THE NEXT LEVEL

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JUST THE FACTS

Openings for great performance leaps are available—either born of inspiration or in response to a current crisis.

However, leaders may be trapped by traditional mindsets and approaches.

Transformational thinking, approaches, methods and tools are critical in creating breakthrough results.

Importantly, an understanding of the current state and how best to lead fast-track progress are required.

Capitalizing on accelerated change and increased complexity for transformational leadership opportunities
by Stephen K. Hacker
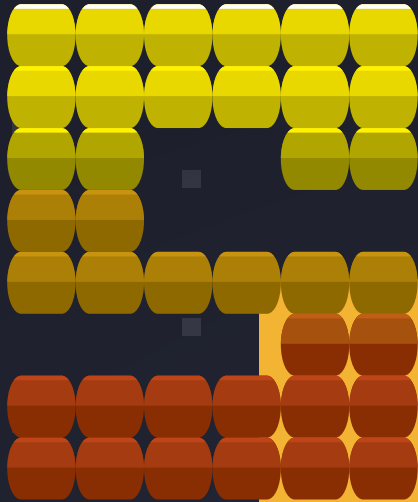
ometimes, it feels like the world is spinning out of control. So many problems—social unrest, environment degradation, longstanding injustices, acts of terror, pandemics and economic turmoil. At the same time, positive breakthroughs are evident on many fronts—technology, energy sources, communications, commerce and transportation are some examples.

R.D. Laing, the celebrated Scottish psychiatrist, stated, "We live in a moment of history where change is so sped up that we begin to see the present only when it is already disappearing."[1]

This quote rings true today, but consider this observation was made in the 1960s. Change seems to be unceasingly accelerating. Embedded within this change is a sense of increased complexity. The way forward looks difficult given the uncertainty of so many moving parts. The idea that we can "get on top" of change seems ludicrous.

Adding to the weight of ongoing change are anxiety-producing information streams, including news feeds and social media designed to command constant attention. An abundance of hair-raising news and urgent electronic social media prompts are not by accident. The recent movie "Social Dilemma"[2] speaks to the rise of social media and its exploitation of its users—channeling attention-getting alerts through its algorithms.

Much of this consumer attentiveness is produced by appealing to envy, greed and fear of low probability outcomes yet to occur. Marketing's psychological tools have been supercharged and turned on around the clock, affecting our mental health.
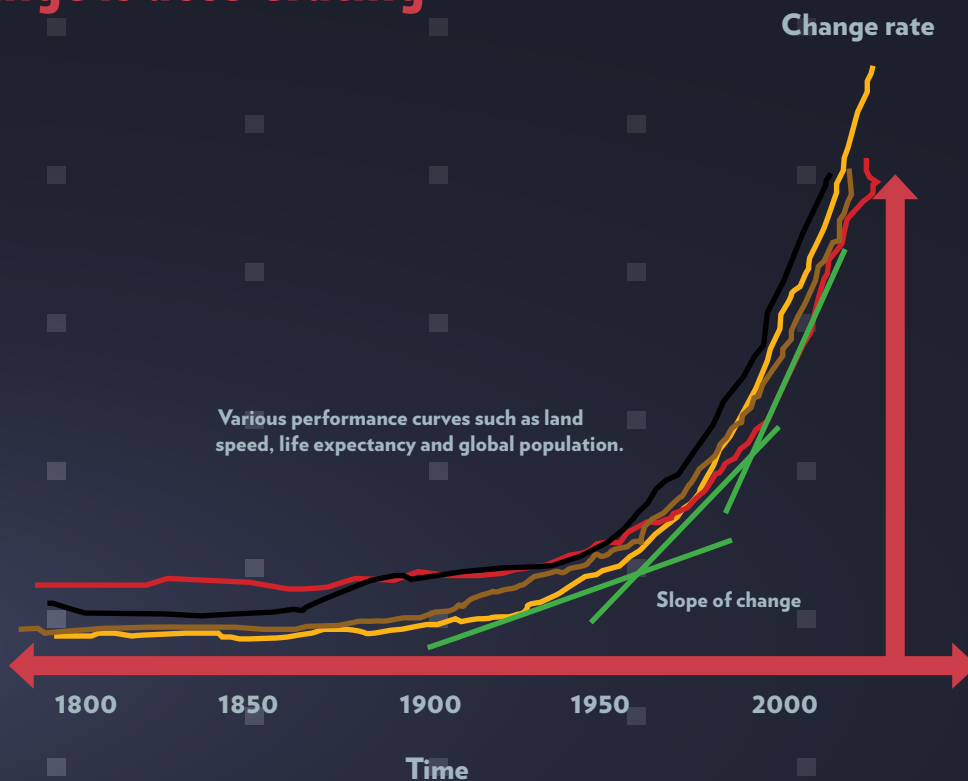
The heaviness of accelerated change, increased complexity and disquieting megaphones can paralyze leaders. Problems seem progressively more unsolvable, displaying characteristics of wicked problems. Simpler system problems (tamed or benign problems) represent the improvements and regulation of systems that are at the heart of the quality leader's work.

