership challenge.

Economic Activators

The sudden closing of a factory in the American Midwest, often referred to as "the Rust Belt" is an activator of an HIC₍₁₎ event. In February, 2016, Carrier Corp. announced that it would close its Indianapolis heating, ventilating, and air conditioning plant and move its manufacturing operations to Mexico (Investment Watch, 2016). A company controlled by the same corporation, United Technologies Electronic Controls also announced it would close another plant in Huntington, Indiana and move its operations to Mexico. The two combined plant closings will result in the loss of 2,100 jobs in the state. Although the company stated the layoffs would occur over three years, the announcement, stunning to many of its employees, altered the economic and inspirational profiles of those employees and the respective communities on the day the announcement was made. These are examples of HIC₍₁₎ events. Unlike SEPS, in which conditions change over a longer period of time, HIC₍₁₎ events alter the socioeconomic conditions of the environments in which they occur almost immediately, and as the examples cited, with little or no notice. They also create dramatic shifts in the socio-psychological profile of the environment in which they occur rapidly as well. There is a growing body of research that suggests these types of events are creating anxiety, particularly among Millennials, and thus create new leadership challenges. Climate events that alter the economic conditions of entire regions overnight are another example of activators that trigger HIC₍₁₎ events.

Measuring Change

In considering the impact of SEPS in any given geographic area and/or on any particular industry or enterprise within it, it is important to note that not all SEPS impact all people, all industries, all enterprises, or all at the same time.

SEPS largely impact the broader society in undeniable ways; however, the degree to which the impact is felt by a specific industry or enterprise is a function of degrees of measurement. As a result, a simple methodology to measure the impact of SEPS and HIC₍₁₎ is provided.

Measuring SEPS

The measurement of SEPS is conveniently and accurately facilitated by *Ansoff's Environmental Turbulence Scale* (ETS) assessment methodology (Ansoff, 1990), as turbulence in the external environment is the offspring of change to the status quo. The ETS and thus the measurement of SEPS, examines change of broader environmental trends along two dimensions: *changeability* and *predictability*. Each dimension contains two factors, the combination, and averaging of which results in the *SEPS Change Quotient (SCQ)*. Changeability, the first dimension contains two factors: 1) *Complexity* and 2) *Novelty*. Complexity is defined as the measurement of the sub-element *pervasiveness*; and the sub-element *frequency* of changing conditions. The pervasiveness sub-element is an examination of the degree of concentration of change. Two key questions emerge as the guiding factors: Is the change densely concentrated, in full form, present and relatively permanent? Alternatively, is it less concentrated, only marginally present, and does not have relevant permanence? The frequency sub-element describes the rate at which change occurs or is repeated over a particular period of time or in a given sample.

The second changeability factor, novelty, is defined as the extent to which change is familiar or unfamiliar, and can be extrapolated to understand future events. Predictability, the second dimension also contains two factors: 1) *Rapidity of change* and 2) *visibility of the future*. The rapidity of change factor is defined as the speed in which change is occurring. The factor - visibility of the future - is defined as adequacy of and timeliness of information about the future. Each dimension, factor, and sub-elements are measured on a Likert Scale and averaged to arrive at the SEPS Change Quotient (SCQ).

Thus:

SEPS Change Quotient (SCQ) Variable Symbol Keys

Dimensions

Changeability's (2)

Predictability: **P** (1)

Factors:

Complexity: **C** (3)

Novelty's (1)

Rapidity of change: **R** (2)

Visibility of the future: **V** (1)

Sub-elements:

Pervasiveness' (2)

Ffrequency: **F** (1)

The SEPS Change Quotient (SCQ) algorithm is presented as follows:

$$C(2):f ((C(3):(P(2) + F(1)) /2)) + N(1) /2) + P(1)f(R(2) + V(1) /2) /2 = \text{SEPS Change Quotient (SCQ)}$$

To provide a simple illustration of just how the SCQ is calculated, a previously discussed SEPS is used as an example with real time numbers.

Economic SEPS Example: Transition to Information/Service Economy and Globalization

$$C(2):f ((C(3):(P(2) + F(1)) /2)) + N(1) /2) + P(1)f(R(2) + V(1) /2) /2 = \text{SEPS Change Quotient (SCQ)}$$

Likert Scale: [0-----1-----2-----3-----4---5-]

Changeability

$$C(2): [0-----1-----2-----3-----4-*--5-]$$

No Complexity Extreme Complexity

C(3): [0-----1-----2-----3-----4--*-5-]

Non-Pervasive

Extreme Pervasiveness

P(2) [0-----1-----2-----3-----4--*-5-]

Low Frequency

High Frequency

F(1) [0-----1-----2-----3-----4--*-5-]

