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Rotman

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UNIVERSITY OF TORONTO
WINTER 2024

MANAGEMENT

Big- Picture Thinking



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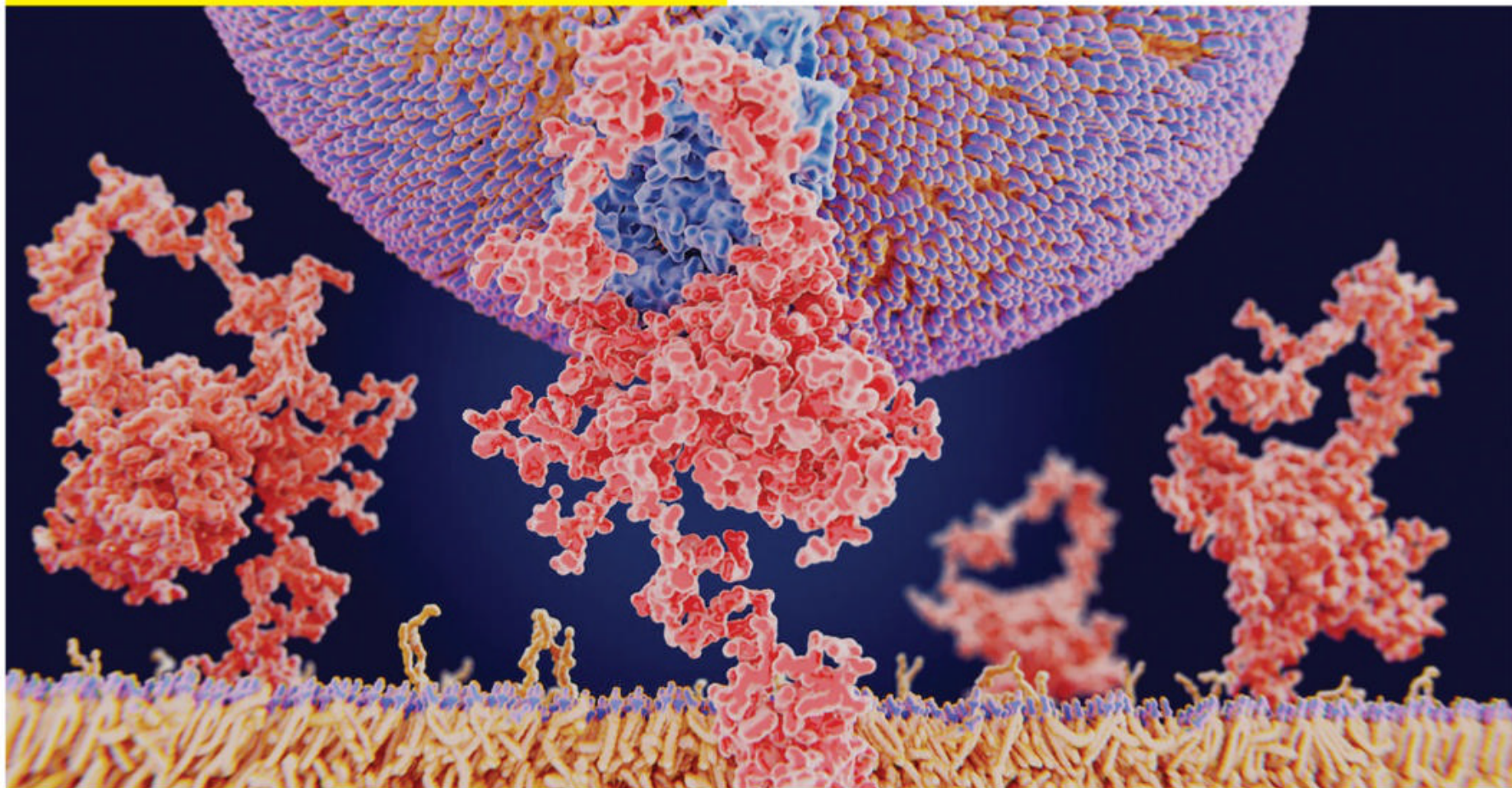
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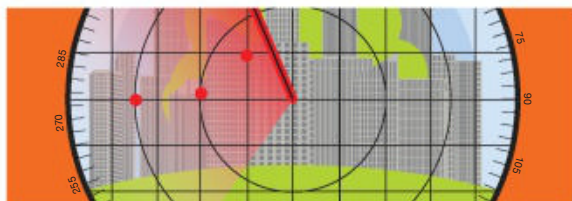
MANAGEMENT

WINTER 2024: BIG-PICTURE THINKING



Proteins are the building blocks of life. Among their many jobs, these complex molecules transport oxygen, detect light so we can see and defend against infection. And humanity has only just begun to discover the multitudes of protein types that exist. Metagenomics—one of the new frontiers of natural science—can help us discover proteins that help cure diseases, clean up the environment and produce cleaner energy. The ESM Metagenomic Atlas, developed by researchers at Meta, is a first-of-its-kind database that could accelerate existing protein-folding AI performance by 60x. Read more about the boundless potential of AI ‘foundation models’ on page 28.

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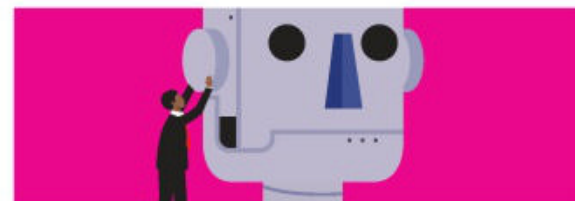


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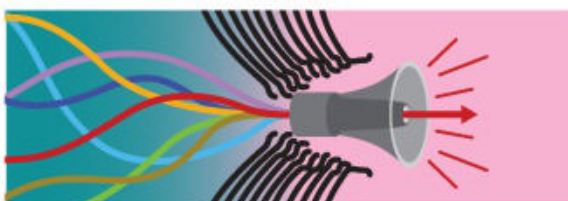


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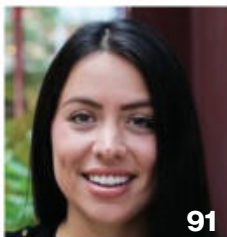
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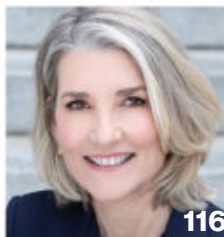
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“In many cases, the most creative solutions can only emerge from a constraint-filled environment.”

—Gave Lindo (MBA '07), p.104

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Big-Picture Thinking

IN 1994, **JEFF BEZOS** was working in finance in New York City. The Internet was just emerging, but it was growing at an incredible rate of over 2,300 per cent per year. He had an epiphany: e-commerce was the future. Bezos did some research and discovered that books were among the most popular retail items. So he packed up, moved to Seattle, and launched **Amazon** out of his garage. His vision: to become the world's largest online bookstore. Critics scoffed, but Bezos saw how some critical puzzle pieces fit together: the rise of the Internet, growing computer ownership, and the simplicity of online book selling. This big-picture thinking has made him one of the most successful entrepreneurs of our time.

Most of the cutting-edge innovations we enjoy today are the result of big-picture thinking, which can be defined as 'the ability to take a wide-angle view of any situation or initiative' — to zoom out and see how things are interconnected. And this is an increasingly important capability for leaders. Rather than getting stuck 'in the weeds,' big-picture thinkers can imagine the far-reaching implications of a particular project or decision.

Cultivating this mindset takes practice, but half the battle is ensuring you maintain a keen understanding of today's hot-button issues — which range from risks and opportunities around environmental, social and governance (ESG) and diversity, equity and inclusion (DEI), to emerging technologies like general purpose AI and the decentralized finance (DeFi) landscape. All are driving change across industries.

In this issue, we will present some of the knowledge and tools required to see and understand the big picture. Rotman Associate Professor **Richard Powers** and his co-authors say the time has come for executives to collaborate with stakeholders to identify, assess and report on their ESG risks — and to start managing them as part of their daily operations. **ESG Risk: What's on Your Radar?** begins on page 6.

On page 28, **Accenture's Krish Banerjee** explains that over the next decade, AI 'foundation models' will transform the nature of knowledge sharing within organizations, in **Generative**

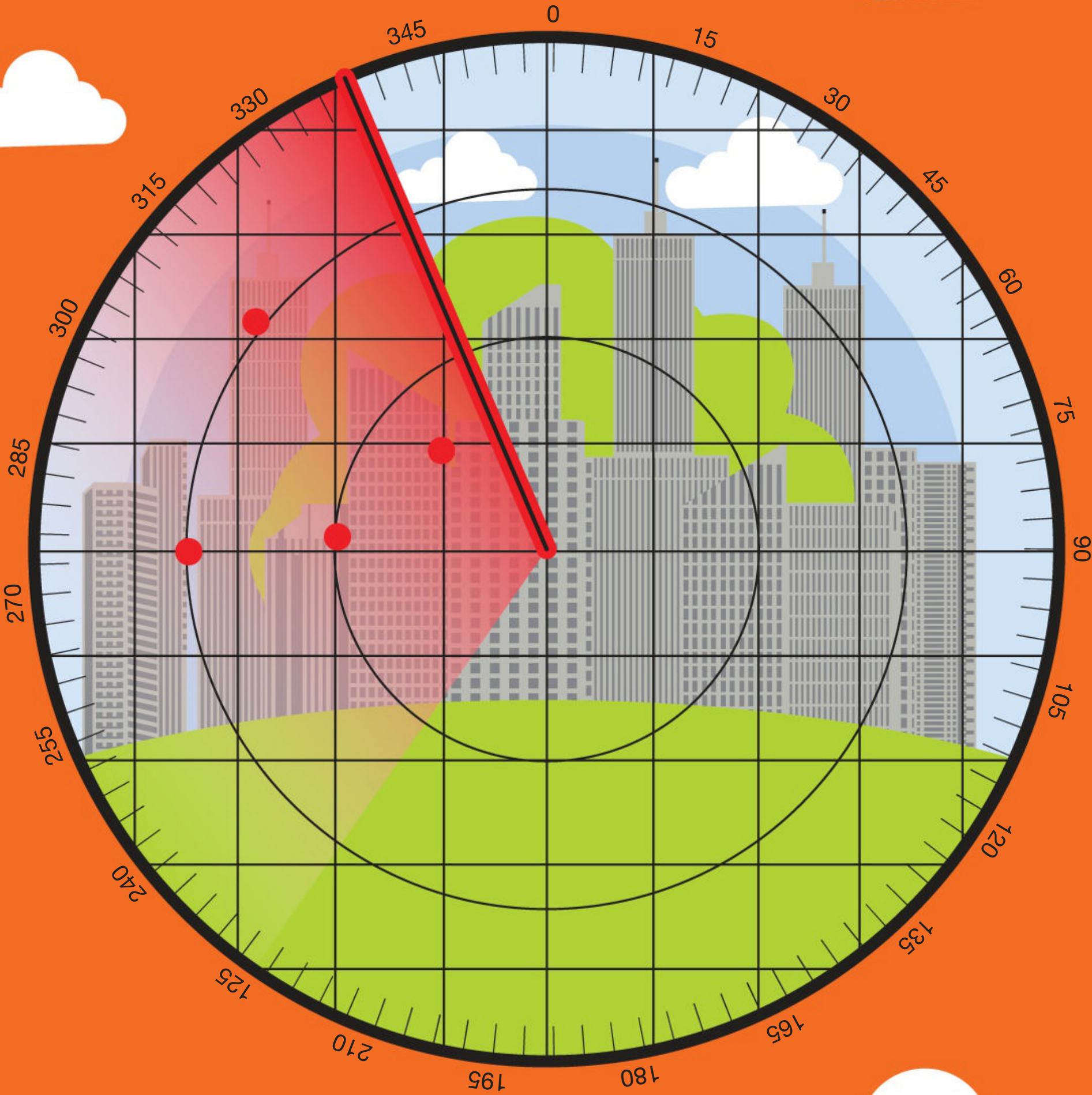
AI: What Leaders Need to Know. And on page 74, Rotman Professor **Walid Hejazi** and the School's Associate Director of Global and Experiential Learning **Freeda Khan** argue that cultural intelligence (CQ) is the most overlooked ingredient for global business success, in **Cultural Intelligence: The Skill of the Century.**

Elsewhere in this issue, we talk to Wharton Professor **Mau-ro Guillén** about 'the Age of the Perennial' in our **Thought Leader Interview** on page 14; Rotman PhD Candidate **Edna Lopez Avila** and Assistant Professor of Finance **Charles Martineau** show that when it comes to investing, crowds are not always wise, on page 60; and two Rotman alumni — **Victor Tung** (MBA '12) and **Charley Butler** (MBA '20) — show how to become an agent for positive change on page 66.

Big-picture thinkers can help their organizations respond to events before they become crises. They can also help them embrace new opportunities while continuing to operate with principles that build sustainable enterprises for the long run. Of course, organizations need more than big-picture thinking to thrive. They also need people at the other end of the spectrum — detail-oriented thinkers who can ensure precision, accuracy and an ability to pivot as needed.

As with so many things in life, it's all about achieving a balance. In a complex world, organizations need multiple perspectives to get a complete picture. And as a result, the most effective leadership teams are able to zoom in *and* zoom out. **RM**

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ESG RISK: What's on Your Radar?

The time has come for leaders to collaborate with stakeholders to identify, manage and report material ESG risks – and incorporate them into their business model and operations.

by Norman T. Sheehan, Han-Up Park, Richard C. Powers and Sarah Keyes

IN THE CURRENT ENVIRONMENT, ESG risks pose one of the greatest threats to public companies' abilities to deliver predictable results. A recent **Bank of America** study calculated that 24 ESG incidents in the period 2014–2019 cost U.S. public companies over \$500 billion in market value.

Given the threat posed by ESG risks, some argue that superior risk management is a leading indicator of future financial performance, while many lenders and institutional investors view the firm's ability to successfully navigate ESG risks as a proxy for management quality. And there is growing evidence that companies judged by investors to effectively manage ESG risks are rewarded with lower costs of capital and higher valuations.

ESG risks are potential environmental, social or governance hazards that can keep companies from achieving their stated objectives. Enterprise risk management (ERM) is a process whereby executives, under the board's oversight, identify, quantify, mitigate and monitor the firm's material risks. With increasing demands for transparency and more regulations, environmental risks such as climate change, loss of biodiversity and single-use plastics; social risks such as those arising from concerns about equity, diversity, and inclusion; and governance risks associated with corruption, cybersecurity and tax transparency present new challenges for directors.

One of the most prominent ESG risks facing companies today is, of course, climate change, which poses systemic risk to companies across sectors and geographies. Research by the **Sustainability Accounting Standards Board (SASB)** found that 89 per cent of industries may be materially affected by climate change risks, including physical and regulatory risks. Given the ubiquity of climate change risk, investors and lenders cannot diversify away from its expected negative effects. Rather, investors and lenders must encourage all companies in their portfolios to manage it.

Unfortunately, few corporate boards have experience addressing climate change and other ESG risks. One study of 1,188 Fortune 100 company board members found that only 29 per cent of their directors had relevant ESG experience, which is an improvement over an earlier study reporting that only 17 per cent of boards had at least one director with ESG experience. A 2022 paper by the **National Association of Corporate Directors (NACD)** found that although 47 per cent of directors see climate change as an issue, only nine per cent see it as a top priority discussed at all levels of the company.

The monetary impacts of poor ESG risk management are likely to be staggering. Recent studies by **McKinsey** have reported that as the average value of their intangible assets reaches



Risks associated with climate change and diversity and inclusion are posing increased financial risks to companies.

90 per cent of their market value, companies become more vulnerable to ESG risks, to the point where as much as 70 per cent of corporate EBITDA is at risk from negative ESG events. For example, companies with poor ESG risk management suffer from lower revenues or loss of innovative capacity when disgruntled customers and employees migrate to more responsible competitors. Firms that struggle to manage their ESG risks also incur higher costs from additional advertising, recruiting and insurance, not to mention paying litigation costs and fines.

Perhaps most important, ESG risks have also been shown to increase the corporate cost of capital, with McKinsey estimating that low ESG performers have a 10 per cent higher cost of capital attributable to the risk of lower future financial performance. **Moody's Investor Services** found ESG risks to be a material credit consideration in 85 per cent of rating actions for private-sector issuers in 2020, up from 32 per cent in 2019. Companies with below-average ESG performance may also suffer from lower stock valuations when they are excluded from ESG funds, which **PwC** expects to grow to \$36 trillion globally by 2025.

Directors and executives can be directly impacted by ineffective ESG risk management. Large investment firms and proxy advisory firms withhold votes from committee chairs who do not meet ESG performance standards. And in the worst cases, directors and executives may face litigation if they do not exercise their duty of care when overseeing their firm's ESG risks.

The total number of climate change-related cases globally has more than doubled since 2015, bringing the cumulative number of cases to over 2,000. Of note, around 25 per cent of these were filed between 2020 and 2022, indicating an accelerating trend of climate litigation against companies. Board members who fail to act with due diligence leave themselves open to being successfully sued by investors if their firms suffer large losses or write-downs due to climate change.

THE DYNAMIC MATERIALITY OF ESG RISKS

Traditional enterprise risk management (ERM) systems focus on compliance, operational and strategic risks that are well understood, have shorter time horizons (typically the length of the firm's strategy implementation period) and consider a narrow set of stakeholders, where the focus is on estimating and

mitigating the impact on the firm's future profitability. These risks are more challenging for boards to oversee effectively because they exhibit 'dynamic materiality,' which means they might not yet be material but will be a priority for the company in the future.

The dynamic materiality of ESG risks stems from the following characteristics: they are typically ill-defined, have longer time horizons (e.g. climate change has no end date) but may also happen overnight (as in the case of a ban on single-use plastic) and impact a broad set of stakeholders (notably society at large.) ESG risks are also typically interconnected (e.g. climate change leads to lower social equity), all of which make estimating the materiality of ESG risks more difficult than traditional risks.

Adding to the ESG risk oversight challenge is that many of these risks are becoming increasingly threatening. A risk becomes 'material' when either the likelihood of the risk event occurring or the impact of the event escalates. The unique dynamic materiality inherent in ESG risks exacerbates this possibility, along with a growing social awareness of ESG issues and expectations of companies.

Another force driving ESG risk materiality is the growing demand for transparency surrounding corporate ESG performance. With the heightened perception of the value of ESG data, investment firms, lenders and national pension funds have begun to demand mandatory ESG reporting from firms, while legislators and regulators have begun to demand mandatory ESG reporting requirements. Even if ESG reporting is not yet mandatory in all jurisdictions, exchange listing regulators such as the **Securities and Exchange Commission** now expect companies to disclose material ESG risks, such as climate-related and cybersecurity risks, in their security exchange filings.

In addition, ESG benchmarking has also contributed to increasing the transparency of firm ESG performance. ESG rating agencies such as **MSCI**, **Sustainalytics** and **Bloomberg** rate ESG performance based on their assessments of corporate disclosures and then publicize their results. And NGOs such as **Ecojustice**, **Greenpeace** and the **Tax Justice Network** also publicize information about corporate ESG performance, creating further reputational risks for companies.

ENHANCING BOARD OVERSIGHT

Boards are required by company law and exchange listing requirements to oversee the firm's risks, risk responses and risk management processes. This means boards have a responsibility to ensure that management is following best practices for ESG risk. We recommend the following four-step framework.

STEP 1: Identify ESG Risks

Since ESG risks can be viewed as stemming from corporate effects on and interactions with stakeholders, executives should begin the risk identification process by considering their companies' impact on stakeholders throughout the supply chain. The importance for corporate management of taking into account the interests and concerns of a broad set of stakeholders — including the environment and future generations — becomes especially important when one recognizes that nine of the top 10 risks cited in the 2023 **World Economic Forum's** Global Risk Report relate to environmental, social and governance threats.

The following eight prompts can be used to identify potential sources of ESG risk:

1. EXTERNAL ESG REGULATIONS, RULES, GUIDANCE AND INDUSTRY LEVEL INITIATIVES. A review of existing and prospective regulations, rules, guidance and industry initiatives enables directors to identify potential ESG factors that are broadly applicable to the company's industry, as well as any company-specific factors (such as locations of operations.)

2. ESG RATING PROVIDER METHODOLOGIES. Reviewing the methodologies of leading ESG rating providers such as MSCI, **Sustainalytics** and **Bloomberg** allows directors to understand the relevant factors that impact their ESG ratings.

3. PEERS' DISCLOSURE OF THEIR ESG RISKS. Reviewing peers' ESG risk disclosures helps directors identify potentially relevant ESG risks in their industry. It is important that directors take pains to choose peers with similar business models, nature and location of operations, given that ESG risks can vary significantly based on these factors.

4. CURRENT AND PROSPECTIVE INVESTORS' ESG PRIORITIES. Reviewing investors' ESG priorities provides directors with a view of the ESG risks being considered by providers of capital and their view of the company's most material ESG risks.

5. CORPORATE ESG PRIORITIES, POLICIES AND DISCLOSURES. Directors should review the current corporate ESG priorities, policies and disclosures to see if there are any issues that have not historically been considered concerns, such as employee health and safety.

6. ESG REPORTING FRAMEWORKS. Voluntary reporting frameworks, such as the Global Reporting Initiative (GRI) or Sustainable Development Goals (SDGs), provide a starting point for directors to identify potentially material ESG risks. It is important to consider the definition of materiality applied by each reporting framework based on the intended audience. In the context of board oversight of material ESG risks, an investor-focused reporting framework such as the global sustainability reporting standards being developed by the **International Sustainability Standards Board** (ISSB) is a useful starting point for directors to review.

7. CORPORATE EXTERNALITIES. Externalized costs are environmental or social damages attributable to companies but not reported in their financial statements. Former Chief Justice of the Delaware Supreme Court, **Leo Strine**, notes that, "None of us wants any particular company in our portfolio to get artificially rich by poisoning us. Also, we pay for externalities as investors and as human beings, so those externalities are costs to us." As the amount and impact of negative corporate externalities grow, so does the risk that companies will be required to internalize these costs through the introduction of stricter regulations or public pressure to use more ESG-friendly materials or processes, which may reduce future profits. To improve oversight, directors should ensure that management recognizes and considers taking steps to limit the negative impact of ESG risks on the company's stakeholders as well as its shareholders.

8. CORPORATE TAXES. In 2022, **Amazon** faced a shareholder resolution asking for the disclosure of the corporate taxes it paid on a country-by-country basis and of the effective tax rates paid by



Corporate incentive systems send strong signals to stakeholders about what is important to a firm.

the company relative to the statutory tax rates in each country. According to one observer, “The defense that a corporation has paid all the taxes it is legally required to pay in each country it operates no longer appears to resonate with many stakeholders.” Since most directors lack corporate tax expertise, boards may miss risks arising from over-aggressive tax planning. To close the gap, directors should review the taxes paid and the effective tax rate relative to the statutory tax rate in each jurisdiction the company operates in, asking management to explain any significant deviations.

STEP 2: Quantify ESG Risks

Because directors have competing demands and limited resources, it is important to prioritize the ESG risks with the greatest potential to impact the company’s value. The traditional method to prioritize risks is to quantify the expected costs associated with each by multiplying the assessed probability of the event by its expected impact on long-run corporate profitability and value. Given the dynamic materiality of ESG risks, estimating the impact and likelihood of ESG risks along a five-part continuum — from ‘insignificant,’ ‘minor’ and ‘moderate’ to ‘major’ and ‘extreme’ — is bound to involve more art than science. The impact of risks should not only consider their potential financial harm to investors but also the negative impact on stakeholders. The greater the harm companies inflict on their stakeholders in terms of pollution or poor employment practices, the higher the risk should be rated.