This is not to imply system improvement and standardization are easy. Indeed, as championed by quality societies, the methods and tools of continuous improvement and

Change is accelerating

Change rate

Various performance curves such as land speed, life expectancy and global population.

Slope of change

1800   1850   1900   1950   2000

Time

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standardization were painstakingly developed and benchmarked, and are being successfully used. But the wicked problem sets are different. They lack clarity in definition and solution, with shifting stakeholders, constraints and influence factors.

So, what is the way forward? Instead of relying solely on continuous improvement and standardization, transformative change offers great promise. But to employ transformative change, leaders must first be aware of a key barrier and secure the acumen and practice of transformational leadership. By walking through the following flow, the challenging environment can be understood and productive responses crafted:

Accelerating change + growing complexity = increase in wicked problems.

Therefore, transformational leadership is required.

Accelerating change

Change is accelerating; it is not just a subjective feeling. When metrics representing population growth, life expectancy, transportation speed, communication speed and volume, medical advancements, computing power, material strength, energy production and many more sought-after improvement areas are displayed over time, the changes appear exponential (Figure 1).

Among the reasons for this pace is the compounding of innovations. For instance, centuries of experimentation with the practical application of pressure differentials caused by fluid flow (Bernoulli's principle) with boat sails produced advancements in sea power. But when the learnings surrounding sails were combined with wood crafting, material composites, adhesive technology and a primitive combustible engine, the airplane was born.

Complexity factors—examples

Diverse - many living organisms in the ecosystem

Connected - species connected by geography

Interdependent - species feed on each other; animal and plant kingdoms' codependence

Adaptive - coyotes in urban areas; plants and trees in fire-prone environments

From there, the application of rockets, jet engines and computer-aided controls led to modern-day jets. Now, compare the speed, travel distance and lift capabilities of the Wright Brothers' 1903 heavier-than-air machine to current aircraft: huge differences demonstrating compounding growth over time.

Add to this compounding of innovation an expanding global population with more time for creativity and less time securing basic shelter and food. This results in a growing workforce creating more advanced products and services. Today's cellphone (ill-named given the phone app is the least used) is another example of ideas, differing technologies and inventions coming together.

Social-technical change concedes the human element's importance in the absorption, implementation and use of any technological change. Consider the previous example of the Wright Flyer to a military drone. The flight control technology and required human interface are much different—from fly-by-wire controls with the pilot in the elements to an isolated, secure control room with a monitor and electronic control stick.

Along the same lines, Lockheed's F-345 Lightning II fighter jet employs a $400,000 pilot's helmet system that displays airspeed, altitude, heading, potential targets and warnings onto the curved visor. In addition, six exterior-mounted infrared cameras are able to deliver a virtual-reality experience as the pilot can see "through" the plane. Imagine how different it is to fly such a plane. In short, the human factor is integral to this phenomenon of accelerated change, subject to all the stresses delivered by leaps in technology.