High Familiarity

Extreme Novelty

N(1) [0-----1-----2-----3-----*-4---5-]

Predictability

P(1) [0-----1-----2-----3-----4*---5-]

Low Rapidity

High Rapidity

R(2): [0-----1-----2-----3-----*-4---5-]

High Visibility

Low Visibility

V(1) [0-----1-----2-----3-----4--*-5-]

$C(2): f((C(3):(P(2) + F(1)) / 2)) + N(1) / 2) + P(1) f(R(2) + V(1) / 2) / 2 = \text{SEPS Change Quotient (SCQ)}$

$C(2)(4.2): f((C(3)(4.7):(P(2)(4.7) + F(1)(4.7) / 2)) + (N(1) (3.7) / 2)) + P(1)(4.2) : f(R(2)(3.7) + V(1)(4.7) / 2) / 2 = 4.2\text{SEPS}$

Change Quotient (SCQ)

SEPS Change Quotient (SCQ)

The algorithm calculation reveals that the economic SEPS targeted yields a **SCQ of 4.2** which makes it a Level 3 SEPS

Level 1: Relative Low Impact SEPS 1 – 2.5

Level 2: Moderate Impact SEPS 2.6 – 3.7

Level 3: High Impact SEPS 3.8 – 5

In this SEPS example, observations are enabled by examining the character of each algorithm element. First, Changeability C(2) is high, at 4.2 because Pervasiveness P(2) is relatively high and Frequency F(1) is also relatively high. It is slightly moderated by Novelty N(1), which is only modestly high. Predictability is high because while Rapidity R(2) is relatively modest, Visibility V(1) is high (low visibility). And thus when the full algorithm is calculated, it yields a high, Level 3: High Impact SEPS that is still in progress.

Measuring HIC (1)

To measure *High Intensity Change* (HIC (1)), a methodology similar to the SEPS measurement is utilized, only with different dimensions. HIC (1) is measured along three dimensions: *impact*, *disruption*, and *calamity*. Impact, the first dimension, is a measure of the strength of an activator event in terms of time sequence intensity, i.e. anticipated trending, surprise but not sudden, or sudden and surprising, (Likert Scale: anticipated-1, or sudden-5). The second dimension, disruption, is a measure of the degree of disorder to status quo resulting from an activator event, i.e. no disorder, complete disorder, (Likert Scale: no disorder-0 or complete disorder-5).

The third and final dimension, calamity, is a measure of damage or distress resulting from an activator event, i.e. repairable, or irreparable (Likert Scale: repairable-1 or irreparable-5)

HIC(1)Quotient (HIC(1)Q) Variable Symbol Keys

Dimensions

Impact: **I** (1)

Disruption: **D** (2)

Calamity: **C** (3)

$$I(1) + D(2) + C(3) / 3 = \text{HIC(1) Q}$$

To provide a simple illustration of just how the **HIC (1) Q** is calculated, a previously discussed **HIC(1)** activator event is used as an example with real time numbers.

HIC (1) Disruption Example: Amazon vs. Retail

I(1): [0-----1-----2-----3--*---4---5-]

D(2): [0-----1-----2-----3-----4--*-5-]

C(3): [0-----1-----2-----3-----4--*-5-]

$$I(1)(3.5) + D(2)(4.7) + C(3)(4.7) / 3 = 4.3 \text{ HIC(1) Q}$$

The algorithm calculation reveals that the Amazon vs. Retail **HIC (1) Activator** targeted yields a **HIC (1) Q of 4.3** which makes it a Level 3 HIC (1) Activator

Level 1: Relative Low Impact HIC (1) Activator1 – 2.5

Level 2: Moderate Impact HIC (1) Activator2.6 – 3.7

Level 3: High Impact HIC (1) Activator3.8 – 5

In this HIC (1) Activator event example observations are enabled by examining the character of each algorithm element. Impact **I** (1) is moderate because Amazon became quite disruptive once it reached critical mass operationally, however, on its way; this was an anticipated trending event. Once that critical mass was reached Disruption: **D** (2) was rather severe, as evidenced by the description and supporting data above.

Calamity: **C**(3) was also high because not only were the largest bookstore chains impacted, with some closing their doors, just about all U.S. independent book stores, save just a small number, were also put out of business. Thus, the damage is irreparable. Those book stores will likely never return.

With this level of disruption, some of the questions that emerge are: How must retail respond to remain competitive? What types of strategies are required? What kind of strategic adjustments must be made? What types of employees are required to execute those adjustments? What type of leadership models will be most effective in the changed environment?

Measurements over 3.5 require new leadership strategy assessment because that level of severity means that the change dynamic has tilted the environmental equilibrium rendering previous assumptions no longer valid. Change impact is altering status quo and risks rendering current leadership strategies insufficient and obsolete. It requires new thinking and new leadership models to drive a modified set of strategic behaviours.