In addition, estimating the likelihood of an ESG risk event occurring and its duration is challenging as ESG risks may materialize overnight (e.g. #metoo events) or take longer to surface (e.g. excessive GHG emissions). It is common for companies to think about and communicate their sense of their material risk events using ‘risk heat maps’ (such as those proposed by ISO’s 31000 release issued in 2018). However, risk heat maps are not optimal for capturing the dynamic materiality of ESG risks, because risks with low scores are not displayed on the heat map and thus may fly under the board’s radar. ESG risks judged to have a medium-to-high impact and a low likelihood in the short term may not be displayed or prioritized, but still may quickly creep up on the firm and cause real financial damage.

To prevent the directors from losing sight of the ESG risk events estimated to have a low likelihood of occurring, we recommend the use of a ‘risk radar map’ of the kind shown in **Figure One** (see page 11.) Such a map shows different time horizons (e.g. short, medium and long) and displays ESG risks based on

their impact (colour-coded based on severity). In the depicted map for the petrochemical industry, a ban on single-use plastics is coded bright pink since its impact is judged to be extreme and shown in the outermost concentric circle of the risk radar map, reflecting the expectation that a ban on single-use plastics may occur in the next five to 10 years.

The mitigation tactics used to address longer-term ESG risks typically require capital investments and a longer time horizon than those for short-term risks. Therefore, it is important for boards to ensure effective oversight of longer-term ESG risks as part of their oversight of the firm’s capital allocation process.

STEP 3: Mitigate ESG Risk

Once the firm’s ESG risks are identified and scored, management develops risk responses or mitigation strategies for managing material ESG risks and presents these to the board for approval and/or as part of the oversight of its ESG strategy. One proactive risk response that companies can undertake is voluntary self-regulation. For example, **Apple** stated it will have a carbon-neutral supply chain by 2030 and **Nestlé** committed to spending \$3.6 billion in the next five years to become carbon neutral by 2050. **Maple Leaf Foods’** voting agenda uses internal carbon pricing to encourage its managers to prepare for a low carbon future and **Unilever** pledged that all its employees as well as its suppliers’ employees will be paid a living wage by 2030.

If a company’s negative ESG impacts are easily discernable by third parties, self-regulation can be effective, especially if rivals are not able (or willing) to follow suit. But if a company’s negative impact is difficult to distinguish from that of its competitors (say, the focal firm cuts its emissions into a local river by 99 per cent while its upstream rivals continue to pollute the same river,) then collective action is a better alternative for managing that risk.

Companies intent on pursuing collective action can form industry or trade associations in which all members of the association voluntarily agree to reduce their harmful ESG effects, disclose their impact and achieve certification. For collective action to be a successful tactic to manage ESG risks, companies must agree to third-party audits of their ESG performance. One advantage of self-regulation is that companies may avoid stricter regulations in the long term. A possible disadvantage is that it may decrease the firm’s profitability in the short term, and even place it in an unfavourable competitive position relative to those rivals who refuse to join the industry association and self-regulate. However, the risk of being at a competitive disadvantage

A Sample Risk Radar Map for a Petrochemical Firm

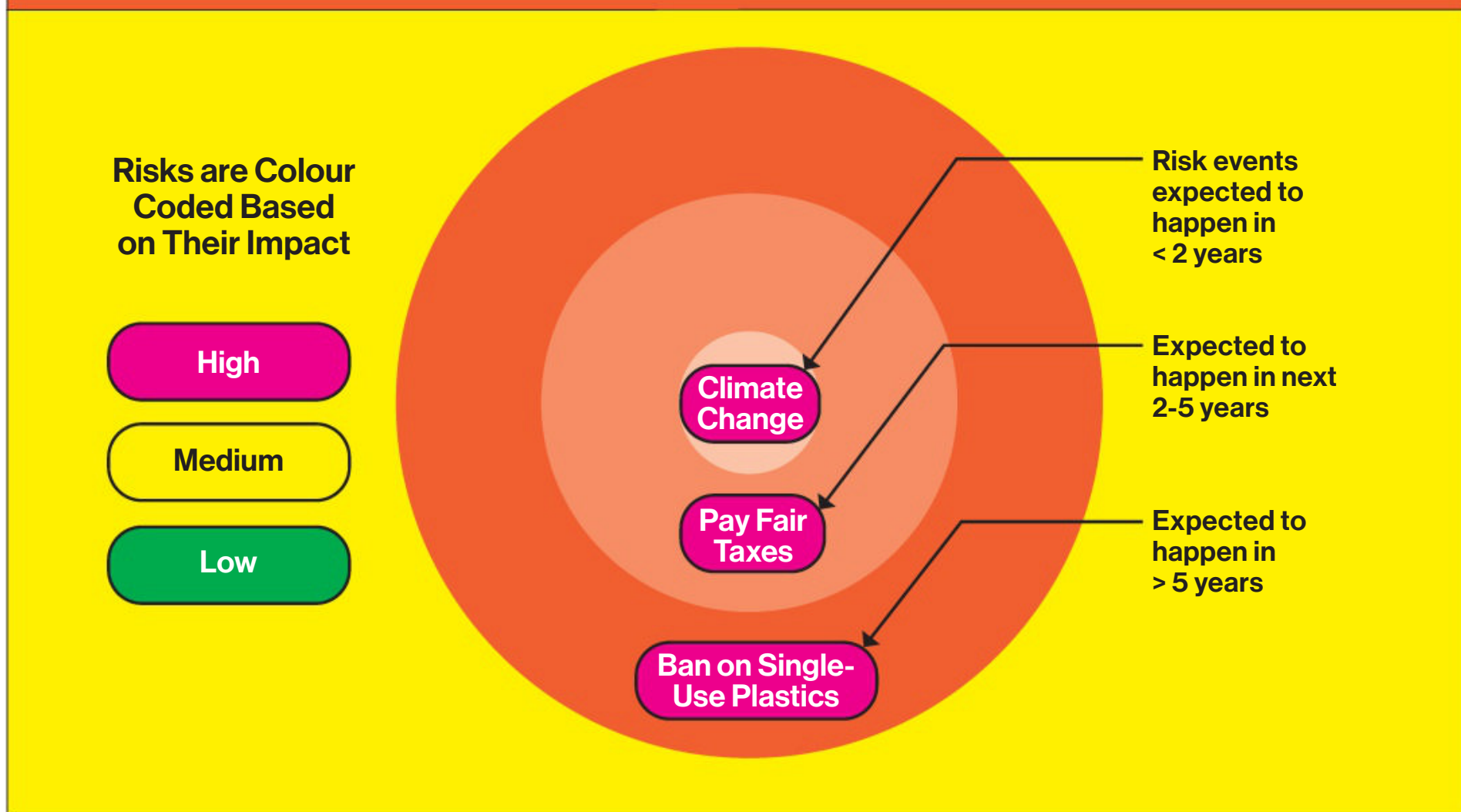


FIGURE ONE

is low if there is a large potential for new regulations, such as the introduction of carbon taxes.

Some kinds of ESG risks, such as those associated with failure to achieve expectations for equity, diversity and inclusion, can prove to be not only material but resistant to direct mitigation efforts. Research has found evidence of what appears to be a near-universal unconscious cognitive bias: Most of us seem to prefer to hire and work with people like us. Although most companies claim to be merit-based when recruiting, mentoring and promoting employees, cognitive bias tends to work to reinforce rather than reduce inequality. To limit this risk, companies should consider the use of targets, disclosures and third-party audits to address the unconscious bias hindering minorities from being hired, mentored and promoted in firms. Boards can set the tone at the top by mandating that the nomination committee improve the diversity of their directors, with the aim of having boards that mirror the diversity of their stakeholders. Canadian railway CN has announced its intent to have at least 50 per cent of its independent directors mirror its customers and the communities in which it operates.

To support the success of ESG risk responses, boards should review their corporate incentive plans to ensure alignment. Corporate incentive systems send strong signals to stakeholders about what is important to the firm and motivate executives to improve the firm's ESG performance. To demonstrate that ESG risk management is critical, boards should revise the firm's executive incentive plan to include metrics relating to material

ESG risks such as carbon emissions or diversity targets. As two examples, **McDonald's** now ties 15 per cent of its CEO's bonus to success in achieving diversity goals among its senior leadership team, and **Shell Oil** has included emission reduction goals in its CEO's bonus since 2018.

STEP 4: Monitor ESG Risks

All identified ESG risks should be assigned to senior executives who then become responsible for the implementation of approved risk responses. The board then regularly monitors emerging risks and the effectiveness of the approved ESG-risk responses.

To be sure, effective monitoring of ESG risk is likely to prove challenging for most board members. Consider, for example, the emerging ESG risk that now surrounds the use of AI to enhance employee decision-making. As more companies introduce AI, boards need to understand how AI works, its data sources, how the third-party AI provider shares companies' data, and any systemic biases that AI may introduce into the firm's decision-making.

To address the lack of ESG risk oversight expertise, boards should consider using a skills matrix to assess what expertise and risk literacy they require to effectively oversee ESG risks. Once identified, boards should train existing members in risk literacy and ESG issues or actively recruit new board members who possess these capabilities as well as reflect the diversity of the firms' stakeholders.



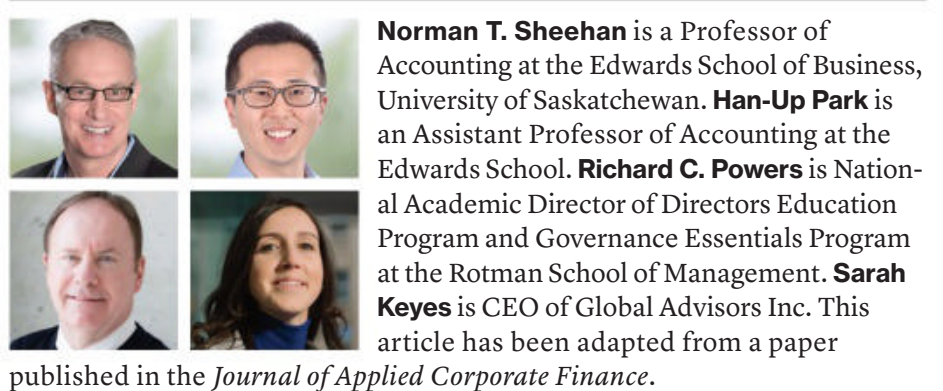
FIGURE TWO

A second challenge for boards is that the responsibility to oversee ESG risks is typically spread across different board committees, many of which lack the time to effectively address them. Environmental risks are typically dealt with by the Audit and Risk Committee, while social risks relating to employees and executives are often dealt with by the HR or Health and Safety Committee. Given that existing board committees have full agendas, boards should evaluate the merits of establishing a separate ESG committee that focuses on overseeing the firm's ESG risks, performance and reporting. The ESG committee should engage with stakeholders on a regular basis to continuously reassess the materiality of ESG risks, anticipate emerging ones and ensure that the firm's risk responses are working to keep it within its overall risk tolerance.

In closing

ESG risks such as those associated with climate change, water scarcity and concerns about diversity and inclusion are growing in materiality, posing increased financial risks to companies. In the near term, boards and executives must collaborate with corporate stakeholders to identify, assess, manage, oversee and report material ESG risks. In the longer term, corporate survival is likely to depend on fully integrating ESG risks into the firm's ERM system, business model, capital allocation process and operations.

As the **Canadian Pension Plan Investment Board** recently stated, "companies that integrate consideration of ESG-related risks and opportunities are more likely to preserve and create long-term value." Many companies have a long way to go to achieve such integration. But make no mistake: failure to responsibly manage ESG risks may result in a loss of public confidence, and ultimately in the loss of the company's social license to operate. **RM**



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It turns out, age really *is* just a number: A sociologist and former business school Dean describes the new era of the ‘Perennial’.

Thought Leader Interview:

Mauro Guillén

Interview by Karen Christensen

You believe the traditional ‘sequential model’ of living life is giving way to something quite different. Please explain.

The old model of living life sequentially, from school to work to retirement, has always defined each generation of Boomers, Millennials, etc. But these divisions are based on assumptions about these groups that are disappearing. A revolution has begun that is creating a multiplicity of pathways that provide people with more choices.

The fact is, there is nothing naturally preordained about what we *should be doing* at different ages. The sequential model of life is a social and political construction, built on conceptions of patriarchy and bureaucracy that classify people into age groups and roles. The confluence of rising life expectancy, enhanced physical and mental fitness and technology-driven knowledge and interaction fundamentally alters dynamics over the entire life course, redefining what we can do at different ages. As a result, a ‘post-generational’ society is emerging comprising individuals I call Perennials — people who are not characterized by the decade in which they were born.

This is a positive development, because viewing life as a linear series of compartmentalized stages defined by age imposes high costs on individuals and families, leaving many people behind. The Perennial mindset challenges antiquated assumptions that we need to reconsider to take advantage of the opportunities of this technological age. We need to persuade governments, companies, educational institutions and other organizations to experiment with new models that take advantage of an increasingly post-generational society.

What does the Perennial lifestyle look like?

It entails a reorganization of how many people live, learn, work and consume due to more porous boundaries between school, work and leisure — and there are many benefits to this approach. For one, it offers teenagers and young adults a less stressful path to carving out a niche for themselves. They can now reimagine their lives by going back to school several times without having to make fateful, lifelong decisions before they are ready to do so (often under parental pressure.) It enables parents — especially



There is nothing naturally preordained about *what we should be doing* at different ages.

young mothers — to better balance their work and family obligations by facilitating study, work and family transitions at different ages without a rigid schedule. It promises opportunities to those who otherwise might be left behind, including school dropouts and those facing career dead-ends due to technological change or economic restructuring. And last but not least, it provides the conditions for more fulfilling and financially secure full or partial retirements. I believe the post-generational revolution will fundamentally reshape individual lives, companies, economies and society itself.

Describe how companies like BMW are embracing a new approach to work that incorporates this mindset.

BMW has been turning heads by pioneering a workplace where as many as five generations of people collaborate and bring their unique skills and perspectives to the table. The company's parent plant is located north of Munich, where approximately 8,000 employees from over 50 countries work on site. Every day, around 1,000 automobiles and about 2,000 engines are manufactured there. They have redesigned their factories and the various sections within them so that several generations feel comfortable toiling together, and this has led to productivity increases and higher job satisfaction.

But don't different generations approach work differently?

Many people believe that generations are motivated by different aspects of work like meaning, money or employee benefits. They are also thought to differ in terms of their attitudes towards technology. For example, younger generations prefer to communicate via text message and video, while others use face-to-face modes more frequently. That's why so many companies, including BMW, were once reluctant to mix different generations on the shop floor.

However, there are distinct advantages to having several generations collaborate with one another. BMW noticed that more mature workers may gradually lose mental agility and

speed, but use other resources to fix problems, such as experience. The growing potential of the multigenerational workplace challenges the traditional way in which we think about what we can do at various points in life.

On that note, researchers have found that creativity peaks when people are in their 20s — and then again, later in life. What are the implications of this?

The relationship between age and workplace performance is not a straight line. Researchers at Ohio State University were stunned to find that creativity peaks when people are in their 20s — and then again, in their 50s. The reason, they discovered, is that early in working life, people rely on cognitive ability alone, but as their brains slow down, they figure out how to use their experience to compensate for the decline.

The different abilities of people at different ages is what persuaded BMW to integrate generations into its workplace. They have found that age-diverse work groups offered both greater speed and fewer mistakes. A multigenerational team offers a diversified way of looking at every project or problem; and the more diverse thoughts you have in the mix, the greater the chances of accomplishing your objective.

What are some of the downsides to this phenomenon?

Longer life spans combined with falling fertility represent a formidable double whammy for Pension systems, especially those funded through current contributions from employed workers and their companies. Pension funds have assumed investment returns of seven per cent and above — which are unrealistic at a time when bond yields approach zero.

The solution? Virtually every serious study concludes that some combination of postponing retirement, raising worker and employer contributions and taxes, cutting benefits or increasing immigration of younger workers is needed. Perhaps all of these things will be required — and that promises to be disruptive and painful for many.

Talk a bit about the difference between life spans and ‘health spans.’

I find it puzzling that most studies of the future viability of pension systems focus on the increase in life expectancy without taking into consideration average ‘health spans.’ In addition to greater longevity, we are staying in much better physical and mental shape for much longer — the so-called health span. This means that a 70-year-old nowadays can pursue the active lifestyle of a 60-year-old from two generations ago.

Definitions of *old* and *young* have shifted over time because of the lengthening of both the life span and the health span. These two concepts are central to understanding the future of retirement in a post-generational society because, when making decisions about retirement, people take into consideration not only how many years they may have left, but also, how healthy they are likely to be.

The question is, should scarce research resources be allocated to increasing our life spans or to ensuring that we remain healthy for most of our lives — our health spans? As *New Yorker* writer **Tad Friend** puts it, this has led to a fierce contest between ‘healthspanners’ and ‘immortalists.’ While immortality is clearly unrealistic, ensuring that we can enjoy life to the fullest for most of our life span seems entirely within reach. The problem is that health spans have not tended to grow as fast as life spans, meaning that the average person still faces a few years — as many as six to eight — of poor health before passing away. Definitely not a good prospect to look forward to.

As businesses attempt to attract Perennial consumers, what are some of the challenges and opportunities they face?

One misguided approach to marketing need to end: the idea that being born during a particular period exerts a lasting imprinting effect on people’s lives and lifestyles. As schooling, work and shopping become genuinely post-generational, so will leisure and entertainment — given that we tend to play with those we interact with at school and work. Marketers will have to re-

liberate their approach as the centre of gravity of consumption shifts toward the upper groups in the age distribution.

Also, for the past few decades, marketers have tended to assume that their attention should be placed on consumers in their 20s and 30s, for very good reasons. First and foremost, it was the largest segment of the market from a purely numerical point of view, given higher fertility and lower average life expectancy than nowadays. Second, in a context of rising education levels, expansion of the middle class and rising incomes, younger consumers as a group also had high, if not the highest, total purchasing power. And third, young people tended to be the most sophisticated, discerning and demanding consumers, always chasing the latest fad and the most exhilarating experience.

Young consumers thus became the yardstick to measure the future potential of new products and services, especially after the Internet, smartphones and social media took the world by storm. Marketers nearly unanimously bought into the idea that it was essential for brands to capture the imagination of the young, since they were not just the trailblazers but also the consumers with the highest ‘lifetime value,’ given that they had decades of spending ahead of them.

This worldview is coming crashing down as the centre of gravity for consumption steadily shifts toward the group of people above the age of 60 due to their huge numbers, high savings and purchasing power compared to other generations. In addition, their lifestyle is no longer that of an ‘old’ person because they can enjoy being in good physical and mental shape for a longer time. In the past, marketers used to obsess about each new generation of consumers for about a decade or so — and then shift their attention to the next generation.

The key takeaway here is that people are increasingly defying generational labels. Mono-parental and multigenerational households are becoming more common. Fathers are taking parental leave. Year after year, more people are going back to school to update, refresh or switch careers. The pandemic has

The Facts About Age

32 years: Growth of the average life expectancy at birth of Americans since 1900, from 46 to 78 years.

19-25 years: The average life left at age 60 for Americans, Europeans, Latin Americans and Asians.

13-17 years: Years of life left at age 60 that will be lived in good health.

8: Number of generations sharing the world stage nowadays.

18 per cent: Proportion of American households that constitute a nuclear family with two married parents and at least one child under the age of 18 (2021), down from 40 per cent in 1970.

Also 18 per cent: Proportion of Americans living in multigenerational households, with three or more generations living together (2021), up from seven per cent in 1971.

10-15 per cent: Highest proportions by country of people age 30 and above enrolled in traditional post-secondary education.

30-35 per cent: Highest proportions by country of people age 30 and above learning on a digital platform.

46 per cent: International executives interested in the potential advantages of a multigenerational workforce.

37-38 per cent: Proportion of Gen Z and Millennials in the UK who say their brand choice is influenced by their parents or guardians—higher than celebrities and social media influencers.

invited everyone to embrace technology regardless of age or education. Online courses are increasingly popular and accessible. Retirees are returning to work. All of this creates a challenge for marketers: How do you market to mixed peer groups?

You write: “The more decades of life people have ahead of them, the more important it is to keep their options open and the less useful it is to make ‘big decisions’.” Please unpack that statement for us.

As I touched on earlier, in a post-generational society, teenagers will no longer have to agonize over the best path for them to pursue in terms of their studies or future jobs, knowing that a longer life span will afford plenty of opportunities for course-correcting, learning new skills and switching careers, depending on how circumstances evolve. That’s potentially the world awaiting us — one in which we don’t have to make fateful decisions with irreversible, lifelong consequences but rather can experience a diverse array of opportunities over time.

How did COVID-19 affect this emerging way of life?

The pandemic opened our eyes to the immense possibilities — as well as to the hardships and limitations — of remote learning and remote work. It has also exposed our vulnerabilities relative to robots and intelligent machines and has exacerbated inequities by race and gender. And perhaps most importantly, it has powerfully reminded us that *nothing lasts forever*. I want to encourage readers to see learning, working and consuming in a different light, one that makes it possible for people and organizations to explore new horizons and to push the limits of what they can do and accomplish throughout their lives.

You believe greater longevity has positive implications not just for retirees, but for everyone at every stage of life. How so?

If people can liberate themselves from the tyranny of ‘age-appropriate’ activities and become Perennials, they might be able to pursue not just one career, occupation or profession but several, finding different kinds of fulfillment in each. Most importantly, people in their teens and twenties will be able to plan and make decisions for multiple transitions in life, not just one from study to work, and another from work to retirement.

The bottom line is that our longer life span creates more opportunities and wiggle room to change course, take gap years, and reinvent ourselves, no matter our age. We can now live several different lives in one. Those who understand this potential will enter a new era of unrestricted living, learning, working and consuming, unleashing a new universe of opportunities for people at all stages of life. **RM**

Sociologist **Mauro Guillén** is the William Wurster Professor of Multinational Management and Vice Dean at the Wharton School of the University of Pennsylvania. Previously, he was Dean of the Judge Business School at Cambridge University. He is the author of several books, most recently *The Perennials: The Megatrends Creating a Postgenerational Society* (St. Martin’s Press, 2023) and *2030: How Today’s Biggest Trends Will Collide and Transform the Future of Everything* (St. Martin’s Press/Macmillan, 2020).

Reunite at Rotman

Celebrating Alumni Impact

Every year, as part of Reunite at Rotman, we recognize outstanding alumni with Rotman Alumni Awards. These graduates exemplify the Rotman values of diversity, excellence, respect and integrity. They have been incredibly successful while giving back to their organizations and communities.

We were thrilled to celebrate our incredible recipients on Tuesday, September 26, 2023. Thank you to everyone who joined us.

Our 2023 Rotman Alumni Award winners, left to right: **Naheed Kurji (MBA '12)**, Leader to Watch, **Rachel Megitt (MBA '10)**, Volunteer Excellence and **Victor Dodig (BCOM '88)**, Lifetime Achievement.



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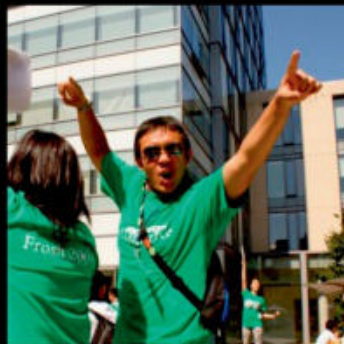
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Victor Dodig (BCOM '88)

PRESIDENT AND CEO, CIBC | 2023 ROTMAN LIFETIME ACHIEVEMENT AWARD WINNER



Photographer: Christopher Katsarov Luna/Bloomberg

What does 100 years of Rotman Commerce mean to you?

100 years is impressive, not just for the longevity factor, but because Rotman remains a leader after all that time. That is a tribute to all the faculty, staff and students who have come through the Commerce halls over the years.

To read more from our interview with Victor Dodig, visit: www.100rc.ca

Going forward, which skills will be the most in-demand for leaders?