In *A Sense of Urgency*, John Kotter speaks to the impact of exponential change on business:

With episodic change, there is one big issue, such as making and integrating the largest acquisition in a firm's history. With continuous change, some combination of acquisitions, new strategies, big IT projects, reorganizations, and the like comes at you in an almost ceaseless flow. These two different kinds of change will continue to challenge us, but in a world where the rate of change appears to be going up and up, we are experiencing a more global shift from episodic to continuous [change], with huge implications for the issues of urgency and performance.[3]

Rapid, relentless change at an increasing pace: This is one of two key macro trends creating a much different environment for leaders.

Complexity is growing

Systems can be extremely simple (water down a drain) or complex (the world's monetary system). Complexity can be considered in terms of predictability. Simpler systems have high predictability and complex systems have less.

Take a simple system of a traffic light, a periodic orbit: green, yellow, red. The timing is established and can be automatically adjusted based on current traffic flow. Several traffic lights can be synchronized to address area traffic flow. But when considering the Earth's ecosystem, the many interactions and interdependencies of diverse environmental forces deem it complex, and open to such system phenomena as emergence and tipping points.

Complexity differs from complication in that a complicated system is not adaptive and is predictable. A complicated system could be one with many inputs but each with little variation, like an electrical power grid or a car engine.

Now envision a complex system, like the human body. High levels of diversity, connectedness, interdependence, and adaptability are found in the many elements composing the human body.[4] The human body is constantly changing in less-predictable ways than the traffic light, the electrical grid or car engine.

When these four system characteristics (diversity, connectedness, interdependency and adaptability) are taken to the extreme—for example, cigarette smoke in a room—chaos ensues. The pattern of dissipation of the smoke is highly unpredictable. Chaos speaks to little or no predictability.

As systems such as banking, trading, transportation, communication, legal and government become more diverse to meet individual needs and become more globally connected, interdependent and adaptable, complexity goes up. With all the systems an average person engages with daily, and with their complexity growing, it is a wonder sanity is maintained.

An overarching driver of increased complexity can be seen in the many centuries of social development. The absorption of standalone cultures is embedded in the history of man. This may have been through conquest, trade or alliances. With this absorption came a great expansion of learning. Integration of cultures generated more complexity due to increased diversity—a key component of complexity.

In *Sapiens: A Brief History of Humankind,* Noah Yuval Harari described the growth of our complex, global culture:

TRANSFORMATIONAL DESIGN APPROACHES

Create a generative conversation—Focus on inquiry and discovery. Initial dialog sessions are designed to see a wicked problem from multiple viewpoints, appreciating its scope. Assigning fault or assertion of simple answers are not helpful. Relationship and influence diagrams are probable outputs.

Focus on the dynamic, extended system—Build an appreciation of the problem's complexity and dynamic nature. Not good or bad, just see the movement, direction and performance of the system's components. Seek out the performance metrics employed throughout the system. Use the tools of dynamic portrayal.

Choose participants carefully—See the network of participants as a system itself, thus it needs flexibility and targeted contributions. Instead of advocacy, seek participants' unique system views. Consider involving people in other ways than members of a permanent committee.

Establish key design principles and purpose—Because the wicked problem is subject to change based on a specific problem definition while visions are often static in design, the criticality of system purpose and design principles take center stage.

Cast an explicit but flexible vision—The traditional concept of a vision (specific, measurable and tangible) is fine with a predictable system. But the nature of a wicked problem is liveliness. The vision must have a definition but be flexible in specifics and transcend the current problem set, not simply address current problems.

Set the stage for self-organizing and emerging structures—The formation of a dynamic transformation plan is followed by regular implementation sessions. As each step forward will begin to define a new system, avoid prematurely or permanently freezing the design. Determine what is malleable. Key initiatives and implementation strategies are to be written in pencil.