Combined Change Assessment (CCA)

To assess the full impact of change in a given environment, the *Combined Change Assessment (CCA)* facilitates an effective strategic assessment:

Combined Change Assessment (CCA): SEPS Change Quotient (SCQ) +High Intensity Change Quotient (HIC (1) Q) / 2 = CCA. The algorithm can accommodate multiple SEPS and multiple HIC (1) Activator events

Level 1: Relative Low Impact CCA1 – 2.5

Level 2: Moderate Impact CCA2.6 – 3.7

Level 3: High Impact CCA3.8 – 5

The usefulness of the Combined Change Assessment (CCA) is that it enables risk assessment of the environment in which an enterprise must function and thus, it provides indications of whether or not new leadership models are required as a result of the degree of change.

Environmental Turbulence and Complexity and the Implications for Leadership

As previously referenced herein, John Alexander has advanced the theory that environmental turbulence creates complexity and that it has profound leadership implications. To quote: “The complex challenges that leaders face are multidimensional; they defy existing solutions, resources, and approaches; they erode fundamental assumptions and mental models; and they demand new learning and creativity” (Alexander, 2006). He further indicates that these complex challenges require fundamental understanding and that is achieved by examining their nature. He suggests they manifest in three distinct categories: *technical*, *adaptive* and *critical*.

Technical challenges, according to Alexander, fall within the current range of expertise, but stand out nonetheless. Solutions simply require the right person or tool to address the challenge. Adaptive challenges require new perspectives, expertise and solutions. They are often difficult to diagnose, and as a result, also difficult to solve. Critical challenges often arrive by an event, or sequence of events not previously predicted or anticipated that require immediate solutions and actions. The disruptive nature of HIC (1) Activator events often trigger these kind of challenges.

So, using this understanding of complexity as a baseline, it raises the question of what are the leadership implications required in an environment with multiple SEPS in progress, along with an unprecedented frequency of High Intensity Change HIC (1) Activator events occurring, creating high turbulence and volatility.

These are some of the important implications for effective leadership in this new paradigm of change:

- 1) *Contextual Leadership* -Emphasis will migrate from previous leadership styles, and models, i.e. situational, contingency, and transformational, etc., to focus on the *contextual* dynamics of the environment, so that leadership strategies can be developed in real-time to respond to rapidly changing conditions. *Contextual leadership* will become the essential roadmap for strategic success because it enables leaders to carve through the fog of uncertainty to align and adjust resources to objectives in a constantly changing environment.
- 2) *Change Analysis* - Leaders will need to incorporate *change analysis and visibility quality* as central components of their leadership portfolios in order to anticipate the challenges brought about by environmental complexity.
It will enable execution of strategic adjustments and/or repositioning entirely. The long and widely held notion that a “clear vision” is key to effective strategic leadership will become less important because vision, in and of it, will be difficult to achieve as the speed of change continues to intensify. Analysing change will be a vital component of the decision-making matrix.
- 3) *Learning Behaviour* - Enterprises and institutions will be compelled to engage in *learning behaviour* in order to keep pace with rapid change. Emphasis on empowered teams facilitated by dynamic leaders will continue to intensify and the effectiveness of building and facilitating team behaviour will continue upward trajectory toward being a key strategic priority in learning enterprises. Dr. David Teece has long been an expert in what are referred to as *dynamic capabilities* (enterprise learning)and has provided recent updates on the process of learning enterprises in the face of unprecedented change and innovation (Teece, 2012). Karlgaard and Malone have offered new insights into the impact of teams in this high intensity change environment (Karlgaard and Malone, 2015)
- 4) *Creative Intelligence*- *Creative Intelligence* (CIQ) will become essential as a new knowledge tool that enhances team effectiveness and overall enterprise performance. Development of programmatic initiatives that develop and enhance creative intelligence both individually and collectively will be a required foundational pillar of the strategic profile. Measuring creative intelligence (CIQ) as a new human capital asset will be essential to strategic success. Nussbaum offers new insights as to how and why creative intelligence will play such an important role going forward (Nussbaum, 2013)
- 5) *Collaboration Intelligence* - *Collaboration intelligence* (COQ), namely, the knowledge that results from development of creative intelligence in individuals being transferred to collaborative initiative by teams, will have significant bearing on attainment of strategic objectives. Creating a new knowledge tool that facilitates high-intensity collaboration will require the development of digital creative networks that leverage both individual and collective capability systematically.