Above all else, the ability to continuously adapt while remaining resilient will be imperative, particularly in a challenging environment. Second, leaders must be able to inspire others while reinforcing a shared purpose for everyone to rally around. And third, keeping inclusion top of mind is paramount for an organization to thrive.

What do you hope to see from Rotman Commerce going forward?

I believe very strongly in investing in young talent and those in the early stages of their careers. By facilitating access to opportunities across our communities for younger generations, we will help shape the leaders of tomorrow. We need to make good leaders into great ones by instilling a keen awareness of their broader responsibilities in society.



IS IT TIME TO REIMAGINE THE C-SUITE?

Given the growing demands on C-suite executives, the current structure for leading companies may not be sustainable.

by Derek Robson and Tim Brown

LIKE SO MANY THINGS IN RECENT YEARS, the fundamental role of the C-suite has changed. In the past, the leadership team's job was to keep the existing machine humming, optimizing for efficiency and profitability. But now the challenge goes beyond delivering results to driving transformation — in effect, building a new machine that will thrive in the future as well as the present.

The demands placed on senior leaders of organizations have grown exponentially. Not only are they required to be constantly reinventing their company but they must also navigate the growing expectations of employees, investors and other stakeholders who believe corporations and their leaders should play a larger role in addressing broader societal issues that have historically fallen outside of the purview of business. And given that relentless disruption and uncertainty are now facts of life, the demands leaders face will only increase.

Who can live up to this superhuman job description? It's time to start contemplating a mindset shift and a reimagining of how the C-suite operates. We see four fundamental shifts that can help executive teams evolve.

SHIFT 1: FROM ANSWER-PROVIDERS TO QUESTIONERS. It used to be that executives were expected to have all the answers to any question, as if they were Athena, the goddess of wisdom. But in our conver-

sations with CEOs over the last few years, many have shared the opinion that the primary role of executives has to shift to being constantly curious rather than all-knowing.

In a sense, the CEO needs to pivot from being chief executive officer to chief inquiry officer. The ability to ask the right questions is now arguably more important than having the right answers. That's because questions provide long-term focus for companies, whereas the right answer in one context can quickly become the wrong answer amid shifting scenarios.

That then raises the question of whether one person can realistically be expected to possess all the knowledge, expertise and insight required to explore new territory and create those questions. The answer is almost certainly No, which creates a dilemma for leaders: Where do they get the help they need to be constantly curious?

It may be too much to expect that support from their direct reports, given that their primary responsibility is to execute the strategies that emerge from those questions. The board may not be much help, either. Boards, for the most part, are not expert enough. They definitely have an important role to play, and maybe some board members can assist on this; but it's not something that they are generally set up to do. After all, they are governance mechanisms more than knowledge-seeking mechanisms.



The CEO needs to pivot from being chief executive officer to chief inquiry officer.

One possible solution for providing more support to CEOs is for them to have a small set of peer advisors around them to help them figure out what the right questions are. For this to work, the CEO would need to be able to treat that group as true peers. They shouldn't all be on the payroll of the organization, so that the CEO doesn't have to worry about the motivations of people who might be looking to be promoted.

For this 'knowledge-seeking advisory group' to work, it would have to have a singular goal of helping the CEO think through challenges and questions, in the same way that U.S. presidents have assembled 'brain trusts' to offer guidance on issues. The goal for the group would be to provide a series of perspectives on a particular problem, rather than trying to provide the answer, and help the CEO build their confidence and courage for navigating uncertainty.

SHIFT 2: MORE FLUIDITY IN EXECUTIVE ROLES. This shift underscores a fundamental tension in the role of the CEO and other members of the C-suite. At a time when people expect more of all leaders — authenticity, humanity, inclusivity, greater visibility, constant communication — senior executives also need more time away from the office to simply *think* — to calm the noise and figure out which questions they should be asking. And there is no way to do that other than being either intensely disciplined about it or by sharing the load. Thinking time is crucial, even if it is just to step back and ask yourself whether you are making progress on the big goals you've articulated for the organization.

In theory, the responsibilities of leadership in organizations should be shared and spread across executives. One challenge there, as we mentioned earlier, is that the C-suite is primarily focused on executing the current strategy, rather than contem-

As the World Shifts, So Must Leaders by Nitin Nohria

Great leaders are defined less by enduring traits and more by their ability to recognize and adapt to the opportunities created by a particular moment. They can sense the *zeitgeist* — the spirit, ideas and beliefs that define a period — and seize it.

The *zeitgeist*, according to research by my Harvard Business School colleague **Anthony Mayo** and I, is shaped by six factors: global events, government intervention, labour relations, demographics, social mores and the technology landscape. Today, we are experiencing a *zeitgeist* shift, and individuals who can recognize shifts in these six factors and exploit them have what we call 'contextual intelligence.'

The most recent leadership transition at **Apple** illustrates how contextual intelligence matters. During the 2000s, **Steve Jobs** helped the company prosper by stringing together a series of breakthrough innovations, including the iPod and the iPhone. Since Jobs's untimely death, in 2011, **Tim Cook** has led Apple in an era of increased smartphone competition. Cook, an MBA who built his career managing Apple's supply chain, fits these times perfectly, emphasizing not new products but services that create a vibrant and profitable iOS ecosystem. Recognizing that product innovation was likely to be incremental, Cook found a different vector for Apple's success. And in an age when employees expect their leaders to be more vocal on societal concerns, Cook has become a visible advocate for LGBTQ+ issues. His contextual intelligence has helped him respond to the changing *zeitgeist*, and the results have been spectacular: On

his watch, Apple's market capitalization has grown eightfold.

The new *zeitgeist* requires executives with the instincts to deal with shifting external forces, the ability to sense fresh economic opportunities, and the skills to lead and manage in a different age. This new era calls for a knack for perceiving how politics and public opinion play a role in decision-making, because the costs of miscalculations are rising.

Consider the situation that **Disney's** CEO, **Bob Chapek**, faced in 2022. Disney is a large employer in Florida, where legislators had proposed a controversial law restricting schools from discussing gender identity or sexual orientation issues with students. Disney employees and outsiders criticized the company for failing to oppose the bill publicly until after it had passed. Within weeks, employees led daily walkouts and some customers proposed a boycott. A *Wall Street Journal* article described the situation as "a dramatic example of the friction many companies have begun to see as workers exercise their power to influence corporate culture and decisions, and demand [that] their employers use their heft to publicly participate in politics." Chapek apologized for not being a stronger ally in the fight for equal rights and said Disney would work to repeal the law. Then Florida legislators and the governor retaliated by revoking the company's special tax status.

Avoiding land mines starts with anticipating how different stakeholders will react to events unfolding inside and outside the com-

plating new strategies. In addition, those roles themselves are facing their own existential crisis. Not only are the responsibilities of each traditional role expanding rapidly with the complexity of the world, but also we are seeing more C-suite leaders wearing multiple hats.

For example, many chief human resources officers are now also responsible for real estate, given that the future-of-work policies they are devising have enormous implications for their requirements for office space. As if that weren't enough, they are also taking on responsibility for communications — both internal and external — since it makes sense for them to be aligning corporate messaging with efforts to recruit and retain employees.

We can look for lessons on fluidity from outside the world of business. Some years ago, we worked with the government of Dubai to create new ministries — including establishing a Min-

istry of Possibilities — and merge existing ones to address the evolving challenges and issues that society faces. Should businesses start to think the same way? Should we start to imagine C-suite leadership roles that are more agile and can be continuously restructured to deal with the challenges of the moment while also considering the future?

SHIFT 3: REDUCED LEADERSHIP COMPLEXITY. We often see leaders respond to the complexity of their world and the challenges their organization faces by adding more layers, creating heavily matrixed structures. But that doesn't necessarily lead to better outcomes, because those additional layers can actually slow down an organization rather than speed it up. Companies need to focus on doing the opposite: Simplifying the business down to its essential elements so the structure is built to best serve the core.

pany. And *that* requires leaders to first broaden their thinking about what is relevant to their business. There was a time when a CEO could say, "But what does this have to do with my company? Isn't this matter in the personal or political sphere?" Such a perspective is unlikely to serve any executive well in the times ahead.

Rather than resist, CEOs will have to embrace the broader responsibility into which they and their organizations will be drawn. They'll need to empathize with people whose identities and interests may differ from their own. Gathering a wide range of views and listening carefully — even to thoughts and perspectives that may seem outlandish — will enable CEOs to be more in tune with those they lead.

Executives who operate this way are sometimes described as 'diplomats.' Leading as a diplomat implies not just reading the pulse of various constituencies, but rallying them forward. Two good examples of this type of leader are **Ken Chenault**, the former CEO of **American Express**, and **Ken Frazier**, the executive chairman (and former CEO) of **Merck**. They are among the best-known Black executives in the U.S., and when the **Black Lives Matter** movement erupted after the killing of **George Floyd**, they led America's corporate response. Moving beyond declarations of support and solidarity that risked sounding hollow, Chenault and Frazier launched **OneTen**, a collaborative of major companies to train, hire and promote one million Black Americans — particularly those without college degrees — in the span of 10 years. Another

example is **Larry Fink** of **BlackRock**, who has mobilized investors and business leaders to focus on the long-term sustainability of enterprises and the planet.

The new zeitgeist will also require a greater emphasis on crisis management skills. Leaders can no longer assume that trouble may strike once every three or four years and be managed by outside crisis consultants. Instead, companies must prepare for a steady stream of upheavals — and hone their in-house skills for dealing with them. They can't afford to merely react; they should anticipate, plan and organize for potential challenges.

A range of other talents will be necessary for business leaders. They include using social media adroitly, motivating employees who seek purpose and meaning from their companies, satisfying all stakeholders instead of just shareholders and driving digital transformation. The importance of those skills has been gaining visibility for a decade; the new zeitgeist will bring them to the fore.



Nitin Nohria is a Professor and former Dean at Harvard Business School and the Chairman of Thrive Capital, a venture capital firm based in New York.



Even in today's challenging environment, the two fundamental questions of leadership remain the same: Are you managing your people properly? And are you managing your brand and its assets properly? More layers and structure don't necessarily make these things better. What is the core strategy? Does the organizational structure match it? In many cases, it doesn't.

SHIFT 4: BALANCE PERFORMANCE WITH REGENERATION. As we contemplate the future of C-suite roles, another question arises: Can we structure these jobs so they aren't so reliant on people who have a super-human amount of stamina and energy and the capacity to work constantly?

It's almost as if a requirement for these jobs now is to be able to score well in the equivalent of an NFL 'combine,' where potential draft picks are tested in various speed, skill and agility drills. To sign up for these C-suite jobs requires a certain amount of internal drive, but also, pure physical endurance. Is it possible to imagine doing these jobs without requiring that level of relentless physical and mental effort?

Sports are often used as a metaphor for business, but there is a key difference between the two. In sports, you don't spend all your time just playing the game. You spend significant amount of time training. And the same is true for other pursuits, like dance and music. These artists are practising most of the time and performing for a relatively small amount of time. But in the workplace, we assume that leaders can both practice and perform at the same time, all the time. And if you really want elite performers running your organization, that just may not be humanly possible any longer. We may be expecting simply too much out of human beings to have them be practising and performing to extremely high levels for thousands of hours a year.

So, what can be done about that? Organizations have to spread the load so leaders can *regenerate* some of the time and *perform* some of the time. But businesspeople are not very intentional about how they regenerate today. In the world of sports, there is a whole science around what it takes for an athlete to

regenerate both physically and mentally. Could we be intentional in the same way in the world of business, rather than having leaders run so hard all the time that they don't give themselves time to recover mentally and physically? Just imagine the impact on their performance.

In closing

There are no easy answers to these four shifts, but they do need to be considered now, before the C-suite becomes unsustainable. Rather than worshipping at the altar of the CEO, organizations need a more collaborative approach as we look to the future. Ultimately, the goal will be to create more of a collective leadership body, rather than relying on one person and their direct reports. **RM**

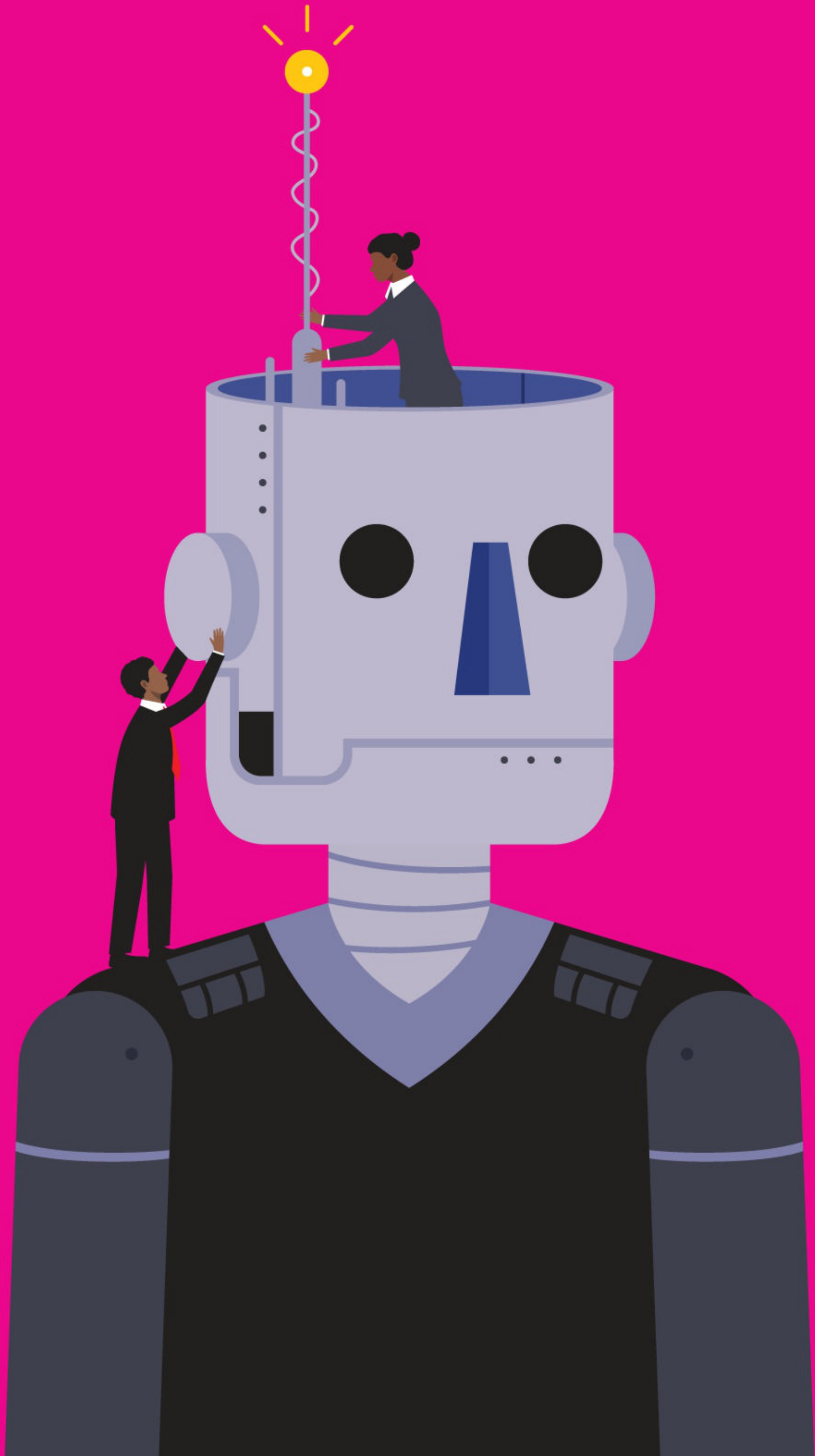


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Generative AI: What Leaders Need To Know

Over the next decade, ‘foundation models’ will be game changers, transforming strategy and business planning and powering novel offerings.

by Krish Banerjee

WHEN OPENAI REVEALED CHATGPT in late 2022, people clambered to test it. They asked complicated, open-ended questions, requested long-form narrative, and often got impressive results. Not even four months later, the company released GPT-4, the next generation of its AI software, which can respond to both image and text inputs and more nuanced instructions.

Even before ChatGPT came along, text-to-image generators like **Stability AI**’s Stable Diffusion and OpenAI’s DALL-E 2 stunned people by responding to written prompts with photorealistic images. ‘Two kangaroos waltzing in the style of **Monet**’ would get you pretty much that. Not surprisingly, arguments over the ethics of mimicking artists’ styles, legal risks and the impact on people’s livelihoods have flared.

While the impact on the art industry is clear, many leaders in other fields continue to view these tools as a mere novelty. That is a mistake, and in this article I will explain why.

A Step Change in AI

It all began in 2017 with a landmark innovation in AI model architecture by **Google** researchers who developed transformer architecture. Since then, tech companies and researchers have been supersizing AI, increasing the size of models by 10,000 times and the size of training sets, too. The result: powerful,

pretrained models — called ‘foundation models’ — that offer unprecedented adaptability within the domains they are trained on, be it language, images or the structure of proteins.

With this adaptability, foundation models can complete a wide variety of tasks without needing task-specific training. What’s more, companies building foundation models are giving third parties access through application programming interfaces (APIs) or by open sourcing them, putting these advanced models in anyone’s hands. This is no everyday technology advancement.

While foundation models are not the only area of AI research that is growing, the magnitude of their potential and the speed at which they can be deployed is driving them to the top of companies’ innovation agendas. Indeed, 98 per cent of global executives we surveyed agree that AI foundation models will play an important role in their organizations’ strategies in the next three to five years.

One company taking advantage of this is **CarMax**, which is using ChatGPT to improve the car-buying experience. Knowing that there is a massive amount of information potential car buyers may want to read through before making a purchase decision, CarMax used **Microsoft**’s Azure OpenAI Service to access a pre-trained GPT-3 model to quickly read and synthesize



The novel capabilities of foundation models have led some to see them as a step towards artificial general intelligence (AGI).

over 100,000 customer reviews for every vehicle make, model and year that they sell. From these reviews, the model generated 5,000 easy-to-read summaries — a task the company says would have taken its editorial team 11 years to complete.

Other organizations are also experimenting with foundation models, adapting them for tasks ranging from powering customer service bots to generative product design to automated coding. As these models broaden and extend what we can do with AI, they are letting companies transform human-AI interaction and build an entirely new generation of AI applications and services. To be a part of this and to leverage these models to drive novel business solutions and offerings, companies need to understand their strengths and capabilities and track how they are advancing — starting today.

There are two key innovations making this particular wave of AI possible. The first is the aforementioned transformer models introduced by Google researchers. One of the newest classes of AI models, transformers are neural networks that identify and track relationships in sequential data (like the words in a sentence) to learn how they depend on and influence each other. They are typically trained via self-supervised learning, which for a large language model (LLM) could mean pouring through billions of blocks of text, hiding words from itself, guessing what they are based on surrounding context and repeating until it can predict those words with high accuracy. This technique works well for other types of sequential data, too. Some multimodal text-to-image generators work by predicting clusters of pixels based on their surroundings.

The second innovation is *scale* — significantly increasing the size of models and, subsequently, the amount of ‘compute’ [computational power] used to train them. The size of a model is measured in parameters, which are the values or weights in a neural network that are trained to respond to various inputs or tasks in certain ways. Generally speaking, ‘more parameters’ lets a model soak up more information from its training data and make more accurate predictions later. But what OpenAI demonstrated with GPT-3 is that vastly increasing the number of parameters in a transformer model, and the computational power put into training it, leads not only to higher accuracy but also to the ability to learn tasks the model was never trained on.

This novel learning ability — also known as ‘few-shot’ and ‘zero-shot’ learning — means that foundation models can successfully complete new tasks given only a few or no task-specific training examples. **DeepMind’s Flamingo** — a multimodal

visual-language model — is especially good at this. In a 2022 paper, DeepMind researchers demonstrated how Flamingo can conduct few-shot learning on a wide range of vision and language tasks, only being prompted by a few input/output examples and without the researchers needing to change or adapt the model’s weights. In six of 16 tasks they tested, Flamingo surpassed state-of-the-art models that had been trained on much more task-specific data, despite not having any re-training itself.

One of the most significant ways foundation models are evolving has to do with the data types they’re trained on — which, right now, are limited. Most of today’s foundation models are LLMs trained on natural language, and even multimodal models are typically language- and image-only. But some are working to expand to more data modalities. This can mean building standalone foundation models for new kinds of data.

Meta, for instance, developed a protein-folding model — an LLM that learned the ‘language of protein’ — accelerating protein structure predictions by up to 60 times. And a research team from the University of Texas at Austin, the Indian Institute of Technology and Google Research proposed Generalizable NeRF Transformer (GNT), a transformer-based architecture for NeRF reconstruction. A NeRF (Neural Radiance Field) is a neural network that can generate 3D scenes based on only partial 2D views — and experimenting with transformers to generate 3D data like this could have big metaverse implications.

Other organizations are working to incorporate more data types into a single model. Take Microsoft’s Florence, a foundation model built for general purpose computer vision tasks. While it was trained on a large data set of image-text pairs and has only a two-tower architecture, combining one language encoder and one image encoder, its creators proposed a video adapter built off the image encoder. Extending to this additional data type is a key step towards a computer vision foundation model that could generalize across real-world vision tasks — and could drive applications in security, healthcare and more.

The amount of compute needed to train the largest AI models has grown exponentially — now doubling anywhere from every 10 months to every 3.4 months, according to various reports. And even after a model is trained, it’s expensive to run and host all of its downstream variations as it gets fine-tuned to handle different tasks. In today’s cloud computing setups, it’s slow to load foundation models each time they’re needed but expensive to keep many models online.

Anyscale — a unicorn that recently raised US\$199 million — is working to lower these barriers. Anyscale was founded by a group of UC Berkeley researchers who developed Ray, an open-source framework that improves access to foundation models by making it easier to scale and distribute machine learning workloads. It is currently used to train the largest AI models coming out of OpenAI, like ChatGPT.

Elsewhere, **Cohere**, a start-up building an NLP developer toolkit, also uses Ray to train large language models. And **IBM** is using it to implement ‘zero-copy model loading,’ whereby they store model weights in shared memory and use Ray to instantly load and redirect cluster resources to whatever model an application requires in the moment. This frees users from needing to tune the number of model variations they keep loaded in memory and is expected to lead to much simpler foundation model adaptation and deployment.

The novel capabilities of foundation models have led some in the community to see them as a step towards artificial general intelligence (AGI) — an AI system capable of learning any intellectual task that a human can learn. Only time will tell if the technologies and methods behind foundation models are enough to achieve some form of truly general intelligence in the future. Nevertheless, the level of generalization foundation models have already achieved within certain data types is hugely significant and more than enough to revolutionize how and where enterprises use AI.

The question now for leaders shouldn’t be whether or not these models will impact their industry, but how. Foundation models are widely adaptable and could technically be used for a wide variety of tasks — so the decisions companies make around how to deploy them and what problems to address with them are where competitive differentiation will be found.

The Benefits of Foundation Models

Using foundation models for the right purposes starts with understanding what they truly change. This goes beyond technical capabilities — it’s about what these models let businesses do that they couldn’t do before. There are two major benefits here.

THE POTENTIAL TO DEEPLY TRANSFORM HUMAN-AI INTERACTION. Look at how some are calling ChatGPT the future of search and knowledge retrieval. It can write poems and essays, debug code and answer complicated questions because it’s trained on billions of text examples pulled from the internet. And it remembers pre-

vious conversations, so it can revise or elaborate on responses, making human-machine communication more sophisticated and natural.

This is important. Because many foundation models are (or contain) LLMs, they use natural language as their interface. That is a big part of why foundation models are giving rise to a new generation of AI applications: People can easily engage with them. **Frame**, for instance, is using an LLM capable of generating code to help teachers design 3D metaverse classrooms simply by describing out loud what they want in the room. And they’re not the only ones thinking along these lines. **Jensen Huang**, CEO of **Nvidia**, has said he expects LLMs to be a core technology for generating 3D images and shapes to populate the metaverse.