Seek betterment, not perfection—As the wicked problem is intentionally addressed, reassess the extended system and take the next "better" step with an eye on any delayed and unintended consequences. Forget discovering a total solution. Wicked problems are in near-constant flux. Yes, "It's alive!"

—S.K.H.

After the agricultural revolution, human societies grew ever larger and more complex, while the imagined constructs sustaining the social order also became more elaborate. Myths and fictions accustomed people, nearly from the moment of birth, to think in certain ways, to behave in accordance with certain standards, to want certain things, and to observe certain rules. They thereby created artificial instincts that enabled millions of strangers to cooperate effectively. This network of artificial instincts is called 'culture.'[5]

The current environment faced by leaders is not unlike the past and will be laced with more challenges from accelerated change and increased complexity as time moves forward. This is the nature of our world. Not to be alarming, but these macro trends are in addition to an individual's life cycle, which is mystifying enough.

Increase in wicked problems

Leaders and quality professionals are facing an expansion of performance expectations. No longer can they "manage" performance upward. Optimization and problem solving of existing systems fall short when these systems are being shifted, displaced and replaced.
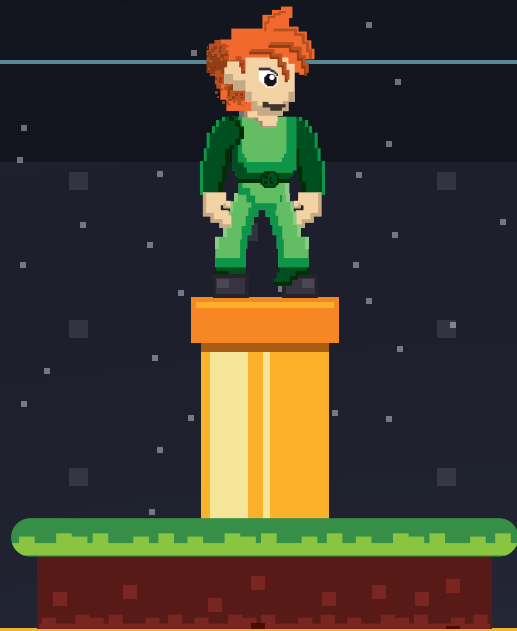
To be clear, most of the business, service and manufacturing systems still are composed of simple systems, and the work of the traditional quality leader is much valued and needed. But an increasing number of systems are in the high complexity and rapid change category—with wicked problem sets fast emerging.

Horst Rittel and Melvin Webber introduced the term "wicked problem" in 1973.[6] Each wicked problem is essentially unique, without definitive formulation or final solution, interrelated to myriad other problems, and subject to morphing when possible solutions are tested and differing problem definitions are presented.

Wicked problems differ from the classical systems approach in which a project can be organized into distinct phases. Although the problems encountered may be complicated, the solutions are knowable and linear in processing.

The definition of a wicked problem has been enhanced and applications broadened over time. John Camillus, for instance, recognized that organizational strategies are often wicked in themselves and that traditional strategic planning processes fail to cope with an increasingly dynamic and complex environment.[7]

Wicked problems can be seen in our health systems, and they seem unsolvable. In our knowledge management systems? There is no definitive solution. In our employment systems? Problems are interdependent with societal issues. In our global procurement systems, they are connected to national security and trade. Political systems, too, have players with shifting, undisclosed demands.

Some subsystems can be broken out and improved, but the whole can appear unmanageable. Enter in the opportunity to transform and reimagine and, as a result, transcend the current set of wicked problems.

Transformation leadership required

While continuous improvement and standardization make up the bulk of leaders' daily work, the opportunity for transformative change often is overlooked, especially by leaders skilled in traditional quality approaches. Standardization is seeking to reduce variation within an established system as well as address aberrant occurrences with the intent to bring these results back in line.