Like creative intelligence (CIQ), measuring this new human capital asset will also be essential to strategic success. Markova and McArthur describe how this new work methodology has evolved to be an essential tool (Markova and McArthur, 2015)

- 6) *Silo Effect* - Scholars have widely recognized the detrimental impact of the enterprise *Silo Effect*. As described by Gillian Tett in her book *The Silo Effect* (Tett, 2015), it occurs when individual departments and other sub-divisions within an enterprise fail to share information, and resources that have the potential to raise the performance of the entire entity. Silos occur because leaders have different priorities, and goals, and do not share information, tools, and processes essential to overall strategic optimization. The result can be sub-optimal performance, strategic dysfunction and inertia, reduced employee morale, cultural deficits, and in worse case scenarios, failed enterprises altogether.

The change dynamics presented herein will compel leaders to make silo deconstruction a top priority in the interest of optimizing performance and developing healthy enterprise cultures. To achieve that goal, emphasis will increasingly be placed on multidimensional matrix organizational structures aided by advanced technology, that promote the optimization of a sharing culture, i.e. synchronized priorities, goals, tools, information, resources, etc.

- 7) *Talent Acquisition and Development* - The enterprise environment is increasingly relying on talent based in intensified formulaic coding and algorithm development to supplement other more qualitative skills. As a result, *talent acquisition, development and retention* is becoming and will continue to be essential for strategic success. Developing internal development systems and external talent targeting mechanisms will be vitally important for consistent performance over time. This strategy includes executive leadership development and well defined succession planning models that rely on early talent identification and tools for leadership continuity and sustainability, particularly as new challenges are constantly presented as a result of intensified change.
- 8) *Wellbeing* - Numerous surveys, including a report titled *State of the Industry: Engagement & Wellness in 2015* (Virgin Pulse, 2015), arrive at a growing conclusion that employee wellbeing has become a top priority for corporate CEOs to improve performance, retention, and bottom-line results. Dr. Bridget Juniper defines employee wellbeing as simply the “level of an individual’s happiness at work” (Juniper, 2015). However, the concept of wellbeing has changed over the last couple of decades, in part as a result of the SEPS described herein. Once, heavily influenced by job security and a good pension plan, those two pillars of the social bargain, as previously explained, have largely disappeared. Now wellbeing is significantly tilted toward *quality of life*, and how job attributes impact those outcomes.

As a result, enterprises will be compelled to consider a growing menu of programs and initiatives designed to increase employee wellbeing. That menu includes among other examples, paid vacation time, paid maternity leave, paid family and sick leave, affordable child care assistance, tele-work flexibility, sufficient healthcare (health, dental, vision), tuition reimbursement, professional and skill development, 401K plans, corporate location hospitality, recognition and rewards programs, and performance-based incentives at all levels. The concept of employee wellbeing has become so important that to witness it in real time, you can catalogue the methods used by Google (Alphabet), Apple and Facebook, each of which utilize their employee wellbeing portfolio to compete for the top talent in Silicon Valley. That talent is essential to gaining and maintaining competitive advantage.

- 9) *Sustainability* – Like well-being, increasingly aimed at quality of life issues, demonstrating respect and care for the planet dovetails that sentiment and is in part why sustainability has become an important issue that has leadership implications. Jones and Wellness report that at least twelve peer-reviewed studies all showed that companies with demonstrated sustainability practices are more likely to attract talent amongst job-seekers, and this is particularly true for Millennial (Jones and Wellness, 2013).

In their own study, they cite three reasons why job-seekers are more likely to want to work for sustainable companies: “1) Sustainability draws job seekers because it’s a source of employee pride.” “2) Sustainability draws job seekers because it implies the company cares about its employees” and “3) Sustainability draws job seekers because it helps them connect specific organizational values to their own personal values”. Leaders will be increasingly challenged by stakeholders that include shareholders, employees, and the public at-large to engage in sustainability efforts that deliver affirmative bottom-line results, and increase brand awareness and brand loyalty.

Other Considerations

Intensifying and dramatic change will compel further research on the nature of change itself as an important socioeconomic topic in the next five years. Using change algorithms, outgrowth algorithms can be created for Innovation Capacity (IC), Creative Intelligence (CIQ), Collaboration Intelligence (COQ), Implementation Capability (IC1) and other performance-based metrics. As a result of these new methodologies, business model development will need to consider factors not included in traditional management science up to now.

Conclusion

In this essay, the principal goal has been to describe the nature of change through a new prism that enables enhanced analysis. The concepts of SEPS and HIC (1) open the possibilities of new paths of scientific inquiry that offer the potential to better understand current and future socio-economic trends. This new path of analysis also makes it clear that traditional and conventional leadership models are subject to the potential of radical alteration compelled by unprecedented change. These new insights can add to current methods used to assess risk as a strategic concept and in equity investment analysis as well. As a new path through which understanding change leads to new scientific discovery, the foundational concepts presented in this essay serve as a useful mooring upon which developing leadership models to meet the new challenges can be advanced.

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