Another way foundation models are changing human-AI interaction is by transforming how work is done. At **Accenture**, for instance, we are leveraging generative AI across a number of functions. Currently, we are testing the use of OpenAI LLMs to improve developer efficiency by automatically generating documentation. This will allow coders to submit requests conveniently through a **Microsoft** Teams chat while they work. In return, accurately prepared documents are swiftly delivered, demonstrating how specific tasks, rather than entire jobs, can be enhanced and automated.

Foundational AI is also changing the way software engineers work at Google. They used a foundation model to develop a code completion tool that over 10,000 engineers tested for a three-month period. The results showed that coding iteration time was reduced by six per cent. The potential of these models to transform workflows and improve productivity, even in highly complex tasks, is undeniable. And soon, companies may start to use them in much more varied ways, augmenting tasks all across product development, business processes and more.

OPENING THE DOOR TO NEW AI APPLICATIONS AND SERVICES. Foundation models require massive amounts of data upfront, which is handled by their creators. But once a model is trained, organizations can adapt it to a range of downstream tasks, building new capabilities with just a few examples or fine-tuning a model with just a small training set. Rather than every new AI application requiring months of effort and investment, organizations will be able to create and deploy them much more simply.

IBM, for instance, has been transitioning some of its Watson portfolio to use foundation models. It found that with pre-trained language models, Watson NLP could train sentiment analysis on



The question for leaders shouldn't be whether or not these models will impact their industry, but how.

a new language with only a few thousand sentences — a training set a hundred times smaller than what previous models required. Over about a year, the company was able to expand Watson NLP from 12 languages to 25.

Multimodal foundation models' ability to recognize multiple data types and identify the relationships between them is also pushing the envelope of what AI is capable of, enabling powerful new systems. GPT-4, for example, is multimodal and accepts both image and text inputs, meaning that if someone were to show it a picture of the inside of their refrigerator, it could correctly identify the items inside, suggest meals that can be made with those ingredients and then provide step-by-step cooking instructions.

Meta has long seen the value of an AI system that can interpret content on its platform — especially when it comes to detecting hate speech. But this is a task that has historically been difficult for machines because people tend to communicate in multimodal ways on these platforms — using text and image together to tell a joke, for instance. Meta has launched a series of foundation and multimodal AI projects to help it analyze different types of communication — like text, image and video — simultaneously. The company created the Hateful Memes dataset to address the shortage of publicly available training data for classifying memes; it developed FLAVA, a multimodal foundation model that works across dozens of tasks; and it built Omnivore, a model that can operate across images, video and 3D data, doing things like detecting content in both videos and images.

It's exciting to imagine the possibilities we'll have in the future. What will we be able to do when multimodal models connect text, sound, image, video, 3D spatial data, sensor data from industrial equipment, environmental data and many other types of data? Early opportunities may start with generating marketing images and ad copy but could grow into sophisticated auto-generated code and new ways to search and access information. Analysts might use language to ask an AI system to describe patterns across thousands of satellite images. A piece of industrial equipment might use an AI system to translate data from dozens of sensors into a repair procedure for a mechanic. Or multimodal AI might help drastically improve the path planning and performance of robotic arms.

Leaders are now presented with huge opportunities and responsibilities fundamentally changing the roles of the C-suite.

Tapping into the power of the underlying AI technology calls for a profound rethink of how the organization works, with multiple implications for enterprise IT architecture, organization, culture and more. One thing is certain: AI will become an ever-present co-pilot for every worker, boosting productivity by putting new kinds of hyper-personalized intelligence into human hands.

From Building AI to Building With AI

Foundation models are shifting conversations from 'How can we build our own AI?' to 'What can we build with AI?' The start-up **Hugging Face** is growing in popularity as a hub for foundation, transformer and other machine learning models. The community platform offers many pretrained models, allowing developers to work with new AI models without needing to collect data or train them themselves. The platform is popular with indie developers, but major companies — including **Intel**, **eBay**, **Pfizer** and **Bloomberg** — have started to use it as well. Hugging Face closed a \$100 million funding round at a \$2 billion valuation in May 2022 to help it become the premier location for building with pretrained AI models.

A 'middle layer' is also starting to appear alongside foundation model platforms, offering services like fine-tuning the models for more custom use. Though foundation models are pretrained and highly adaptable, some downstream tasks may require more specific fine-tuning to train it on new, task-specific data to change its output. Microsoft, for instance, is packaging and selling GPT-3 capabilities to customers, integrating it into its low-code app development platform **Power Apps**, and offering customers access to the model along with the enterprise-grade security, compliance, reliability and data privacy assurance of Azure.

To identify the right role for foundation models in your organization, it's necessary to understand their best use cases. There are many AI applications that work with data types no foundation model can handle yet. Additionally, some use cases that a foundation model could feasibly attempt are still fundamentally better served by narrow AI, which is trained specifically for a task rather than across a modality.

What's more, foundation models have some characteristics that make them questionable for certain situations, and this is adding an entirely new dimension to enterprises' security efforts. For instance, bias in foundation models is a common concern

due to homogenization as well as the fact that many are trained on large datasets from the Internet. Historic datasets that excluded certain populations, people and demographics can lead to undesirable outcomes. And some companies' early efforts even found misinformation was affecting the outputs of these algorithms. When the same few models are used as the basis for many downstream applications, then any issues in the original models may propagate throughout the rest.

There have been efforts from the makers of foundation models to correct for some of these biases. GPT-3, for instance, was given an extra round of training on a more curated dataset after religious bias was discovered. But even so, businesses should carefully consider these risks when determining not only if they can use a foundation model, but whether they should. Just as parents hope to raise their children to be responsible and fair, AI systems need to be 'raised' with a diverse and inclusive set of inputs so that they reflect the broader business and societal norms of fairness and transparency.

As businesses narrow down where to use foundation models, they next need to decide how they will access them and where they will sit in the foundation model ecosystem. The base layer of this ecosystem consists of organizations with the expertise, access to data and computing infrastructure to train new foundation models — but not everyone needs to function at this level. For many, decisions will be around how directly they work with pre-trained models. A second layer of the ecosystem will be companies that access foundation models via APIs or model repositories and build on them to create their own applications and services. For simple applications, developers will be able to leverage the transfer learning of foundation models by simply building the user interface and interconnects around the model, while in more advanced cases, developers might leverage fine-tuning to hone the foundation model to a specific application.

This approach creates the opportunity for wide experimentation throughout the organization, as well as the chance to develop B2B foundation model offerings. But again, not everyone will want to do this: Even with natural language offering an easy-to-use interface, some software engineering knowledge is needed to successfully build applications around foundation models. Companies without those skillsets can still benefit from the technology though, and they make up the third layer of this evolving ecosystem.

In closing

Foundation models are still in their infancy, but over the next decade their impact will grow to be overwhelming. They could drive new data practices, transforming the nature of knowledge sharing in the organization. They could be game-changing for digital strategies, writing sophisticated code and powering novel offerings. They could transform strategy and business planning, forecasting headcount needs or shifts in customer demand with greater ease and accuracy than we can currently imagine. And for organizations that build their own foundation models, they could bring industry-shifting advantages — new tools for scientific discovery, new methods for engineering or new industry-specific AI agents.

What if *your* organization builds the model that changes everything? **RM**



Krish Banerjee is Managing Director for Data and AI at Accenture in Canada. This article is an adapted excerpt from the Accenture report, *A New Era of Generative AI for Everyone*. The complete report is available online.



BEATING BURNOUT:

Addressing Emotional Exhaustion at Work

Emotional exhaustion at work is influenced by a variety of factors. On the bright side, that means interventions can be designed to address it.

by John Trougakos

EMPLOYEE BURNOUT has become a global concern. In a survey of over 1,000 respondents by **Deloitte**, 77 per cent said they had experienced burnout at their current job, while a whopping 91 per cent said unmanageable stress or frustration impacts the quality of their work. When stress begins to accumulate, people can find themselves in a state of feeling emotionally worn out and drained.

Work-related emotional exhaustion (EE) can be defined as ‘the experience of feeling emotionally over-extended and exhausted by one’s work.’ And not surprisingly, it has negative implications for employee well-being and effectiveness. In this article I will summarize recent research conducted with **Faith Lee** (University of Akron), **James Diefendorff** (University of Akron) and **Megan Nolan** (West Chester University). In this work we studied how EE changes throughout the workday and what can be done to address it.

How Resources Affect Employees

Accomplishing organizational goals requires people to exert physical, cognitive and emotional effort — i.e., resources — to

meet work demands, overcome obstacles and show persistence in the face of stressors. To date, research has approached EE through the lens of resource-based theories such as **Stevan Hobfoll**’s COR Theory, which defines resources as ‘valued objects, personal characteristics or energies.’ According to COR, employees have a fundamental desire to preserve the resources they have and to gain new ones, as well as to invest their resources to protect from future resource losses. Thus, resource consumption is a defining feature of EE, and the subjective experience of EE is influenced by factors that both consume and provide resources.

In our research, we considered how resource-providing and resource-consuming factors impact not just the level of EE but the form of what we call ‘EE growth curves’ on a daily basis. Resources differ along two dimensions: the source of the resource as either *contextual* (outside of the self) or *personal* (inside the self); and the transience of the resource as either *volatile* (fleeting, dynamic) or *structural* (durable, ongoing). In our study, we included one resource factor from each of these four quadrants. And because EE is also the result of resource expenditure, we included two resource-consuming predictors.



Research has demonstrated that EE varies within individuals over the course of months, weeks — and even hours. For instance, measuring hospital employees' general EE every six months for two years, one study found that 39 per cent of the variance in EE was within the individual (i.e. Sally's level of EE was sky high on Monday but was moderate the rest of the week,) and 61 per cent was between persons (i.e. Sally consistently experiences more EE than Chantel.) Another study measured call centre employees three times per day over 10 workdays and found that 41 per cent of the variability in EE was within workers and 59 per cent was between workers.

Following are the factors we focused on as influencers of EE during a typical workday:

PRIOR-EVENING PSYCHOLOGICAL DETACHMENT. Psychological detachment from work is defined as 'an individual's sense of being away from the workplace' and is characterized by an absence of work-related thoughts and activities during off-work hours.

Detachment has been shown to replenish resources lost due to job-related effort expenditure.

We theorized that prior-evening detachment would serve as a resource-providing experience that aids in the recovery process and therefore should contribute to lower EE at the start of the workday. In contrast, days with low detachment in the prior evening would result in elevated initial levels of EE that remain high throughout the day. In essence, we felt that individuals who do not detach in the prior evening would not feel restored at the start of the workday, resulting in higher EE throughout the day.

SOCIALIZING WITH CO-WORKERS. During formal or informal breaks, individuals may connect with others, generate positive emotions and build psychological resources. We theorized that the incorporation of these new resources during the workday would slow the natural increase of EE, producing a weaker workday slope.

Coming Soon? The Four-Day Workweek by Megan Haynes

In February 2023, researchers made global headlines when they announced that their four-day workweek experiment had been a success. Over six months, they had asked about 30 companies that collectively employed 1,000 people to give their teams an extra day off. Some opted to extend the weekend or had people take a day in the middle of the week off, while others opted to create a flexible schedule to accommodate client needs. But what they all had in common was a reduction in the number of hours employees had to work—without an associated reduction in pay.

These companies were basically giving their employees a collective raise in the form of fewer hours; and it seems to have paid off. Rotman Professor of Organizational Behaviour **John Trougakos** was not surprised that 91 per cent of companies reported overall productivity increases, increased employee well-being, reductions in turnover and an ability to attract better quality employees.

Prof. Trougakos has long studied the impact of stress and recovery in a workplace setting and has been actively involved in a number of projects looking at a reduction in work hours. His research is pretty conclusive: To get the best performance out of employees, organizations need to give them a break. As we emerge from a pandemic-induced work-from-home fog and turn our attention to creating workplaces that work better than before, it might be time to consider a world in which we work smarter, not harder.

This isn't the first time a reduction in work days has been floated. In the 1920s, factory workers went from six days on the floor to five, cementing the current five-day, eight-hour schedule we're all familiar

with. And the four-day work week had a moment in the '70s and again in the '90s, with businesses and legislators in the U.S. calling for fewer days in the office or on the factory floor. Those efforts failed, but the conversation around reducing time at work has continued and picked up steam during the past few years.

So what's different this time? For one, companies are approaching the way we talk about these experiments differently—namely, the conversation has shifted from 'giving employees an extra day off' to actually 'reducing the number of hours they work.' Unlike some of the old-fashioned experiments, they're not reducing workdays and compressing the hours into four days, says Trougakos. "This is about a shift in total hours worked, from the traditional 40-hours per week to a 32-hour week." Employees do this with the understanding that they must provide 100 per cent productivity in those 32 hours, he says.

Trougakos partnered in a study with **Staples Canada** and **Angus Reed** last year and found that business leaders are open to the idea. "About a quarter of employers surveyed said a four-day workweek would become a 'must have' over the next two years. And another study found that 91 per cent of senior managers support the idea while 69 per cent believe a shift is coming within the next five years."

The reason the four-day week is having its moment now, he says, is that—thanks to the pandemic—the business world is now more open to change. "The pandemic ripped the lid off the way organizations do business and the way we work. We just couldn't return to the status quo. It became nearly impossible to say, 'No, the old way is the

To the extent that employees have some choice about who they socialize with at work, they are likely to pick higher quality relationship targets, which means socializing should yield more resources than it consumes. Socializing also satisfies one's need for relatedness, which is associated with greater psychological vitality and engagement, both of which are negatively related to EE.

SUPERVISOR SUPPORT. COR Theory suggests that individuals 'call on' the resources they possess to offset the negative effects of resource loss. Supervisor support is one resource that we felt was likely important for preventing and slowing resource loss. Perceived supervisor support reflects employee perceptions that their supervisor values their contributions and is willing and able to provide emotional and instrumental assistance in times of need. Previous research has found that supervisor support is positively associated with psychological meaningfulness and vigour and negatively associated with EE. We felt that

when one has a supportive supervisor, it is likely that the overall level of EE experienced at work is lower.

A SENSE OF AUTONOMY. A growing body of evidence highlights the critical role of feeling autonomous versus feeling controlled in one's actions as important determinants of resource creation and consumption. Behaviours supported by 'autonomous motivation' feel self-authored, authentic and invigorating. In contrast, 'controlled motivation' is made up of extrinsic motivation, which reflects actions driven by explicit pressure (e.g. punishments or rewards in the form of social and material outcomes). Behaviours supported primarily by controlled motivation are not aligned with the self and, as a result, consume resources without replenishing.

INTERACTIONS WITH DIFFICULT CUSTOMERS. In service roles, it is well-documented that employees must exert emotional energy when interacting with customers and conform to 'display rules'

only way,' when we had just spent three years proving that statement wrong." By and large, employees are now looking to do their jobs in a way that lets them be more productive, efficient and less stressed.

Even before the pandemic, people were burning out. One 2019 survey found that 95 per cent of Canadian workers felt at least 'somewhat' burned out, with 22 per cent saying they were 'very' burned out. COVID-19 worsened things, and by 2022 a third of Canadians felt 'very' burned out. That is costing businesses billions each year.

"When people burn out, they don't perform at their peak, they make more mistakes and they withdraw from their jobs. Workplace and safety accidents increase, absenteeism and sick leave trend up. And people eventually leave the company." Trougakos' research has found that when given proper time to reduce their emotional exhaustion, employees are found to be happier, healthier, more productive and more engaged. Ultimately, they are more likely to bring their peak selves to work.

That's not surprising, he says. "Look at professional sports. It's widely accepted that it is critical for the best athletes to rest sufficiently so they can be at their peak when the team needs them most. Yet we don't apply that understanding to organizational settings."

For organizations that are open to reduced hours and giving their employees more recovery time, how do they go about implementing the change?

"The first thing to do is get employees engaged. Get people on board around this change. Step two: Get help. You don't have to reinvent the wheel. There are plenty of organizations and literature

looking at the four-day workweek or reduced hours. Read up on how it's been done successfully."

Next you have to talk about it. A lot. "The companies I've talked with that have done this really well made a concerted effort to communicate to their stakeholders and coordinate with them what was going to be happening and let them know, 'We're switching to a four-day work week, but your service isn't going to drop. And here's how we're going to cover this.'"

Organizations don't have to jump into the four-day week fold right away, he says. There might be an option that works better for your organization—like a six-hour/five-day schedule. Companies can also experiment, perhaps starting with every-other-Monday off, or half-day Fridays.

Reducing hours worked isn't going to be easy. That extra day off costs money; finding efficiencies will cost time and effort; and getting buy in from stakeholders and clients will cost political capital and trust. But it's likely to pay off, says Trougakos. "We can't just keep weighing people down. If you can find an opportunity to reward people for their efficiency and productivity, they will give back more at the end of the day."

This article has been adapted from a recent episode of **The Executive Summary**, the Rotman School of Management's podcast, written and produced by **Megan Haynes**. To subscribe, visit Spotify, Apple or Google Podcasts.



Our findings have key implications for leaders—particularly in the service sector, which now makes up two-thirds of the Canadian economy.

to show positive emotions. When customers are rude, employees may experience negative emotions that increase the amount of energy needed to regulate their emotions. We felt that this accelerated expenditure of emotional resources likely contributes to an increase in EE over the workday.

Our Research

As indicated, EE is at least partially the result of expending emotional resources in response to demands, which is especially likely in certain occupations. Two defining features of service work are high levels of social interaction (e.g. with customers, clients) and low job control. In our study, we focused on customer service employees, who face consistently high emotional demands that are likely to make EE a daily experience.

We expected that workday EE would start off at relatively low levels and would have a natural tendency to increase throughout the workday as a function of expending resources to meet job demands, and assuming work duties are evenly distributed across the typical workday, that there would be a steady reduction of resources through the day and a corresponding increase in EE.

Call centre participants were recruited in-person during organization-wide ‘town hall’ meetings, and interested employees provided the research team with their e-mail addresses and work schedules. Service industry participants were recruited through social media websites (**LinkedIn**, **Reddit**, **Twitter** and **Facebook**) and provided information about their occupation and work schedules via an online form.

The employees we recruited worked at least 30 hours per week and all interacted with the public. Participants were asked to complete daily surveys at the start, middle and end of their shift over the course of up to 16 workdays. The three daily surveys were used to model day-level EE growth curves.

Our call centre sample consisted of 64 participants with 502 complete days, and the service industry sample consisted of 50 individuals with 428 complete days. The call centre participants handled inbound and outbound calls for a variety of third-party clients, while the service employees worked in a variety of jobs with interactions with the public: 24 per cent in educational services; 22 per cent in healthcare; eight per cent in retail; six per cent in administrative support; six per cent in professional, scientific and technical fields; four per cent in finance; and 30 per cent in a variety of other public-facing occupations. On average, participants were 32 years old, with 79.6 per cent identifying as female.

At the start of shift, middle of shift, and end of shift, participants were asked to rate their agreement with the following items: ‘I feel emotionally drained,’ ‘I feel used up’ and ‘I feel burned out.’ Detachment from work in the prior evening was assessed once per day, in the pre-shift survey. Participants were asked to think about the prior evening and rate their agreement with four items including ‘I didn’t think about work at all,’ and ‘I got a break from the demands of work.’

The extent to which individuals socialized with coworkers was assessed twice per day: once mid-shift and once at the end of the shift. Participants rated the following items on a six-point scale: ‘I socialized with others’ and ‘I spent time with/talking to friends.’

To determine mistreatment by customers, we used an existing measure that consists of 10 items asking individuals to rate the frequency with which they were treated poorly by individuals outside of their organization. Example items were ‘Demanded special treatment’ and ‘Yelled at me.’ Participants completed the survey once in the mid-shift survey and once in the end-of-shift survey.

Our Findings

Most of the variance in EE was found to be at the between-person-level of analysis, which aligns with the notion that, as a component of burnout, EE reflects the longer-term experience of a particular individual feeling emotionally depleted. However, we also found that nearly 30 per cent of the variance in EE was within the worker. This suggests that there is a non-trivial amount of within-person variation and that within-day variation in EE relates to how the workday unfolds.

We found support for prior-evening detachment, socializing with coworkers and interactions with difficult customers as predictors of within-person variability in EE growth curves. At the worker level, we found support for perceived supervisor support, autonomous motivation for the job and controlled motivation for the job as predictors of EE growth curves.

Our findings have some key implications for leaders—particularly in the service sector, which now makes up two-thirds of the Canadian economy. Together, our findings suggest a variety of potential points of intervention for improving daily EE. First and foremost, organizations should be aware of the general increase in employee EE throughout the day and how resource-providing and resource-consuming factors can influence this trend, using this knowledge to inform efforts that emphasize activities that replenish resources during the day.

While most of the variance in EE at the start of the day was a function of the individual, most of the variance in how EE changes throughout the day was a function of the day's events — providing guidance on potential interventions. For example, 'prior evening detachment' was found to be a positive predictor of day-level slopes, suggesting that high detachment produces benefits regarding how the workday begins, followed by the expected increase in EE over the workday. In contrast, low detachment the previous night resulted in higher starting levels of EE that remained elevated throughout the workday.

This suggests that low-detachment individuals do not get the break from high EE at the start of the workday that high-detachment individuals receive, resulting in a different pattern of growth over the course of the day. Knowing that detachment benefits may not be sustained throughout the day, organizations should use a variety of interventions that encourage employees to detach in the evenings.

As socialization with co-workers was found to have a buffering effect on increases in EE, organizations could focus on the cultivation of a positive social environment where employees are encouraged to get to know each other, with break opportunities and a comfortable physical location (i.e. break rooms) where positive social interactions can organically occur.

In addition to providing opportunities to socialize, daily work breaks can encourage respite activities aimed at replenishing resources and mitigating the expected increase in EE. Opportunities for non-work-related, enjoyable tasks such as relaxation activities (stretching, meditating) or socializing can aid in resource recovery during the workday.

Because mistreatment by customers exacerbates EE, organizations should consider providing support to help employees cope with difficult interactions. For example, mindfulness or perspective-taking training, with the goal of promoting less emotional reactivity when faced with unpleasant customers. Social support has also been found to moderate the relationship between customer mistreatment and EE, so organizations could focus on efforts to promote communication between employees and their supervisors and co-workers.

Given that supervisor support can mitigate the average increase of EE over a workday, organizations could introduce supervisor training programs that encourage effective and honest communication between employees and supervisors to facilitate climates of trust to increase perceptions of supervisor support. Additionally, given the beneficial influence of autonomous motivation for employees' starting levels of EE, organi-

zations could attempt to increase these motivations by making changes to job and reward contingencies.

To increase autonomous motivation, organizations could encourage employee participation in decision-making processes (where possible), offer choices within structured options, and solicit and acknowledge employee feedback and perspectives. By emphasizing personal choice and voice rather than external control, such practices can increase autonomous motivation for engaging in work tasks.

Finally, understanding how EE may change over the day may inform both individuals and organizations about the optimal timing and scheduling of job demands. For instance, it may be best to schedule difficult demands at the start of the day, when EE tends to be low for most people.

In closing

Our research reveals that employee emotional exhaustion usually increases throughout the workday and that these trajectories are influenced by a variety of factors, including previous-night detachment from work, socialization with colleagues and supervisor support.

It is our hope that understanding the variables that relate to workday growth curves in emotional exhaustion will inform the development of interventions targeting the design of work, social and structural aspects of the environment, and the training of employees on adaptive coping behaviours. **RM**



John Trougakos is a Professor of Organizational Behaviour and HR Management in the Department of Management at University of Toronto-Scarborough, with a cross-appointment to the OB area at the Rotman School of Management. This article summarizes his paper, "Emotional Exhaustion Across the Workday: Person-Level and Day-Level Predictors of Workday Emotional Exhaustion Growth Curves," co-authored with Faith C. Lee, James M. Diefendorff and Megan T. Nolan. The paper was recently published in the *Journal of Applied Psychology*.