Continuous improvement is intended to shift the curve to a higher level of sustainable performance. Transformational change is a break in the curve, a leap or a discontinuous improvement. As with standardization and continuous improvement, transformational change is evident by its results. Transformational change is not a feeling, design feature or forecasted performance. Proof of transformation is found in measured results.

Wicked problems can be addressed by employing specific transformation approaches (see the sidebar "Transformational Design Approaches," p. 33). Defined methods and tools exist. They are not covered in this writing but are readily available. Instead, the prerequisite shift in leadership mindset is explored.

Barriers to transformational leadership

Chief among the barriers to employing transformational leadership lies in the great success of the quality movement to date. Vijay Govindarajan of Dartmouth's Tuck School

of Business noted the difficulty of leaders to conduct transformational change:

> The more you hardwire a company on total quality management, [the more] it is going to hurt breakthrough innovation. The mindset that is needed, the capabilities that are needed, the metrics that are needed, the whole culture that is needed for discontinuous innovation, are fundamentally different.[8]

It's the same with leadership. The more a leader has invested and relied on traditional quality methods and skills for success, the more difficult it is for that leader to expand into the world of transformation. If optimization of systems has been a focus, wiping the slate clean and venturing into a new leadership arena offers a real challenge.

In simple terms, devoting enormous energy to improving the horse (breeding, training and diet) makes it difficult to pioneer the automobile. Moving from a mustang horse to a Ford Mustang is not about incremental change. Thinking develops a pattern, as does a language that may well carry over to any breakthrough change (horsepower, horseless carriage, Bronco, Pinto, saddle leather interior).

In addition, the "tyranny of the simple answer" to a wicked problem must be addressed. Often due to frustration and impatience, an onslaught of simple answers will come forth. When not adopted, the authors of these simple answers may well increase their insistence, volume and righteousness. Leadership must help people see the complexity at hand; another leadership development skill for some. Resist succumbing to an inadequate and damaging simple answer.

An opportunity

If COVID-19 has but one lesson, it is this ever-dynamic world is getting more adept at delivering society wicked problems. The multiple dimensions of this global pandemic form a wicked problem set. Challenges are many:
- Detect and prevent future pandemics.
- Equip healthcare systems to treat victims.
- Secure critical supply lines.
- Limit exposure and people movement.
- Develop treatments and vaccinations.
- Coordinate nationally and globally.
- Dampen unwanted economic impacts.

Application of traditional quality alone will not produce the betterment sought.

In addition to using the approaches previously outlined, there is another lesson within this crisis to be considered.

It comes from Nassim Taleb's work on the black swan phenomenon. To be sure, the current coronavirus crisis is not a black swan—at least not to those in the medical community. A black swan occurrence has the characteristics of being an outlier incident, outside the realm of regular expectation, essentially unpredictable and has an extreme impact. The natural response is the creation of explanations for its occurrence, making it predictable for future avoidance. But Taleb offered a hopeful note: outlier.

> Black swans being unpredictable, we need to adjust to their existence (rather than naively try to predict them). There are so many things we can do if we focus on antiknowledge, or what we do not know. Among many other benefits, you can set yourself up to collect serendipitous black swans (of the positive kind) by maximizing your exposure to them. Indeed, in some domains—such as scientific discovery and venture capital investments—there is a disproportionate payoff to gain from a rare event. Contrary to social-science wisdom, almost no discovery, no technologies of note, came from design and planning—they were just black swans. The strategy for the discoverers and entrepreneurs is to rely less on top-down planning and focus on maximum tinkering and recognizing opportunities when they present themselves.[9]

The associated learning is to seize upon the societal disruption and impact as an opportunity to inquire. Inquire about what is not known about a particular wicked problem. Set out to address it not with the knowledge of traditional problem solving but with new approaches. Have the courage to wade into its complexity, unpredictability and wildness.

Transformation is about living, exploring and leveraging culture's tensions, conflicts and irresolvable dilemmas—cognitive dissonance. Transformational change can transcend at best, or at least make wicked problems better. This makes it critical to develop transformational change expertise. **QP**

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