THE AI DILEMMA: Uniting Four Logics of Power

If we want trustworthy AI systems, we need to integrate four perspectives: engineering logic, social justice logic, corporate logic and government logic.

by Juliette Powell and Art Kleiner

A TURNING POINT OCCURRED just as we were finishing up our book, *The AI Dilemma*. New digital tools — mostly based on natural language processing (NLP) systems and deep learning models — were released in rapid succession for free to the public. These generative AI programs include apps like DALL-E, ChatGPT and GPT-3 from **OpenAI**, along with natural language search engines from **Microsoft** and **Google**.

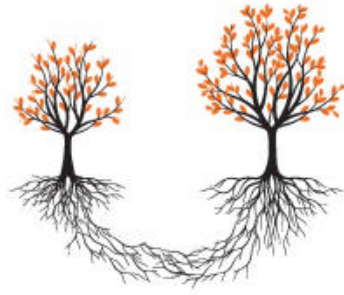
Suddenly, it is easy to create and alter images, text and interactive media within seconds. Millions of people have shared their assisted creations through social media. It is clear that these new tools are already changing habits.

Some creative people regard the new AI systems as threatening. “These generators are created using thefted artwork, and in turn, undervalue the work of the original artists,” wrote **La’Kay Hodge**, a creator of visual, written and interactive work and a graduate of NYU’s Interactive Telecommunications Program. “We can understand the ethics of not stealing art and claiming it as our own, but for some reason, if a machine does it, not a word is uttered to stop it.”

Others find the technology absorbing and liberating. “It is only recently that AI has been accused of harming artists,” said **Eric Johanson**, whose title is Entropy Generator at **Intellectual Ventures Laboratory**. “I’ve heard arguments that it should be unethical for AI to be able to see other people’s artwork in order to make derivative works; yet this is the exact function artists use for their inspiration. Future artists are those that can glitch the matrix and neural networks to make new styles and expressive design.”

We heard many different opinions about the value, promise and dangers of AI while researching our book, but there was one common thread: The technology is here to stay. Writer **Kevin Kelly** cautioned us that the movement towards restricting AI “is biased toward protecting humans and I am much more interested in liberating machines.”

Yes, the development of AI will continue to progress, and that will be an enormous benefit — perhaps essential to civilization in the future. At the same time, Kelly is in the category of people who, historically, have been least likely to be harmed.



Together, the four logics provide a sense of the possibilities and tensions that arise in finding solutions that work for all of us.

These systems consistently raise significant, complex problems that will not simply resolve themselves. That's why having more diversity of thought and perspective, weighing in on these matters that affect all of us, is so important.

We can't live with automated systems, and we can't live without them. As our friend **Helene Spierman** put it, "The technology in the wrong hands is dangerous but in the right hands is beneficial to all." This is the AI dilemma.

The Four Logics

Biographer **Walter Isaacson** tells the story of Nobel Prize-winning biochemist **Jennifer Doudna's** earliest encounter with the topic of DNA research. She came home from sixth grade to find a paperback left by her father on her bed: *The Double Helix*, **James Watson's** first-person account of the discovery of DNA. She thought at first the book was a detective story, and in a sense, it was: "She became enthralled by the intense drama behind the competition to discover the building blocks of life," wrote Isaacson.

Doudna resolved to carry on with similar research, even though her high school guidance counsellor told her girls didn't become scientists. In 2011, she and French microbiologist **Emmanuelle Charpentier** met at a conference and began their collaboration on developing a method for high-precision genome editing. "They turned their curiosity into an invention that will transform the human race," wrote Isaacson, "an easy-to-use tool that can edit DNA, known as CRISPR." They used the immune system of a bacterium, which disables viruses by cutting their DNA up with a type of genetic scissors. By extracting and simplifying the genetic scissors' molecular components, they made DNA editing and CRISPR a topic of global discussion and public debate. Doudna was among the first women to win a Nobel Prize in science when, in 2020, she shared the prize in chemistry with Charpentier.

"The CRISPR/Cas9 genetic scissors will probably lead to new scientific discoveries," says a Nobel Prize website summary, "better crops, and new weapons in the fight against cancer and genetic diseases." The technology is also so dangerous

that Doudna — along with other leading scientists in the field, including Charpentier — has publicly advocated to pause research until there is acceptable oversight. Currently, 30 countries ban or severely restrict research on human germline gene modification, and the **World Health Organization** maintains a registry of projects.

Doudna's position is noteworthy for its nuanced perspective. For example, in her seminal 2015 TED talk, she discussed the many benefits that CRISPR could provide, but she also raised the prospect of 'designer babies' and the general loss of control over the technology that could stem from choices like eliminating human genetic diversity. The TED talk so far has received more than four million views.

"The opportunity to do this kind of genome editing," she said, "also raises various ethical issues that we have to consider. This technology can be employed not only in adult cells but also in the embryos of organisms, including our own species. And so, together with my colleagues, I've called for a global conversation about the technology that I coinvented, so that we can consider all of the ethical and societal implications of a technology like this."

Clearly, there are precedents for global discussion and decision about the acceptable limits for emerging technologies. Other examples include human cloning, biological warfare, nuclear weapons — and, now, Triple-A systems. We use the phrase 'Triple-A systems' to refer to related software technologies: algorithmic, autonomous and automated systems. Triple-A systems are adaptive, which means that they change based on experience and data. That's how they train themselves. They are also autonomous; once trained, they don't need a human to supervise them. Even in complex situations, they can perform tasks without people watching over them.

The Triple-A systems we care about most are sociotechnical systems. Their design and performance depend just as much on human and social elements as on the technology. We can only understand and improve them if we treat each AI system as an integrated, interdependent whole: a complex system comprising machines, people and organizations.

Some people fear that Triple-A systems will replace human judgment or overtake human agency. Instead, they have become a forcing function, changing the way we pay attention to ourselves. If people can't tell the difference between disinformation and information, if we can't discern between guidance from a chatbot and from another human, and if we can't connect meaningfully in a flood of AI-enabled content, then what does that say about us?

Just as *The AI Dilemma* was being published, a wave of regulatory interest in responsible technology and Triple-A systems was rising. In October 2023, the U.S. White House released an executive order titled "Safe, Secure and Trustworthy Artificial Intelligence." Many of its provisions map onto principles that we had already identified in our research, and similar principles appeared in discussions leading up to the European Union's proposed new Artificial Intelligence Act (AIA) and in Canada's proposed AI and Data Act (AIDA). A number of other frameworks for AI responsibility have been put forth, going back to 2018 or earlier.

What these frameworks seem to have in common, at least implicitly, is that each takes into account four logics of power related to Triple-A systems: corporate, engineering, government and social justice. Just as Jennifer Doudna wanted people from different backgrounds to participate in the CRISPR conversation — not just scientists — these four logics of power each represent a different priority and way of thinking about the issues.

As an individual, you may relate to one of these perspectives more than the others, but none of them are inherently right or wrong. Together, they give us a sense of the possibilities and tensions that arise in finding solutions that work for all of us. In this article we will summarize the four logics and their pros and cons.

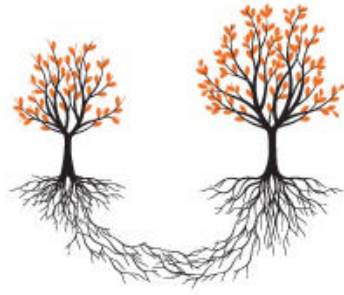
1. ENGINEERING LOGIC: THE PERSPECTIVE OF TECHNOLOGISTS. A highly skilled and in-demand computer or systems engineer working on AI is analytical, fast and efficient. A highly-valued AI engineer can translate ideas into software or hardware. They communicate as an engineer on behalf of other similarly trained engineers, as well as on behalf of the algorithm, the Triple-A

system, the organizational goals and the client. In some cases, they also communicate on behalf of the user.

We spoke with multiple systems engineers who do not, within their organizational roles, think or communicate on behalf of end users. Engineers refer to the mindset or culture of engineering as having three priorities. The first priority is to the customer — the company that buys or licenses the technology. Engineers report being 'customer-obsessed.' The second priority is the technical challenge of an interesting problem that they and only a handful of others in the world can solve. Engineers value being part of a technical community of dedicated, highly-skilled analytic specialists who understand one another. The third priority may be the individuals (us) who will interact with or be affected by the product, depending on the engineer.

That's just "engineers being engineers," according to **Casey Cerretani**, an AI systems engineer and executive who has done everything from inventing and customizing new servers to running teams of hundreds of developers at several prominent Big Tech companies. In his role, he is the connection between the customer, the company providing the tech, and all the engineers working on the project. In his own words: "The task is to do the thing that the customer is asking for. Everything else might be considered 'noise' because in the face of solving a pressing complex problem, it doesn't matter. Everything else is not technically their job."

Engineers like Cerretani see the larger context and implications of their work on things like privacy but are driven by the technical requirements of the customer. The user is not viewed as their problem. Instead, end user responsibility is delegated to other areas of the firm like user interface design, marketing, PR, corporate social responsibility, customer service, HR and legal departments. Some technologists feel personally involved with considerations of AI responsibility, especially if they have been personally affected by negative outcomes from AI. They see the problems more keenly than non-engineers do. They may then apply the same analytic perspective to finding solutions. If they recognize that technology on its own won't suffice, they may try to change or influence their organizations by speaking out.



With Triple-A systems, the risk is greatest for vulnerable populations.

Then they discover the hard way how resistant corporate logic can be to whistleblowing or direct confrontation. One example is **Tristan Harris** from the **Center for Humane Technology**, a former Googler who has been outspoken about tech's effect on people in talks, interviews and his own popular podcast under the **TED** audio umbrella.

2. SOCIAL JUSTICE LOGIC: THE PERSPECTIVE OF HUMANITY. This logic upholds a people-first sensibility and prioritizes the social contract. People count more for this group than efficiency, profit, security and control. When these other priorities take supremacy over people's human rights, the social justice logic pushes back in the form of community organizing, walk-outs, petitions, data leaks, whistleblowing, media attacks and public discourse. From the social justice perspective, the only way to truly gain legitimacy for AI is to make it responsible to all stakeholders, especially those who have been marginalized in the past, and to give all stakeholders a voice.

As community leaders, social justice advocates make it their business to be keenly aware of issues that need improvement. **Cathy O'Neil**, data scientist and author of *Weapons of Math Destruction* and *The Shame Machine*, put it this way: "Right now, the burden is on us, the public, to prove that these algorithms harm us. I want that burden to be on the companies who profit from using them."

Some of the systems engineers we interviewed are deeply motivated by this logic. We were told by several people in Big Tech that conversations about this juxtaposition of social justice logic and the logic of corporate and engineering efficiency "never happen" within the firm. You might expect that because some systems engineers report to the CEO or CFO of their organizations that they could discuss any concerns directly with the C-suite. But sadly, there is a pervasive gap in communication when it comes to conflicting moral and corporate values. For example, when asked explicitly if Cerretani ever thinks about how the technology he creates will be deployed, he distinguishes between his personal feelings about social justice and the logic of the firms he serves: "You can quickly imagine all the black hat

ways that [Triple-As] could be used, which could be viewed as nefarious. That certainly challenges me. But there's not much of an organizational conversation around that. And I think that's the big missing gap. It is as much an ethical conversation as it is a technological one."

There are many social justice activists connected to the AI community, either from having worked there, or from independent work. Their insider knowledge enriches the context through which they talk about social justice and adds to their proficiency and impact. For example, **Dan Gillmor**, tech journalist and director of the **News Co/Lab** at Arizona State University, is also a board member of the **Signals Network**, a non-profit that supports whistleblowers and connects them to journalism organizations.

3. CORPORATE LOGIC: THE LOGIC OF OWNERSHIP, MARKETS AND GROWTH. One reason for the gap in corporate conversation is what Casey Cerretani calls "the gung-ho race to get the technology in place" in most companies. "Microsoft Cloud Services is growing at 70 plus percent, year over year. **Amazon** is growing at a similar rate. Those are very large percentages on very large baseline numbers. When you grow that quickly and you're growing to meet these customer needs, you don't go back and do a lot of housekeeping."

By 'housekeeping,' Cerretani means any concern for the harmful impact of the technology on vulnerable populations. The conflict between engineering, social justice and corporate logics leads many companies to intensify secrecy so that their leaders don't have to confront or resolve the clash of values. These conflicts are coming to a head within many organizations today, but meaningful conversations about them are missing from corporate life because they would slow down the gung-ho race to produce results.

We have all seen corporate leaders making decisions to enhance shareholder value. It is their job. As a result, the corporate logic represents a logic of power. It prioritizes money, profit growth, expansion, new business and dominance over competitors. "There are just three cloud service providers for the whole world," Cerretani reminds us. "Maybe two of them will emerge

as the winners in the end. That’s an enormous power.” And if you have got shares in either of those companies, lucky you.

Corporate logic is inherently narrow. Corporate leaders often think of themselves as broadminded, but as Cerretani says, “You have a corporate mission. You have a corporate direction. You have customers. And it becomes an interesting slippery slope.” Warnings that don’t fit the perceived immediate customer needs get lost as they travel up the official channels. In many technical teams, for example, graphic specialists create the data visualizations, and thus the PowerPoint messages that reach the C-suite. They may only describe the aspects that they think sponsors want to hear about.

When everyone makes decisions based on what they think the top leaders and customers expect, the outcomes are risky. With Triple-A systems, the risk is greatest for vulnerable populations. It may also extend to engineers and other employees, and might ultimately lead some corporations themselves to fall. Those who want to restrain the risk tend to turn to another logic of power: the logic of government.

4. GOVERNMENT LOGIC: THE PERSPECTIVE OF AUTHORITY AND SECURITY.

In the government logic, no matter which country or system, two things are paramount: they protect the nation or jurisdiction from outside forces, and they provide support and public service for their citizens. From this standpoint, Triple-A technology is something for governments to use, invest in, regulate — and possibly to develop themselves.

Politicians are concerned about AI because they are vulnerable to automated systems that manipulate public opinion. The government logic thus sees regulation as inevitable. That is, there needs to be standards governing the use of Triple-A technology, even if politicians and regulators have a wide range of views of what the standards should be.

The government logic is further complicated by the fact that AI systems can be used by politicians to attack their competitors. For example, the same digital tools that enable human trafficking are also used to uncover and arrest traffickers and to find lost people. AI also gives the government itself more capabilities in

everything it does, including the regulation of citizens. At the same time, to paraphrase free software activist **John Gilmore**, automated systems interpret regulation as damage and route around it.

For Cerretani, the job of regulating companies is squarely the responsibility of the government. Many would agree. The burden is on governments everywhere to resolve the paradox of the AI dilemma. Government leaders may be increasingly measured by their ability to use this powerful technology judiciously. If they overreach, it may be obvious to outsiders in ways their leaders did not anticipate. They may have to demonstrate that they are fair and accountable to all citizens. They may also have to encourage innovation even as they require innovators to limit what they do.

In closing

None of the four logics described herein are in control. If we want trustworthy AI systems, we need to bring all four perspectives together, keep them in mind simultaneously, and make the effort to understand why others feel and think the way they do. The point is to use all four logics to better evaluate our systems in each use case and context. In doing so, we will be much more likely to create systems that work for everyone. **RM**



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The Experience Mindset:

A MULTIPLIER OF GROWTH

While most companies recognize the importance of a seamless customer experience, the value of employee experience has yet to be appreciated.

by Tiffani Bova

DAY IN AND DAY OUT, employees carry the torch for the values and mission of their organization. They are the facilitators of every moment that matters — all of the positive connections and the negative pain points encountered by both customers and their fellow employees. While many leaders recognize the impact of seamless customer experience (CX) on an organization, the role played by employee experience (EX) has yet to be fully appreciated.

It's time to change that: My research shows that an increased focus on employee experience can increase revenue by more than 50 per cent, and profits by nearly as much. Companies with high CX *and* high EX exhibit a three-year compound annual growth rate almost double (8.5 per cent) those with low CX and EX (4.35 per cent). Put simply, if you want happy customers, start with your employees.

To reap the rewards of this mindset, the needs and preferences of both your customers *and* your employees must be considered with every decision that is made, whether large or small. As a result, this approach requires an entirely new operating mindset for leaders: The Experience Mindset.

Connecting the Dots

As the former Growth and Innovation Evangelist at **Salesforce**, I intuitively knew that CX and EX were very likely linked. But it wasn't until 2018 — while I was on stage presenting in Vancouver in front of a few thousand people — that it really hit me. “Globally, Salesforce is known to be one of the best places to work,” I told the crowd. “It is also one of the most innovative companies out there and the world's fastest-growing enterprise software company.” After pausing to let that sink in, I added: “I don't believe that these three achievements are a coincidence.”

I realized the power of those words as soon as they left my mouth. There were important points of connection — a cause and effect — between employees, customers and growth, whereby each factor buoys the others. This eureka moment began a transformative two-year journey. On behalf of Salesforce, I spearheaded two primary research projects, immersing myself in the existing literature on these topics and holding hundreds of in-depth conversations with executives and employees from leading companies around the world.



The pandemic reminded every organization that above all else, they are in the people business.

The bulk of this work was performed during the height of a global pandemic and the Great Resignation that it sparked. Thankfully for me, this context forced an even greater focus on employees and their productivity and engagement — to the benefit of the research. For all of its tragic effects, COVID-19 flung open the door to rich, vital discussions about the unmet needs of employees across a number of key areas. The pandemic reminded every organization that above all else, they are in the people business.

Recent research by **Edelman** shows that employers are waking up to the fact that employees, not customers, have the greatest impact on their long-term success. And as a result, going forward, employees should be treated like ‘internal customers’ who are a valuable and sometimes irreplaceable part of the business, working every day to serve external customers.

For years we have used the terms B2B [business-to-business] and B2C [business to consumer]. It’s time to evolve the latter term — and add one to our lexicon. Today’s companies must stop doing things *to* their customers and employees — and do things *for* them instead. Business-to-customer and business-to-employee (B2E) must become B4C and B4E. Instead of focusing on getting every last ounce of productivity out of your employees, ask yourself, What can I do to make their jobs — and lives — better?

Exhibit A: Ritz-Carlton Hotels

In August 1983, **William B. Johnson** purchased the **Ritz-Carlton Boston** and its U.S. trademark for US\$75.5 million. He assembled a four-person development team, headed by hotelier **Horst Schulze**, to create a new luxury hotel brand, establishing the **Ritz-Carlton Hotel Company** as it is known today.

At Ritz-Carlton, Schulze created operating and service standards that have become famous not only in the realm of hospitality but throughout the broader service industry. Under his leadership as cofounder and president, Ritz-Carlton became the first service-based company to be awarded the prestigious **Malcolm Baldrige** National Quality Award — not once but twice; it achieved one of the highest **J.D. Power** rankings for guest satisfaction on record; and has repeatedly ranked first in Employee Net Promoter Score (eNPS) versus its competitors.

Ritz-Carlton has a brand promise that was coined by Schulze himself: Ladies and Gentlemen serving Ladies and Gentlemen. Schulze understood that creating a place where customers felt welcome and taken care of required that employees feel the same way. “We hired people not to work for us,” Schulze told me during a conversation on my podcast, “but to join us on our quest to create the world’s finest hotel company.”

During his tenure Schulze went to the opening of every new hotel and personally headed up all orientation and training efforts himself. He didn’t just paint a picture for employees of a great customer experience; he directly influenced it, ensuring that every day, each employee strove to make that CX a reality. But Ritz-Carlton employees are only willing to go above and beyond because in addition to CX, the company has focused on EX, empowering its employees to make decisions and helping them succeed in their roles.

For example, every Ritz-Carlton employee is allowed to spend up to \$2,000 to fix a customer’s problem before having to alert a manager. The company also enforces a ‘15-minute rule,’ in which employees have 15 minutes to solve a customer’s room issue before others from the team come to the rescue. While that might seem like it would put undue pressure on employees, the culture encourages and rewards its people to go above and beyond and immediately resolve guest problems.

With this kind of service-level expectation, Ritz-Carlton takes the new-hire selection process and training very seriously. As part of that training, the company has a rigorous certification process for new hires covering the employee’s first 21 days, to prepare them for their specific job and align them with the hotel’s Gold Standards. Each day, they learn one of 20 ‘basics of service,’ a set of principles and expected behaviours that help the employee better understand the brand promise and their personal role in delivering on it.

This approach is so legendary that it has inspired leaders in other industries. When the first **Apple** Stores were conceived in the early 2000s, **Steve Jobs** asked employees to share their best customer experiences and almost all of them pointed to a stay at a Ritz-Carlton. Jobs decided to send all future Apple Store managers through an Apple-ized version of Ritz-Carlton’s training.

Schulze and his fellow leadership team recognized that if you allow yourself to get too far away from the individual contributors who touch and serve your customers every single day, you risk running your business from a spreadsheet with no first-hand understanding of day-to-day challenges faced by either stakeholder group. And there are implications that no business wants to experience.

The Employee Engagement Problem

Though the pandemic shone a spotlight on the reality that companies have ignored the wants and needs of their employees for decades — while customers enjoyed steady investment into their overall experience — there has been little interest in improving EX from the C-suite. Even though nearly six in 10 C-suite members say that ‘providing a good employee experience’ is a top priority

to the company, its leadership team and to them personally, most HR leaders (66 per cent) report designing their post-pandemic workforce policies with little to no direct input from employees.

There is obviously a disconnect here, and as a result, employee engagement sits at a miserable 33 per cent in the U.S. and Canada, according to **Gallup**. In the rest of the world, the situation is even worse: just 20 per cent engagement. The engagement elements that declined the most from early 2021 to 2022 were employees' level of agreement that they have clear expectations, the right materials and equipment, the opportunity to do what they do best every day, and a connection to the mission or purpose of their organization.

This lack of engagement is estimated to cost the global economy US\$7.8 trillion in lost productivity each year. Human productivity is correlated with engagement of course, but unhappy or disengaged employees can still 'do their jobs,' checking the appropriate metric boxes and getting paid. They may, however, also be miserable. This disengagement shows up in places like a disinterest in collaboration and an unwillingness to go above and beyond or take on extra work. Which ends up negatively impacting those employees who are actively engaged.

Following are a few key principles to strive for in creating superior EX at your organization. Interestingly, these elements mirror those that drive superior CX.

EFFICIENCY. Minimize the time and effort employees need to expend to do their jobs. Examples include minimizing the systems they need to log in to every day to perform basic tasks, providing an easy way for them to find answers to general FAQs and putting processes in place that reduce time spent on repetitive tasks.

PERSONALIZATION. Deliver a new kind of experience for employees that feels personal, relevant and responsive to their individual wants and needs. Examples include tailoring communication specific to their role, alerting them to changes in the systems and tools they must use, and informing them of required training they have to complete.

PROACTIVITY. Communicate both good and bad news in a timely fashion to help build trust and transparency with employees. If you purchase another company, close down a division or plant or eliminate a product, do you want your employees to hear about it from someone else first? Of course not.

FLEXIBILITY. Listen to employee feedback and develop a strong feedback loop to help improve the day-to-day working experience. This will allow you to become more responsive, increase

employee trust and engender a safe space where people's voices are heard and respected. A common example today is a flexible working environment, including flex hours and remote work. Some companies are also testing four-day workweeks.

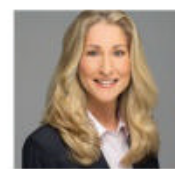
RESPONSIVENESS. Empower appropriate employees — such as those in HR, finance, recruiting and benefits — to solve their fellow employees' issues in a timely fashion, and as close to the point of contact as possible.

VALUE-BASED. Help instill employees with more personal value and purpose at work. With 70 per cent of employees reporting their sense of purpose is defined by their work, companies that build connections to purpose will see greater productivity.

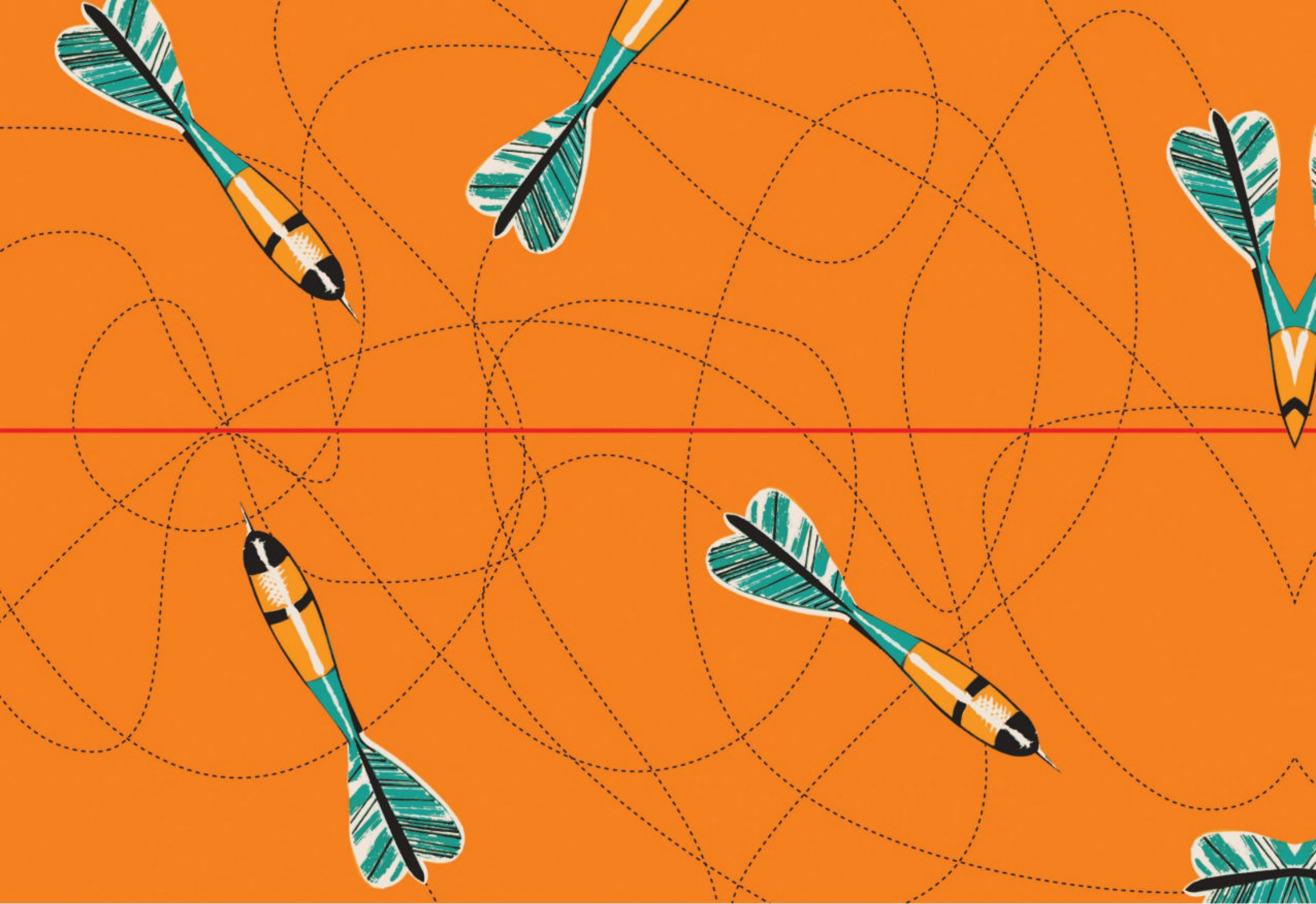
In closing

To solve the very real problem of declining EX, there is a simple but often overlooked approach: Talk to your employees and ask them what needs to be improved. My friend **Tom Peters**, co-author of *In Search of Excellence*, believes in 'management by wandering around (MBWA).' In other words, if you want to know what is going on in your business, you have to get close to where the work is being done. That doesn't mean you should aimlessly meander around the office. It's a deliberate and genuine way to not only connect with employees but observe what it's like to work at your company.

What you'll discover can't be found on any report or spreadsheet. Do people like what they're doing? Do they feel supported and heard? Are they wasting time and effort on outdated tech and processes? You will very likely uncover at least a few sources of job dissatisfaction that can be fixed. Whether you're a manager, a start-up founder or a C-suite leader, the Experience Mindset will help you recruit and retain world-class talent, keep employees fully engaged with your mission and supercharge growth — through even the most trying economic times. **RM**



Tiffani Bova is the former Global Growth Evangelist at Salesforce and author of *The Experience Mindset: Changing the Way You Think About Growth* (Portfolio, 2023). She is ranked by the Thinkers50 as one of the world's most influential management thinkers. Excerpted from *The Experience Mindset: Changing the Way You Think About Growth*, in agreement with Portfolio, an imprint of Penguin Publishing Group, a division of Penguin Random House LLC. Copyright ©Tiffani Bova, 2023.



ACHIEVING THE PROMISE OF CORPORATE PURPOSE



Increasingly, innovation is being recognized as central to the pursuit of purpose and corresponding efforts to address diverse stakeholder interests.

by Sarah Kaplan

EVEN BEFORE THE COVID-19 PANDEMIC, discussions of corporate social responsibility (CSR) and environmental, social and governance (ESG) issues were becoming commonplace. In 2019, **Larry Fink**, CEO of **BlackRock**, famously issued a challenge to CEOs to pursue purpose, not just profit; and in August of that year, nearly 200 CEOs of the U.S. **Business Roundtable** signed a statement in favour of creating value for all stakeholders. And yet, as the pandemic fades into the rear-view mirror, our planet continues racing towards catastrophe, inequality of all forms is only widening and progress on diversity and inclusion has stalemated.

The reason? Too many firms are talking the talk (making socially desirable claims in order to maintain their legitimacy and social licence to operate) but not walking the walk (taking real action to improve outcomes.) Some are even using social responsibility as a cover for damaging activities. Indeed, many of the signatories of the 2019 roundtable statement lead companies that have aggressively sold addictive drugs such as opioids; offshored profits to avoid taxes; supported politicians who actively undermine women's rights, transgender people's rights and civil rights; or sponsored pro-oil and coal ad campaigns.



It has been well established that stakeholders aren't only motivated by financial gain.

We shouldn't be surprised by any of this. A long line of research on 'decoupling' explains why espoused values around corporate purpose often remain separate from action. These findings are consistent with an emerging stream of research on sustainability and social responsibility reporting, in which firms have been shown to emphasize only the elements where they are making progress — and to omit or obfuscate information that might shed a negative light on their activities.

One reason for the decoupling of talk from action is that achieving social or environmental objectives might simply be seen as too costly, given that it can require major investments and changes to organizational practices. Separating talk from action helps to maintain an organization's legitimacy while at the same time, avoiding expensive changes.

Journalists have documented these challenges, whether it be **Shell** selling off polluting oil sites to improve its own environmental performance only to have them scooped up by smaller under-the-radar firms that have engaged in even more polluting practices; **Tesco** claiming the full recyclability of its plastic bags only for investigators to find that most of them are making their way to be burned in Eastern Europe; or **Delta Airlines** claiming net zero through the purchase of carbon credits that have not in practice led to any greater conservation of forested lands.

We are at an important inflection point in understanding these kinds of behaviours — and what can be done to truly engage for-profit firms in the quest for a more equitable, sustainable and just society.

The Purpose of Purpose: Instrumental or Moral?

Implicit in this discussion are two different stances on 'the purpose of purpose.' The instrumental version aligns with a business-case framing, whereby purpose and profits reinforce each other. The underpinnings of this idea rest in the notion of relational contracts, whereby articulating a purpose motivates stakeholders to trust the firm and work harder for it. In this conceptualization, corporate purpose thus enhances value creation — although there is an unstated assumption that the firm will capture at least as much of the value needed to assure its efforts are profitable.

The second approach — the moral version — suggests that there are tensions and trade-offs between profits and a moral sense of purpose. Here, purpose is considered prosocial and is tied to an organization's moral values. The focus is not only

on maximizing value creation, but also on distributing value across stakeholders.

This is not to say that the moral approach needs to ultimately be unprofitable. The story of **Dick's Sporting Goods** and its decision to stop selling guns in some stores (in response to the school shootings in Parkland, Florida) illustrates this point. CEO **Ed Stack** had reason to believe that his company would lose at least US\$250 million by taking this stance but said at the time, "I don't really care what the financial implication is." They even destroyed \$5 million worth of guns rather than send them back to the gun makers.

Indeed, Dick's was initially subject to employee resignations and calls for boycotts. Yet, much to Ed Stack's and others' surprise, sales actually increased at the stores where guns were discontinued. So, they took guns out of even more stores, and then more. Each time they did, same-store sales went up, as did the stock price. The key here is that Stack didn't know ahead of time that his action would be a win for shareholders. Indeed, he anticipated the opposite; but he took the action anyway.

Before leaders can commit to a moral approach, they must answer two questions:

- 1. HOW DO WE DEFINE 'VALUE CREATION'?** The default definitions are 'economic performance of the firm' and 'economic gains for the stakeholder.' At the same time, it has been well established that shareholders, managers, workers and other stakeholders aren't only motivated by financial gain. Investors, for example, might want to realize adequate financial returns but also avoid investing in companies that make guns, contribute disproportionately to greenhouse gas emissions or treat their workers poorly. And workers might want to make a good wage but also to work for a company whose values they believe in.
- 2. HOW WILL WE CONNECT OUR PURPOSE TO ACTION?** If required actions are not clarified, purpose risks being like most of our 'New Year's resolutions' — easily made and easily broken. In this approach, purpose creates value for stakeholders and must also have actionable paths to achieving those aims. Research indicates that the only way firms can avoid decoupling and engage in the true pursuit of purpose is by working through trade-offs on a task-by-task basis so that the innovative and transformational solutions that are needed can emerge.

Defining Stakeholders

The next question then becomes, Who counts as a stakeholder? This is a question that both scholars and practitioners have trouble answering. For instance, it is important to recognize that in the case of Indigenous Peoples, they are not simply one set among many stakeholder groups. Many Indigenous People reject the designation of ‘stakeholder,’ which implies that their interests are being balanced with other interests, rather than affirming their inherent rights. These inherent rights have been recognized in the **UN Declaration on the Rights of Indigenous Peoples**.

Original stakeholder theory was developed in the 1980s and ‘90s, defining a stakeholder as ‘any identifiable group or individual who can affect or is affected by the achievement of the organization’s objectives.’ What is appealing about this definition is that it accommodates both the material impacts to the company (‘who can affect’) as well as the externalities (external impacts), which could be either positive or negative. The issue is, under this definition it is not easy to figure out who is in and who is out. This is one of the key challenges that New Stakeholder Theory (NST) has taken up as a complement to original stakeholder theory.

NST — as developed by my Rotman School colleague, **Anita McGahan**, draws from the Team Production Model in Economics as the theoretical underpinning for sorting out ‘who counts.’ In this framework, ‘enfranchised stakeholders’ are defined as those who assemble to co-create value because their collective efforts will be greater than the sum of the parts. However, this approach does not accommodate stakeholders who do not engage in creating collective value but might be harmed by the firm’s activities.

In addition, this approach does not deal adequately with power imbalances across various stakeholders or the possibility that harm to stakeholders may be difficult to anticipate and only emerge over time. Researchers have addressed this complexity by identifying stakeholders according to the extent to which they make themselves known and felt by the offending firms — be that through protests, **Twitter** storms or lawsuits. Once an issue is framed by the firm as being salient, then the sets of stakeholders associated with that particular issue come to be identified.

In their research, **Sophie Bacq** (Indiana University) and **Ruth Aguilera** (Northeastern) have proposed a framework in which stakeholders have three forms of power, or a combination thereof:

1. **COERCIVE POWER** (the ability to impose constraints),
2. **UTILITARIAN POWER** (possession of needed resources) and
3. **NORMATIVE POWER** (their interests are aligned with the stated purpose of the firm).

In most of existing stakeholder theory, only stakeholders with *coercive* or *utilitarian* power get counted. Although this represents progress on the ‘who counts as a stakeholder?’ question, two difficulties remain. First, it is still unclear how less-powerful and uninformed stakeholders get a chance to participate in the deliberation process. And second, such broad definitions of stakeholders could inadvertently legitimize the organization as the mediator of stakeholder claims.

What organizations need to embrace is a definition of stakeholders that is as comprehensive as that of original stakeholder theory (i.e. ‘who affects and is affected by’) but that also addresses power imbalances — especially for those who might be harmed by a firm’s activities.

If We Take Purpose Seriously...

Despite all the progress being made on New Stakeholder Theory, **Friedman**-esque beliefs — that the sole purpose of the firm is to make profits — continue to have a grip on business. One hears it in the corporate hallways and even from business students. Yet this view is increasingly problematic in the face of 21st-century challenges.

Friedman made two claims about why and how corporations should focus only on profits: first, that they should only do this within the ‘rules of the game’ set by governments to assure the functioning of markets; and second, that if managers want to work on social issues, they should accomplish this with their own personal charitable giving.

I would argue that these two conditions are no longer met, if they ever were. Additionally, this has implications for how we conceptualize the firm. Although many would like governments and regulators to constrain the negative impacts of corporations, there is not much evidence that there is sustained political will to change laws and regulations at the pace and scale needed to address important challenges like climate change.

In part, this is because of ‘regulatory capture’ in which companies have co-opted the political processes of setting the rules of the game. Personal charitable giving (not even with the exception of **Bill** and **Melinda Gates** or **MacKenzie Scott** and other super-wealthy types) will never be able to cope with the



Organizations need to embrace a definition of stakeholders that addresses power imbalances.

complexities associated with the grand challenges we face. This is all the more reason to conceptualize the firm in new ways.

Equally important, firms may have unique capabilities to orchestrate joint value creation across stakeholders. Any particular organization could have a comparative advantage in achieving a specific set of goals. Finding solutions to collective action problems requires context-specific knowledge, much trial and error, and a collaborative willingness to engage. These new conceptions of organizations begin to point to models of organizing that ‘decentre’ the firm.

The vast majority of the literature in management on firm-stakeholder relations focuses on how companies can defend themselves or selectively respond to stakeholder pressures. For example, research shows that when companies face tough environmental demands at home, they are more likely to source from their own or other’s operations in countries with lower standards. In another example, **Walmart** uses low-cost probes to ‘test for protest’ in communities being considered for new store locations, avoiding places where protests might emerge or donating to charities to diffuse the opposition.

Increasingly, scholars are documenting new models of stakeholder engagement in which all parties work together to create common ground for action in cycles that often involve conflict and innovation. Ecological, feminist and Indigenous ways of knowing — long neglected in mainstream management thinking — can provide support for advancing these ideas. They point us to conceptualizations of purpose as made of reciprocal processes in which actions and outcomes are jointly determined amongst all stakeholders who exist in a web of relations. Here, the firm is not at the centre, nor even the first among equals — but simply one contributor among many.

Originators of stakeholder theory suggest that stakeholder analysis starts with identifying a focal organization and putting it at the centre with ‘primary’ and then ‘secondary’ stakeholders surrounding it. However, when considering the scope of the challenges that face our planet, taking such a firm-centred view is not likely to produce useful insights or practical impact on solving problems.

Even as we explore more collaborative forms of engagement in which the firm moves away from the centre, we will

want to be attuned to the potential for conflict. Marginalized stakeholders cannot simply be brought into collaboration without reconsidering the rules of engagement such that those with the most power, skills and resources do not dominate or pre-empt the outcome.

Increasingly, innovation is being seen as central to the pursuit of purpose and corresponding efforts to address diverse and often conflicting stakeholder interests. Research indicates that the link between purpose and profits is strongest for the most innovative firms and that a strong organizational purpose creates a shared identity that encourages employees to take more risks, which thus contributes to more innovative outcomes.

The emergence of novel solutions depends on how the joint pursuit of purpose and profits is organized, and the development of sustainable products is more successful when organizations embed purpose in their culture. More importantly, this innovation is seen to emerge through co-creation where stakeholders share information that leads to more innovative insights. As I argued in my book, *The 360° Corporation*, innovation may be seen as the primary tool for breaking out of trade-offs, whether those are between profits and purpose or between various conflicting stakeholder interests.

Instead of seeing trade-offs as problematic or irreconcilable, an innovation lens offers the opportunity to examine the ways that organizations might thrive when tensions are most evident. Rather than defending against stakeholder pressures, organizations can co-create with them to find acceptable solutions. Given that addressing stakeholder trade-offs is not easy, learning how innovative experiments might enable organizations to move forward, even if somewhat imperfectly, may advance our understanding of how to enact corporate purpose.

Moving Forward

The predominant corporate governance systems for publicly traded firms may never fully enable the pursuit of social purpose. Fair value distribution, decentering the organization and co-creation may risk falling victim to the quarterly earnings call and the corresponding pursuit of the business case for action.

There is likely not one governance approach that will work, as different problems and circumstances will require different solutions. Benefit corporations — for-profit entities that include some social objectives in their legally defined goals — are touted as a means to reimagine capitalism. Yet, it is unclear whether they will be the ultimate solution that many have hoped. Benefit corporations can be subject to ‘mission drift’; there is little accountability for the supposed goals they set; and as recently evidenced by companies like **Etsy**, companies can drop their certification whenever they feel it is impinging on profits. To be successful, such approaches involve bowing before the ‘dual gods’ of profits and purpose to sustain some form of organizational hybridity.

Models of ‘polycentric governance’ respond more closely to the stakeholder imperative, where firms invest in a pool of resources that are available to communities beyond the firms’ direct exchange partners and help to manage the trade-offs between the interests of different parties.

Cooperatives, in which the owners are the employees, producers or customers, are also — by design — oriented to (at least some) stakeholders and have been shown to create community and regional economic resilience better than shareholder value-oriented firms. Indigenous corporate governance models also highlight the need for longer time horizons (and the elimination of short-termism) and new approaches to voting rights and ownership rules to reflect Indigenous themes of equality, inclusivity, respect and sustainability.

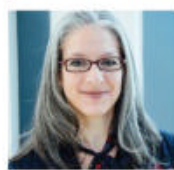
Many in the corporate trenches, such as former **Unilever** CEO **Paul Polman**, have called for courageous leaders who can deal with the discomfort that comes with assuring a purpose-driven organization: “It is uncomfortable to take responsibility for the total handprint you have in society. It is uncomfortable to work with other people when you’re not totally in charge and can’t set the agenda or might have to hear some inconvenient truths. That takes courage.”

This kind of co-creation is not for the faint of heart. How does one lead when they are not totally in charge? This requires living with, or even revelling in, paradoxes at the firm, occupational and individual levels where no immediate solutions are evident. It also requires moral imagination.

In closing

There are many open questions about whether purpose should have instrumental or moral foundations, how to put boundaries around who counts as a stakeholder and how engagement can lead to the fair distribution of value. We are in the midst of a great burgeoning of experimentation in both research and practice to continue to answer these questions. The agenda is ambitious — and necessarily so.

Purpose-driven leadership is not just for CEOs. It is going to take each and every one of us — in our roles as practitioners, stakeholders and academics — to transform our own practices and seek the radical transformations that have the potential to save our society and our planet. Make no mistake: Progress depends upon it. **RM**



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Exploring the DeFi Landscape: **YIELD FARMING AND PHANTOM LIQUIDITY**

‘Liquidity mining’ may provide a competitive edge for emerging platforms if they are able to convince users of their value proposition and growth potential.

by Andreas Park and Jona Stinner

LENDING AND BORROWING MARKETS are vital to the economy, providing individuals, businesses and governments with access to capital for investments, expansions and innovative projects. Without borrowing, economic growth would be severely limited; and without lending facilities, there would be no borrowing.

As a digital value management tool, the blockchain is often considered to be the financial infrastructure for the digital economy. Unsurprisingly, lending and borrowing markets have emerged within this ecosystem and evolved through several stages. Initially, centralized services led by trading platforms dominated the market, followed by the development of decentralized solutions that use the blockchain’s ability to execute code.

In a recent paper, we explored how incentive programs being offered by lending protocols to attract users are impacting the parameters and volumes of deposits and loans, as well as potential externalities in the market. In this article we will summarize our findings.

Decentralized Lending: A Primer

Decentralized lending encompasses two primary application types:

- 1. Liquidity pool-based applications.** Protocols like **Compound** permit users to deposit assets into a pool and receive receipt tokens that represent their claim. Borrowers can access the pool by committing another coin as collateral and repay loans plus accrued interest.

- 2. Minting protocols.** Protocols like **MakerDAO** enable users to create specific tokens through collateralized debt positions. Such protocols do not rely on third-party liquidity — and were not the focus of our work.

Collateralized lending is fundamental to the first generation of DeFi lending protocols, as pseudonymous accounts necessitate collateral for securing loans. Some projects, like **Maple Finance**, have recently begun offering under-collateralized loans by verifying institutional borrowers and linking their identities to wallets. These systems are a niche and resemble non-blockchain lending, and they were not featured in our analysis, either.

As of February 2023, the total value locked (TVL) in the pooled lending protocols (LPs) on DeFi-tracking website **DefiLlama** was US\$14 billion, representing about 24 per cent of all the value locked in DeFi applications. For reference, decentralized exchanges are the largest category with a TVL of US\$21 billion. The four largest lending protocols by TVL are **Aave**, **JustLend**, **Compound** and **Venus**, which together make up 81 per cent of all lending platforms. While these platforms have some minor differences, they share a common architecture.

In pool-based LPs, depositors contribute crypto-assets to non-custodial liquidity pools on the public blockchain. Deposited funds earn passive interest income, which is a function of the amounts borrowed. Deposits (and loans) can include multiple assets. We define the collection of deposits and debt



The DeFi ecosystem offers various opportunities to earn on assets, and thus competition for liquidity is fierce.

provided/taken by a single address as a ‘position.’

Protocols obtain the relative prices of a user’s loan and collateral from a so-called oracle service provider such as **Chainlink**. Interest income accounting is tied to the transferable token that depositors receive in return for their pool contribution. There are two models: In Aave, users receive so-called atokens, while in Compound, they receive ctokens (e.g. aETH, cETH). In Aave, interest income is determined directly by continuously increasing a token holder’s wallet balance. In Compound, tokens represent fractional ownership of the pool, and interest is computed as capital gains realized over time.

Following are some key elements of liquidity pool-based applications that are important to understand.

THE ROLE OF COLLATERAL. The prevalence of pseudo-anonymous addresses in all blockchain activities allows users to create numerous representations of themselves, rendering reputation effects or institutional sanction mechanisms ineffective. Consequently, borrowers are required to provide collateral that exceeds the value of the loan. If the collateral value falls below a certain threshold, liquidation of the loan becomes necessary to maintain pool solvency. The liquidation is not triggered by a central authority but can be initiated by anyone and is incentivized through process design.

Procedurally, prospective borrowers would initiate the lending process by depositing funds into a lending pool and designating a portion of their deposit as collateral. The protocol assigns a collateral factor via the governance process to each asset that is accepted as collateral. This factor is inversely related to the asset’s price volatility and determines the maximum outstanding debt relative to the collateral.

For instance, a collateral factor of 0.8 allows a depositor to borrow up to 80 cents for every dollar of collateral. On Aave, the collateral factor for the large-cap stablecoin USDC is 0.86. For the volatile small-cap token 1INCH it is 0.4. Borrowers receive

the borrowed asset into their wallet from the general pool, and the protocol continually tracks their loan balance and interest. Interest accumulates over time, resulting in an increased liability for borrowers relative to their collateral. Repayment of the loan is accomplished by submitting the loan amount plus interest to the lending pool, either via the repayment option in the web app or on-chain through the corresponding smart contract function. Certain applications also offer the option to repay the loan by using the collateral, which prompts the execution of a token swap via a decentralized exchange.

INTEREST RATES. Interest rates for a liquidity pool are determined programmatically as a function of the utilization rate, which is the ratio of outstanding debt to supplied deposits. The interest function is step-wise linear and exhibits an extremely steep slope beyond a certain threshold. This extreme slope aims to discourage full utilization (and corresponding illiquidity risks) by making loans costly and the provision of liquidity highly lucrative. Interest accrues per block, and the interest rate for all loans adjusts continuously.

LIQUIDITY MINING. Lending requires liquidity, but capital is scarce and investors seek the highest risk-adjusted return. In a lending pool, liquidity providers earn passive income on deposited crypto assets by collecting interest from borrowers. However, the DeFi ecosystem offers various opportunities to earn on assets; thus competition for liquidity is fierce among the various applications. Emerging protocols, in particular, face a chicken-and-egg problem: liquidity providers only deploy their assets in a lending protocol if there are prospective borrowers, and borrowers only use a protocol if there is liquidity.

Furthermore, scant liquidity leads to higher borrowing rates, making loans less attractive. To ‘prime the pump,’ many protocols provide incentives to depositors and borrowers. These incentive programs, known as ‘liquidity mining,’ are a central component of many protocols’ strategies.

In traditional finance, banks with ample capital can lure potential depositors or borrowers by accepting a smaller spread between rates — for example, with higher savings or lower loan interest. DeFi lending protocols do not possess capital, but create pools for others to utilize. Depositors in these pools directly obtain interest paid by borrowers, with only a small portion maintained in a reserve to safeguard against crises. Arguably, without any spread to reduce, protocols need to find a different path to bootstrap their marketplace. One common strategy within the DeFi ecosystem is to distribute protocol-native tokens to users engaging with the platform. Usually, the tokens' primary function is to allow holders to participate in the periodical voting to determine platform parameters. For the case of lending pools, one could argue that the tokens resemble implicit claims on a future income. The reserve pools built from protocol fees arguably resemble the equity of the protocol. In the future, tokenholders may be able to vote on allocating these reserve pools to themselves.

Allocating protocol tokens is motivated by the aim to let early liquidity providers benefit from subsequent protocol successes: if the incentives attract users, fee income grows and the value of the token incentive rises. Ideally, participation incentives create a virtuous cycle of growth. In essence, the protocols thus pay incentives resembling claims on the platform's future success.

Liquidity mining programs typically run over predetermined periods and reward both borrowers and depositors for the time they keep their positions (deposits or loans) open. Most protocols incentivize both market sides to create a self-sustaining cycle where ample borrowing attracts deposits and abundant deposits ensure attractive lending rates. One concern is that a depositor may find it beneficial to borrow back a portion of their funds immediately to capture liquidity incentives on both market sides. This would result in 'phantom liquidity' that isn't truly available to other users. Theoretically, such an approach can impose a negative externality on existing bor-

rowers if interest rates rise above the levels that would occur in the absence of these 'opportunistic' borrowers. The resulting excess rates may harm or deter 'natural' users from accessing the protocol.

Attracting sufficient liquidity in the form of deposits is essential to the loan mechanics of LPs and benefits users for several reasons. Liquid pools are less susceptible to illiquidity risks and enable frictionless lending even when demand is high. Akin to a traditional bank, large individual loans or deposit withdrawals can be disruptive as they suddenly change utilization rates. Thus, high liquidity typically guarantees lower and less volatile lending rates. Aggregate TVL is often used by protocols to advertise their popularity, knowing that users gravitate toward the most liquid pools.

YIELD FARMING. Yield farming is the process of allocating capital to the DeFi protocols that provide the largest rewards — a fundamental mechanism of capitalism. Although users can deploy their assets themselves in any way they choose, in practice, the process of 'farming' is usually facilitated by decentralized asset managers known as yield aggregators; **Yearn Finance** is a prominent example. These tools are usually computer algorithms that organize and execute the strategic allocation of agents' assets to the protocols that provide the highest rewards. A yield-aggregation service collects users' funds in smart-contract-based pools, which are then invested by the protocol according to a predefined yield-generating strategy. Investment strategies can range from simple rebalancing to capture liquidity mining rewards to complex sequences involving leveraged (sometimes referred to as 'spiral') lending.

Yield aggregators are decentralized organizations: strategies submitted by contributors are reviewed by the community and eventually approved through a decentralized voting process. Once the strategy script is formalized in a smart contract, users can allocate funds and the protocol executes the strategy independently.



Yield-seeking strategies dominate DeFi lending activity.

Our Research

Our study evaluated the efficacy and implications of liquidity mining programs, addressing four key questions:

1. Do these programs attract significant liquidity?
2. Do they generate sticky or merely fleeting liquidity?
3. Does the two-sidedness of the rewards cause genuine or ‘phantom liquidity’?
4. Do the incentive-driven activities create positive or negative externalities for other users?

We analyzed the two largest lending platforms, Compound and Aave, from their launches in 2019 and 2020, respectively, until early 2023. Together, these platforms account for 85 per cent of the total historical deposits in Ethereum-based lending markets. Both platforms had implemented incentive programs. We examined 20- and 40-day event windows around the introduction/adjustments of incentive programs based on a token-day-protocol panel constructed directly from blockchain transactions.

We observed that such programs do indeed attract deposits, with a mild indication of increasing inflow rates. We further noted an expansion of platform activity through a rise in the ratio of loans to deposits, referred to as ‘utilization.’ Incentive reductions exhibited insignificant negative effects indicating that liquidity is sufficiently sticky when incentives are changed only minorly. We did find, however, that the end of a program leads to an outflow of funds, a drop in net flows and an increase in borrowing rates. Such fleeting liquidity is somewhat concerning for platforms, as they cannot provide incentives indefinitely, and ideally, platform activity should be robust enough to sustain activities when incentives are phased out.

Upon closer examination of lending activities at the user level, we identified a salient type of behaviour that we attribute to yield-farming strategies. Namely, we observed a strategy that involves depositing an asset into a lending pool and borrowing it back immediately. We collected data from the addresses of the top 10 yield-farming services and matched them with addresses that interacted with the two lending protocols.

In addition, we identified users employing such stablecoin-to-stablecoin strategies in the data and along with recognized yield aggregators, identified them as ‘yield-seekers.’ While this approach allows users to build a leveraged position for volatile assets, we found that it is particularly prevalent for non-volatile assets such as stablecoins. Building a leveraged cash position by itself makes little economic sense, except that it enables users to collect liquidity incentives on both deposits and borrowings.

KEY FINDING 1: Even though only a small number of tens of thousands of accounts engage in yield-seeking strategies, these few accounts dominate DeFi lending activity. Across platforms, yield-seekers accounted for 18 per cent of deposits and 31 per cent of loans on average, with peak rates of above 80 per cent in some pools. In February 2023, Compound’s top 10 yield-farming addresses held 98 per cent of yield-seeking funds, representing 43 and 23 per cent of the protocol’s loans and deposits, respectively. On average, 85 per cent of liquidity rewards were allocated to stablecoin pools on the platforms to which yield-seekers directed 92 per cent of their funds.

Unlike ‘sticky’ bank deposits, algorithmic yield-seeking strategies shift funds abruptly when incentives change. For example, when Aave initiated its incentive program in April 2021, yield-seekers boosted their deposits from US\$39 million to US\$1.22 billion within 10 days, increasing their protocol share from 0.2 to 30 per cent. Aave cut its rewards three times in our sample and yield-seekers almost instantaneously reduced their positions by 11 per cent, on average. Finally, weighted by investment, yield-seekers reborrowed 69 per cent of their deposits, thereby creating phantom liquidity equal to 25 per cent of the pool’s total liquidity.

KEY FINDING 2: The presence of yield-seekers alters lending conditions and consequently imposes an externality on other users. However, the direction of this externality is not obvious. Collateral constraints in the lending design ensure that yield-seekers cannot borrow back their entire deposits. Thus, they always generate a liquidity surplus even when they absorb most of the deposits they provide. Conversely, yield-seekers escalate the

borrowing demand, which raises borrowing costs. Mathematically, the direction of the externality is not obvious and depends on the relative contributions of total deposits to loans. Whether or not yield-seekers harm other borrowers is therefore an empirical question.

To quantify the effect empirically, we computed borrowing and lending rates in a counterfactual scenario that would apply if yield-seekers were absent. We found that yield-seekers lowered the utilization rate by 3.7 and two percentage points on Compound and Aave, respectively, leading to reduced borrowing and lending rates.

Based on these hypothetical rates, we calculated the cash value of the interest that other users on the platform would have paid or received in the counterfactual scenario. In dollar terms, depositors lost US\$602 million in interest, but borrowers saved US\$649 million in interest payments compared to the counterfactual scenario. We conclude that during our observation period, yield-seekers created a net positive externality of US\$47 million, corresponding to about seven per cent of the total value of the liquidity incentives paid out in the programs.

In closing

While liquidity mining programs effectively draw activity to their platforms, a considerable fraction of that activity is ‘phantom,’ created by users exploiting rewards from both market sides. These yield-seeking strategies react sensitively to incentive alterations, resulting in rapidly moving deposits and potential long-term interest rate volatility. Nevertheless, the non-phantom liquidity we detected proved sufficient to create a positive externality.

Our study has implications for the design of DeFi platforms and, in a broader sense, for the realm of programmable finance. Our analysis suggests that lending-platform designers must carefully consider platform incentives and their functions. The concept of ‘sticky’ deposits transforming into long-term loans — a cornerstone of traditional balance-sheet lending — cannot seamlessly translate to the DeFi space. This is because DeFi lending markets accommodate rapid capital movement, with rates fluctuating every 15 seconds and yield-aggregation strat-

egies mobilizing substantial capital swiftly. Such yield-seeking capital is volatile and tends to ‘head for the door’ when incentives are reduced or discontinued.

The observed smart-contract interaction between yield aggregators and LPs — a showcase of programmable finance — raises questions as to whether DeFi lending will be able to evolve beyond its current crypto-centric state. Our research also highlights the innovative nature of liquidity mining. As a blockchain-native instrument, it serves to initialize and stimulate growth on decentralized two-sided platforms. **RM**



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When Crowds Are *Not* Wise: How Social Networks Impact Stock Prices

Information on social media displays excessive optimism about earnings announcements, which can lead to price run-ups.

by Edna Lopez Avila, Charles Martineau and Jordi Mondria

ACCORDING TO CNBC, more than one third of new investors are using social media to research investment advice. If such advice is independently produced by different contributors, it can benefit investors, because research shows that averaging independent judgments generally improves accuracy. This is known as ‘the wisdom-of-the-crowd effect.’

However, social media platforms disseminate information using engagement algorithms that are influenced by popularity bias — which means popular items are recommended more frequently than other items. And as such, they do not guarantee independent information aggregation. In one study, researchers found that financial social networks can serve as a platform for users to consume information that reinforces their pre-existing beliefs, resulting in ‘echo chambers’ that can undermine wisdom-of-the-crowd effects.

In a recent paper, we examined how information from three social media platforms — **StockTwits**, **WallStreetBets** and **Seeking Alpha** — impacts aggregate prices and price efficiency around earnings announcements. Earnings announcements provided an ideal setting for our analysis because conventional sources of information, such as media and analysts’ reports, are

limited in the days leading up to these events. In contrast, investor social networks experience a surge in information production before earnings announcements.

If investors trade in line with social media’s wisdom, then stock prices leading up to earnings announcements should reflect future fundamentals such as earnings announcement surprises. However, we felt that if information is generated in echo chambers resulting in wishful thinking models, social networks could be detrimental to price efficiency.

Our Research

The time coverage of our study spanned two periods:

- From January 1, 2018 to December 31, 2021, incorporating information from the three social media platforms, and
- From January 1, 2013 to December 31, 2021, focusing solely on StockTwits.

We selected stocks with share codes 10 or 11 from the **Center for Research in Security Prices (CRSP)** and retrieved their corresponding ticker symbols, daily returns, prices, outstanding shares and market capitalization. To ensure we had the necessary



Positive sentiment outlooks accounted for more than 80 per cent of social networks' posting activity days before earnings announcements.

information for merging with social media posts, we only included stocks with available tickers in CRSP. We also used stock-related news from **Ravenpack** to control the analysis of information production on social media and retrieved retail trading data from Daily TAQ (trade and quote.)

Analyst forecasts and earnings announcements were from **Thomson Reuters'** Institutional Brokers' Estimate System (IBES.) We considered earnings announcements in IBES that met the following requirements: the earnings date was reported in **Compustat**, the price of the stock of five days before the announcement was available in CRSP, and the stock price was available on Compustat as of the end of the quarter.

We computed the surprise earnings announcement as the difference between the firm earnings per share of quarterly earnings announcement and the consensus analysts forecast, divided by the prices of the stock five days before the earnings announcement day from (IBES) and Compustat.

A bit of background on each of the social media platforms we analyzed. StockTwits is a social media platform similar to **Twitter/X**, where users can post messages or 'tweets' about a stock adding a \$ Cashtag followed by the stock ticker symbol to express their opinion about it (e.g. \$AMZN, \$GOOG, \$SNAP). Additionally, users on this platform are enabled to tag their posts as either 'Bullish' or 'Bearish.' We obtained all posts from the social media platform via **RapidAPI**.

For Seeking Alpha, users are required to refer to a company by its first name and include its stock ticker whenever they mention it in an article that has a longer format than a tweet. This platform offers four distinct options to include a sentiment feature for each article, ranging from Very Bullish to Bullish, Neutral, Bearish and Very Bearish. Like StockTwits, posts on Seeking Alpha are stock-specific and have an explicit sentiment assigned by their respective authors. For the purpose of our analysis, we generalized the classification of these posts by categorizing all posts labelled as Very Bullish and Bullish as 'Bullish,' and those tagged as Bearish or Very Bearish as 'Bearish.'

Unlike StockTwits and Seeking Alpha, WallStreetBets does not offer the option to tag posts by stock or sentiment. In this sense, there is no direct way to identify which stock a post refers to or the sentiment expressed towards it. To address this issue, we scrapped all the tickers considered in our analysis and all the company names related to the ticker. We considered all the posts where the symbol or word of the stock was mentioned at least once, either in the title or in the post's body text.

Next, we proceeded to calculate the sentiment of each post on WallStreetBets using machine learning and NLP (natural language processing) techniques. Unfortunately, the usage of tools like Loughran and McDonald's dictionaries is not adequate for the language used on a social media platform such as WallStreetBets. The language of this platform is full of sarcasm, jokes, bad words, slang and emojis. Therefore, to classify the sentiment of WallStreetBets posts as Bullish or Bearish, we employed a 'supervised learning method' known as Support Vector Machine.

In total, we gathered more than 102,480,107 posts for StockTwits, WallStreetBets and Seeking Alpha, respectively. Only 46,163,488 posts and 68,167 posts of StockTwits and Seeking Alpha, respectively, were tagged with a sentiment view.

From the last quarter of 2019 onwards, social media activity on all platforms increased significantly, in line with the surge of retail trading facilitated by retail brokerages offering zero trading costs and the impact of stimulus checks during the COVID-19 pandemic in the U.S. The information production of StockTwits clearly exceeded that of WallStreetBets and Seeking Alpha. Moreover, StockTwits covered a more extensive range of stocks, with 4,192 different stocks mentioned in their posts compared to 3,717 on WallStreetBets and 2,958 on Seeking Alpha. Consequently, the information produced on StockTwits was a significant driver of our results.

To understand the difference in information production, breadth of coverage across platforms and, subsequently, the results of our analysis, it is important to understand the characteristics and differences between the three social networks. The posts from Seeking Alpha come from opinion articles that must conform to Seeking Alpha's standards of rigour and clarity. To be eligible for publication, each opinion article passes through editors (with credentials including MBAs, Masters in Economics and degrees in journalism) from **Bloomberg**, **CNN**, **TheStreet.com** and **MSN Money**, among others. In addition, the author of each opinion article receives a payment based on how many subscribers read the article. To be a subscriber and have access to all stock-related opinion articles, a regular fee must be paid.

On the other hand, StockTwits and WallStreetBets are free platforms with open access to all comments posted on their platforms. Neither has an editorial board, and their users are not compensated for posting. Before May 2019, StockTwits comments had a limited length of 140 characters before increasing the limit to 1,000 characters. In contrast, Seeking Alpha and

WallStreetBets have no limit of characters for their opinion articles and posts. Contributors on Seeking Alpha should not be surprised by 'Decline' responses for articles that cover nanocap stocks trading below a \$25 million market cap or 50c share price.

However, this is not the case for StockTwits and WallStreetBets. On StockTwits, users can automatically receive all tweets posted on the platform on their feed. However, they can customize their feed only by receiving tweets from stocks or users they follow. In addition, StockTwits users can disclose their experience level as a novice, intermediate and professional. Researchers have found that 20 per cent of StockTwits users classify themselves as professionals, 52 per cent as intermediate and 28 per cent as novices. Different from opinion articles in Seeking Alpha, posts on WallStreetBets and StockTwits tend to be considerably less in-depth. Anecdotal evidence suggests that WallStreetBets also places a larger emphasis on highly speculative trading strategies.

Our Findings

Positive sentiment outlooks accounted for more than 80 per cent of the social networks' posting activity days before earnings announcements for nearly 70 per cent of our sample. Indeed, we found that social media displayed even more optimism than sell-side financial analysts. If transmitted to trading behaviours, such excess positivism would likely have repercussions on aggregate prices and price efficiency. We indeed found that stocks with an abnormally high number of posts on social networks before earnings announcements were associated with higher retail trading activity in equity and options markets.

Consistent with aggregate sentiment being excessively positive, we also found that posting activity is associated with greater buying pressure. While such pressure can be beneficial for price efficiency before earnings announcements, it can also be detrimental. For stocks with an abnormally high number of posts on social media, we found greater price run-ups of one per cent from five days before an earnings announcement. These price run-ups occurred regardless of whether the announcement had a positive or negative earnings surprise, suggesting that prices became more efficient before positive news as they converged to fundamentals, but more inefficient before negative news as they drifted away from fundamentals.

Smaller market capitalization stocks experienced even larger price run-ups before announcements, with increases of up to two per cent. The association between price runs and abnormal

social media coverage was robust in controlling for upcoming earnings surprises, abnormal newswire coverage, newswire sentiment and analyst-recommendation news.

Because StockTwits covers a wider cross-section of stocks and the total number of posts far exceeds that of WallStreetBets and Seeking Alpha, our findings are mostly driven by the information shared on StockTwits. Even though the information on Seeking Alpha is passed through editors and created by non-anonymous users who are often educated and experienced, we found no relationship between the content of their posts days leading to earnings announcements and stock fundamentals. Just like analysts publishing recommendations, the majority of Seeking Alpha's posts are created several days after earnings announcements. Another important aspect of StockTwits is that more than 30 per cent of posts focus on small-cap stocks (i.e. bottom of NYSE breakpoint quintile).

Prior research shows that retail investors are attracted to news events eliciting them to buy rather than to sell because selling involves the investor owning the stock. This tendency may explain the existence of positive sentiment among users on social media platforms. However, in rare cases of extreme negativism on Stocktwits, we found evidence of downward price pressure before earnings announcements, thus distorting price efficiency before positive earnings news and improving price efficiency before negative news.

In an attempt to shed light on a plausible causal relationship between social media content and price efficiency, we used rounds of stimulus checks during the COVID-19 pandemic as exogenous shocks to retail trading. Prior research shows that rounds of stimulus checks during the COVID-19 pandemic led to a spur in retail trading. For stocks with high abnormal social media attention, we found an exacerbation in upward price pressure before earnings announcements following the issuance of stimulus checks. The effect was more pronounced for small stocks, where cumulative returns before earnings announcements increased by more than five per cent following rounds of stimulus checks.

Previous studies have found that the content of social media posts can predict fundamental factors such as earnings surprises. Our findings cast doubt that such 'wisdom' transmits to investors' trading decisions as social media sentiment is associated with price run-ups days prior to earnings announcements, whether firms beat or miss earnings targets. We found that social media posts in the days leading to earnings announcements



Information on social media displays excessive optimism about future outcomes.

do indeed predict earnings surprises; but only for large stocks. This finding was explained by a sample composition effect where more than 70 per cent of earnings surprises are positive and thus correlate with the excess positivism displayed on social media.

We developed a simple theoretical framework that rationalizes why social media can induce investors to trade optimistically. Our model is based on ‘wishful thinking,’ which posits that individuals derive utility from their beliefs and thus tend to interpret information optimistically. The model predicts that investors will display positive optimism when seeking to buy stocks, and vice versa.

As indicated earlier, it is well-known that retail investors are more inclined to buy than sell and, consistent with our findings, we expected investors to display more positive optimism. Furthermore, our model predicts that investors’ beliefs are easily influenced by subjective factors and thus they behave like wishful-thinking investors when social media content is easily interpretable — for example, when the sentiment signal is less ‘noisy.’ Using post activity on StockTwits without sentiment (commonly attributed to ‘bots’ activity) as a proxy for cross-sectional variation in noise, we found price run-ups before earnings announcements only for announcements with low noise activity.

Key Implications

Our model suggests that investors are more likely to engage in wishful thinking when it is easier to depart from objective beliefs, which occurs when the cost of deviating from those beliefs is low. This situation arises when information on a particular stock is well-covered by social media and easier for investors to interpret. For example, when a user scrolls through posts on social platforms, they receive a more precise signal of investor sentiment when there are more posts with a Bullish or Bearish tag. More than 50 per cent of posts on StockTwits are not tagged with a sentiment.

For each stock-earnings announcement, we computed the fraction of unsigned posts without sentiment five days before earnings announcements. Only stocks with a low fraction of unsigned posts and a high number of abnormal posts exhibited positive cumulative returns before earnings announcements. Stocks with a high fraction of unsigned posts had pre-announce-

ment cumulative returns close to zero. Overall, these findings align with our wishful thinking model prediction that when it is easier (i.e. less costly) for investors to process information, they are more likely to trade according to their subjective beliefs.

In closing

Our research reveals that information on social media displays excessive optimism about future outcomes on earnings announcements. Such biased optimism does not predict fundamentals on earnings announcements and leads to price run-ups, thus distorting prices from fundamentals before negative earnings announcements.

We attribute our findings to individual investors being net buyers of attention-grabbing stocks, obtaining utility from their beliefs and interpreting information optimistically — i.e. wishful thinking. Some users on social media might be sophisticated at forecasting fundamentals. But in a collective sense, our findings cast doubt on the wisdom of the crowd phenomenon in forecasting future fundamentals and playing a beneficial role in investment decisions for retail traders. **RM**



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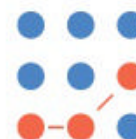
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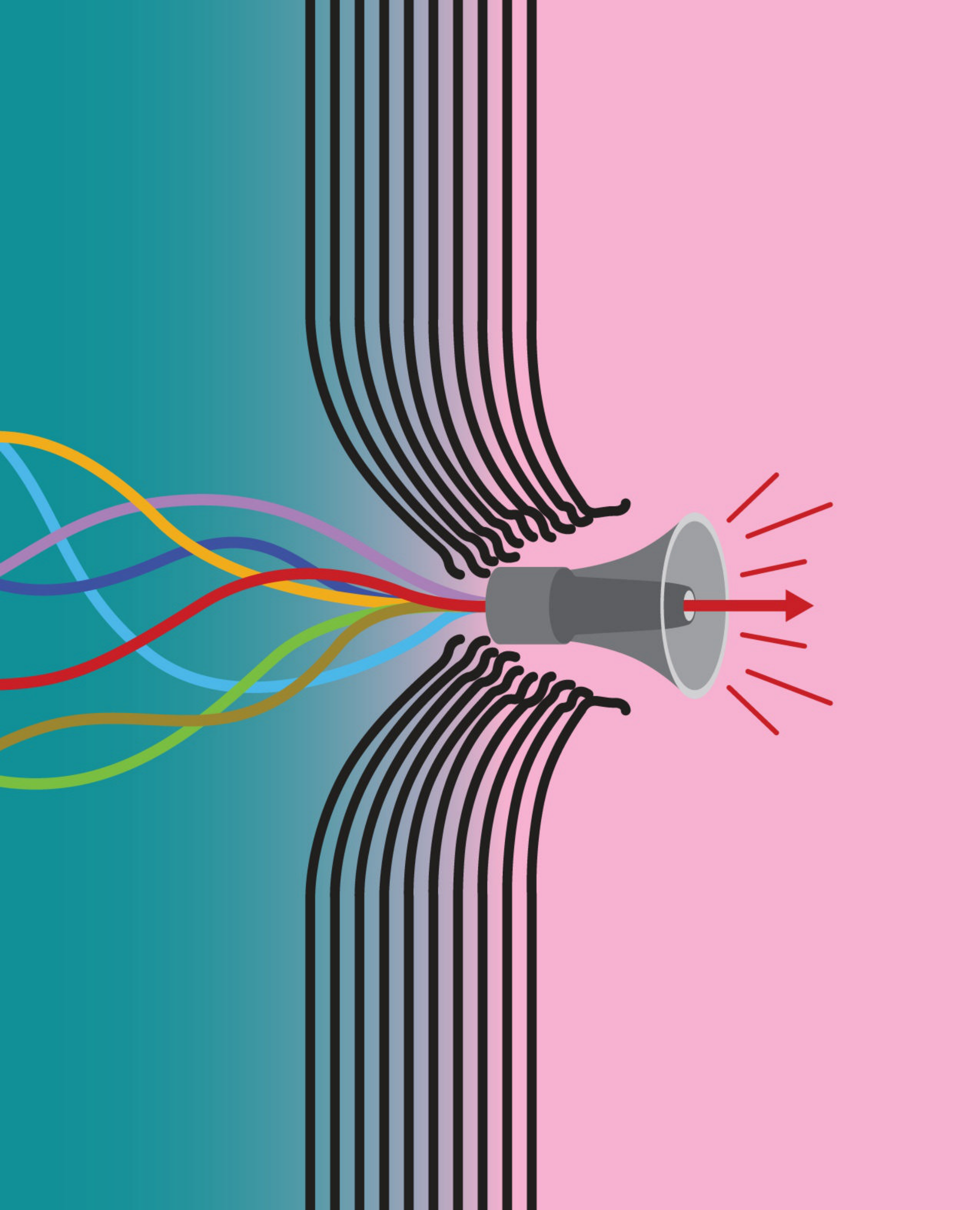
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HOW TO BE A CHANGE AGENT

Are you willing to be the first person to bring something up in a room full of executives? If so, you just might be a Change Agent in the making.

by Karen Christensen, Charley Butler (Rotman MBA '20) and Victor Tung (Rotman MBA '11)

IMAGINE A WORLD WHERE EVERYONE — regardless of race, gender or orientation — was accepted equally and provided with equal opportunity. It might sound like a pipe dream to some, but the fact is, there are people working on the ground every day to make it happen. These are the world's change agents, and **Charley Butler** and **Victor Tung** are among them.

The Rotman graduates work for the **Ontario Teachers Pension Board** (OTPP) and **BMO**, respectively — two organizations that count themselves among the growing number embracing a diversity, equity and inclusion (DEI) agenda. The collective goal: evening-out the playing field to ensure a pipeline of talent that is equitable and fair in all categories. The duo was among those recognized as 2023 Champions of Change by **Women in Capital Markets** for their work to advance equity in the finance industry.

Notably, a third Rotman graduate also made the list: **Michael Cherny**, a colleague of Charley's at OTPP. Regular readers will recall our in-depth interview with Michael from our Fall 2019 issue. A memorable quote from Michael at the time: "It is at the intersection of lived experience — both personal and professional — that the greatest thinking, conversations and solutions take place."

The finance industry faces ongoing challenges with respect to DEI, to be sure. "The biggest challenge in our sector is that there are so many individual challenges under the DEI umbrella,"

says Butler. "It's really hard to decide where to focus. We are fortunate at OTPP that we have a culture where people are really leaning-in to DEI."

That means, for instance, that the HR team is focusing on creating practices and policies to attract a diverse array of talent; and that the financial experts are focused on investing multi-billion dollar assets not only to make strong returns for members, but also to make the world a better place, she says.

Educating your workforce is critical, says Butler. At OTPP, employee resource groups consisting of volunteers rallying around particular issues have become extremely popular. "We have this huge raft of volunteers who are involved in educating our whole organization, so we can collectively begin to understand the issues." When they started out, OTPP leaders didn't know even half of what they needed to know, she admits. "We're fortunate to have these volunteers saying to senior leaders, 'Let me help you understand what it means to be from my culture within the broader Canadian culture.'"

In addition to employee resource groups, there are many micro-examples of change at OTPP. "Our HR team invested in new technology that allows them to 'scrape' data across all job descriptions and the wording on our website so that they're not inherently biased towards one group or another. For us, it's about small things and big things."



This is not about lowering the bar. It's about increasing everyone's ability to *reach* the bar.

Of course, for any of this to take root you need support from the very top. “Our CEO recognizes the inherent value of all these initiatives. It’s not like we’ve figured it all out, though. Nobody is getting this entirely right, yet. We fully recognize that this is a journey.”

Tung agrees that DEI issues are industry-wide in finance. “The truth is, there are trade-offs to be made between driving a DEI agenda while at the same time pursuing a growth agenda, because the latter is very much tied to having human capital with some very specialized skill sets,” he says. “When you look at the supply of human capital from the segments we want to hire from, it doesn’t necessarily match up with our DEI goals.” Only a small subset of individuals fit both criteria, he says, and everyone in the finance industry goes after them. “That’s not the way to drive systemic change. It looks good for the organization, but industry wide, it doesn’t address the problem.” To drive change, he says, you need to focus on removing barriers for people. “This is not about lowering the bar. It’s about increasing everybody’s ability to *reach* the bar. That’s the lens I used when I began working on these initiatives.”

Butler grew up in the UK, which she says has a very different mindset around diversity — particularly around immigration. “In the UK, people are a lot more protectionist about their culture and their country. Canada is more open to welcoming different cultures, and that’s one reason I chose to live here.” That doesn’t mean she arrived fully-evolved, however. “When I first started working in Canada, I had never been surrounded by people for whom English wasn’t their first language. Suddenly I realized I had an inherent bias—that, if you can’t speak English clearly, you’re probably not as smart as I am.” Time and time again, people blew that bias out of the water for her—and she was embarrassed to admit she felt that way. “But I realized that if I have such biases, everyone else probably has them, too.” That’s how Butler’s change-making journey began. “I asked myself, What can be done to make other people come to similar realizations?”

For Tung, the inspiration came from a senior leader in the financial services industry. “A few years back, before the pandemic, I was invited to the Rotman School’s Lifetime Achievement Award Dinner, where former BMO CEO **Bill Downe** [MBA ’78] was being honoured. Watching people like [then-Dean] **Tiff Macklem** and [former UofT President] **Rob Pritchard** talk about Bill’s achievements, it dawned on me that leadership in any large organization comes with a very serious set of responsibilities.” In addition to driving business results, he heard about all the work Downe and his team were doing to make things better

in the communities BMO serves. “The responsibility and the importance of what we do really hit me that night. I knew right away I wanted to be involved in the bank’s commitment to zero barriers.”

Butler says she has always been curious about different cultures. “In my personal life, I’ve always sought out difference. Even for vacations, I always go to a place where the culture is fundamentally different from mine. When my son was six, we went on a three-week tour of India and flew to eight different parts of the country. It was fundamentally different from what we knew, in every way. So I think I’ve had a foundation in terms of educating myself over time. For me there is a fundamental belief that difference has value.”

With so much going on under the DEI umbrella, where is an organization to start?

“Gender diversity is an area where many companies feel comfortable starting out, and at Teachers, we’ve been a leader on that front,” says Butler. The push started in 2017, when OTPP joined the Canadian start-up of the 30% Club—which aims to have 30 per cent women on all boards across the country. In 2020, her own board became 50 per cent women, “which is huge,” she says with pride.

Butler and Tung agree that change starts from the top. “The fact is, if people can’t see themselves represented in senior roles, they will struggle to push themselves to develop the skills they need to get there. Or they will just choose not to stay in your organization and move to a company where they do see themselves represented,” says Tung.

For Tung and BMO, one of the skills they were lacking in the midst of the tech boom was cloud engineering skills. “The market was extremely aggressive in terms of recruiting this type of talent, so it was very challenging,” he says. “I sit on BMO’s DEI Council, where one of the areas we really focus on is Indigenous talent.” He had an idea.

One of BMO’s many partnerships is with **Amazon Web Services** (AWS) — one of the country’s largest cloud providers. So, he reached out to them. “I wanted to noodle around with them to solve this. We decided to recruit a cohort of Indigenous candidates. Amazon would provide them with free training on the required engineering skill sets; and then BMO would provide a six-week paid internship, with the intention that if there was a good match, candidates would be offered full-time roles.

“We were able to target a group that never traditionally had access to a lot of these opportunities. And at the same time, this helped us get the skill set we needed,” he says.

Successful change agents are said to require two character traits: emotional resilience and a tolerance for conflict. Butler agrees. “When I think about my work driving change around diversity, the value that I can bring lies in leveraging my voice within the organization. Because of the meetings and settings I get to be in (by virtue of my position), I have opportunities to say things that drive this agenda forward. Doing that does take emotional resilience, because you’re asking your organization to invest in one area, which naturally creates a trade-off somewhere else.”

It also takes guts to be one of the first people willing to say things like that out loud in a room full of executives, she says, because you don’t necessarily know how people are going to respond. “But it’s moments like these that give other people the confidence to do the same. So often, when you’re the first one to say something, five people come up to you afterwards and say, ‘Oh gosh, thank you so much for saying that; we’ve all been thinking it!’”

A learning mindset is also critical in this work, says Tung. “When it’s your first time doing something like this, you’re not going to do everything right. You will make mistakes, and the honesty with which you approach that aspect of it is very important. When I talk to candidates for our programs, I always say, ‘This is the first time we’re doing this; we’ll probably make mistakes, but we greatly value your feedback along the way.’” In general, people are coming from a good place, he says. They might just be skeptical. “If you can create an emotional connection with them, that’s how to get some momentum going.”

Once you start behaving like a change agent, people notice. “When I was asked to be the executive sponsor for one of our employee resource groups, it blew me away. I didn’t think I was the right person for the job because I didn’t represent any of the groups that needed the most help. But this group of employees obviously thought I had the required qualities, so I accepted. I’ve been on this journey of figuring out what it means to be an ally and raise issues even though they don’t affect me directly. There is power in that.”

Tung says his proudest achievement to date is the relationships he has built over the years. “I believe achievement and success are about the impact you have on other people’s lives. Whether it’s students, community leaders or people who work with me, hopefully my interactions leave people with something that they can take away to continue their own journeys.”

So, for readers who want to become a change agent, what is the first step?

Butler is quick to answer. “The first step for anything is to educate yourself. So, lean into whatever is happening in your organization. Try to figure out where there are people trying to make change, no matter how small or big; and ask what you can do to help.” The minute you surround yourself with people who are trying to drive change, it becomes much easier, she says.

You will probably have to do some sort of audit of the work you do in your current role, and where you might be able to make some changes. “Ask yourself, Is there a meeting coming up where I can say something? Maybe I can raise a particular issue? Maybe you can reach out to mentor someone who might be in a challenged group?” The minute you start doing these things, your internal reward system will make you feel great about it, and you will want to do more, says Butler.

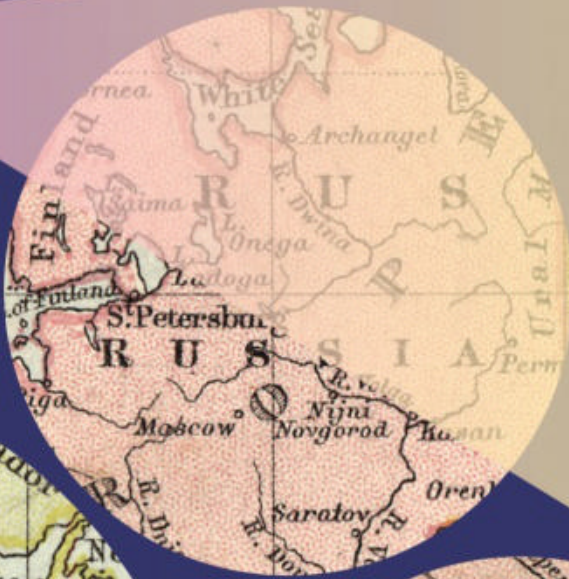
The two agree that the first change you tackle should be as proximate to your existing role or function as possible, because if you set out to change the whole organization, that is very difficult to do.

Impact can start small. One of the most impactful things OTPP ever did was appoint Michael Cherny as its Director of DEI, says Butler. “He has whipped our efforts into shape and challenged us as an organization to think differently. And his own courageous journey and his generosity in sharing that have been invaluable.”

Tung’s advice? “Choose something you are really passionate about. That is step one. Step two — and it’s not easy — is to overcome your own insecurities. At the end of the day there is no right or wrong approach.” Be your authentic self and let your passion drive the change, he says. “When you do that, whatever the outcome is, it will be something you can be proud of.” **RM**



Charley Butler (Rotman MBA ‘20) is Chief Pension Officer at Ontario Teachers Pension Plan. **Victor Tung** (Rotman MBA ‘11) is Executive Vice President, U.S. Chief Technology Officer and CIOO at BMO Capital Markets.



CULTURAL INTELLIGENCE: The Skill of the Century

Amidst cultural blunders from all corners of the globe, ‘CQ’ is perhaps the most overlooked ingredient for global business success.

by Walid Hejazi and Freeda Khan

WE’VE ALL HEARD STORIES of cringe-worthy cultural *faux pas* in the world of business. It could be a Western business executive who accepts a business card from a Japanese counterpart and proceeds to put it in his back pocket — an action that is seen as highly offensive in Japan. Or a male executive travelling to an Islamic country who reaches out to shake hands with a woman who is wearing a hijab — which is considered, to say the least, inappropriate.

It’s not just individual executives who are subject to such cultural errors. Large, sophisticated multinationals are not immune. In 2018, **Dolce & Gabbana** posted three videos on Chinese social media to promote its latest fashion show. The videos showed Asian women dressed lavishly in D&G clothing eating pizza, spaghetti and cannoli with chopsticks. At the same time, a voice could be heard mispronouncing English words in a way that mocked the Chinese way of speaking. While the ads were removed within 24 hours, the blowback was intense, and the brand was damaged significantly.

Elsewhere, **Walmart** has faced difficulties in its German operations. The company required its sales associates to smile at customers — a practice that had always worked well in the North American context. What they didn’t realize is that this practice makes German shoppers feel extremely uncomfortable,

because in their culture, smiling at a stranger is viewed as flirting. Walmart also had to drop its famous ‘Give me a W’ chant during morning meetings at its German operations. As one union representative put it: “People found the practice very strange. Germans just don’t behave that way.”

There are also endless examples of companies making blunders by not thinking through translations of their marketing slogans and product names across cultures. The marketing of Italian mineral water **Traficante** became an instant hit in the Spanish underground, as the name translates into ‘drug dealer.’ In China, the famous **KFC** Finger Lickin’ Good campaign became ‘Eat Your Fingers Off.’ And the **American Dairy Association’s** Got Milk? campaign translated into Spanish as, ‘Are You Lactating?’ Perhaps most egregiously, **Ford Motor Company’s** Every Car Has a High-Quality Body campaign translated into ‘Every Car Has a High-Quality Corpse.’

A lack of understanding and sensitivity to cross-cultural differences have cost companies dearly, both in direct financial costs and in terms of reputational capital. And this is set to grow as cross-cultural business collaborations continue to increase. Already, nearly 90 per cent of corporate employees in OECD countries have completed work as part of an international team.

As a result of all this, firms face ever-increasing competitive



Individuals with high IQ or EQ don't necessarily have high CQ.

pressure to hire individuals with cross-cultural competencies. Achieving such competency is not easy. Understanding culture has been compared to an iceberg: the majority of what constitutes a culture is located 'below the waterline,' undetectable to the human eye. Yes, culture includes objectively observed features like food, language, dance, art, music, games and sports. But it extends far beyond observable features to include perceptions, beliefs, roles, social expectations, behaviour and values.

The fact is, most of today's executives fall well short of truly understanding the cultures they are seeking to operate in, and as a result, they underperform. The antidote? Cultural intelligence. 'CQ' is a multidimensional concept with a different and complementary form of intelligence to both IQ (intellectual intelligence) and EQ (emotional intelligence). It can be defined as 'a specific form of intelligence focused on an individual's ability to grasp and reason correctly in situations characterized by cultural diversity.' Put simply, it is the ability to function effectively in culturally diverse settings.

Christopher Earley (University of Technology/Sydney) and **Soon Ang** (Nanyang Business School) pioneered the concept of cultural intelligence and have studied its three essential facets: *cognition* (the ability to develop patterns from cultural cues); *motivation* (the desire and ability to engage with others) and *behaviour* (the capability to act in accordance with cognition and motivation). Within this framework, organizational CQ is comprised of four components:

COGNITION involves the knowledge a company and its executives have about how cultures are similar or different. It is the degree to which you understand how culture influences how people think and behave. While companies may have superficial knowledge about a culture, it becomes imperative for them to understand values, norms and social interactions to successfully navigate their entry into a market for global expansion. A failure to account for these differences will undermine the success of any global expansion.

Within this component, meta-cognition involves an awareness of biases and assumptions and an ability to plan for multi-

cultural interactions. The importance of planning prior to executing a global strategy cannot be emphasized enough. Entering a new market requires preparation and awareness of different perspectives; checking assumptions and making adjustments along the way during intercultural connections.

MOTIVATION. Authenticity is incredibly important in interactions generally, but even more so in a multicultural setting. As such, motivation — encompassing one's level of interest, persistence and confidence during multicultural interactions—is necessary to ensure that global managers learn and adapt to new situations. Having confidence and a genuine interest in culturally diverse experiences will create value over the long term, both for the seasoned executive and the organization.

BEHAVIOUR. Putting the above components together results in appropriate behaviour — an inherent ability to adapt when working in a multicultural context. This ability includes flexibility in one's communication style, both verbal and nonverbal and the ability to adapt to different cultural norms to be successful in foreign markets. Interestingly, individuals with high IQ or EQ don't necessarily have high CQ. Both IQ and EQ are subject to local values, norms and behaviours and vary across cultures. CQ mitigates the likelihood of making errors to begin with, as well as enabling the identification of issues before any damage is done.

Building Organizational CQ

The challenges of dealing with cultural diversity in the global economy go well beyond developing the capabilities of those directly engaged in international business. Research shows that although some executives and managers within a particular organization may have an acceptable level of CQ, that does not mean their organization shares this fluency.

As one executive put it, when Canadian executives go to New York or Los Angeles for business, they are beginning the 'game' at third base. Given the long business history between the two countries, there is automatic trust and familiarity. As such, the pathway to an agreement or new deal is relatively clear and quick.

In sharp contrast, when Canadian executives travel to Dubai, Shanghai or Delhi, that same level of familiarity and trust does not exist. The road to an agreement is therefore both less clear and has a much longer horizon. It is often the case that executives return from a foreign trip to face disappointment and criticism for not ‘bringing home a deal.’ In many cases, deals are not even concluded after the third or fourth trip. The main reason for this disconnect is that senior management has failed to understand the importance of cultural context across countries, leaving the firm unable to expand successfully into foreign markets.

Increasingly, corporations seeking to do business abroad have enhanced their cross-cultural collaboration capabilities by developing international teams or harnessing the power of multicultural teams in their domestic market. Research shows that such approaches can enhance global performance, the effectiveness of marketing campaigns, business negotiations, employee recruitment and retention and overall global leadership.

Done well, individuals with CQ have the ability to actively think about people, situations and issues while in different cultural settings. For example, a Western global executive with high CQ would be culturally aware and mindful about the appropriate time to speak during meetings with Asian colleagues. In this instance, CQ is the relevant capability and required for effective cross-cultural communication. Individuals with high CQ are consciously aware of the cultural differences and have the motivation and drive to adjust their mental models to the experience or situation and exhibit appropriate behaviour.

Multinationals such as **McDonald’s**, **Apple** and **Coca-Cola** understand the importance of CQ and have successfully transitioned into foreign markets. These companies have gone well beyond the naive ethnocentricity of assuming that they can simply replicate their business practices in foreign markets. As an example, the Big Mac is not made of beef in India, a market where cows are considered sacred animals. Like many other leading restaurant chains, they have adjusted their menus across the countries they operate in to accommodate local customs.

In Canada, one major focus for the federal government is to diversify the country’s trade partners. Given Canada’s history of

dependence on the U.S. market, its protectionist history and resulting productivity challenges, Canadian companies have largely been unable to venture abroad. At present, three-quarters of Canada’s exports go to the U.S. This concentration is the result of proximity, size, shared history, culture, language and a free trade agreement. While this relationship has delivered significant prosperity and security to Canadians, it also comes with risks. A few years ago, when **Donald Trump** threatened to terminate the free trade agreement, Canada’s vulnerability was laid bare.

To successfully undertake a global expansion, several steps are required. First, it is essential that companies do their research and obtain knowledge of the foreign market prior to entry. This goes well beyond just reading about the country. It involves having on-the-ground experiences, developing strong interpersonal connections within the market and in the process, learning about the culture and other unique features of the country. In other words, it involves being culturally intelligent both at the individual manager level and at the company level.

Second, companies need to have the drive and persistence to delve deeper and go beneath the ‘iceberg’ to understand the country’s culture of work and the corporate environment. Managers and employees must understand cultural differences in addition to cultural nuances such as the values, norms and religious beliefs of the market.

Third, the company and its employees must demonstrate appropriate behaviour when interacting in culturally diverse settings. Leaders with high CQ know the importance of local cultural norms in business meetings, methods of communication, punctuality and many other nuances that differ across countries and cultures.

While this article has focused on the importance of cultural intelligence for successful business expansion, there are of course other important aspects to success. Target, for example, learned the hard way when it ‘cut and pasted’ its U.S. strategy and subsequently failed in Canada. While there were many layers to the scenario, a failure to understand cross-border supply chain challenges was central in this case.

At one time, employees primarily collaborated with colleagues from their own country, but today, many are part of global networks connected with people scattered around the world. What are the implications?

Most managers have little understanding of how local culture impacts global interactions. Even those who are culturally informed, travel extensively and have lived abroad often have few strategies for dealing with the cross-cultural complexity that affects their team's day-to-day effectiveness.

Why does your Swedish colleague have so many problems leading his Chinese team? How do you foster a good relationship with your Brazilian suppliers while sitting at your desk in Europe? How do you navigate the tricky task of performance reviews when your American employees precede negative feedback with three nice comments, while the French, Dutch, Israelis and Germans skip the positives and get straight to the point? These are the sorts of questions and challenges being faced by leaders around the world today.

What it means to be a good communicator in one culture is different than what it means to be a good communicator in another, and how we build trust in one country is very different than in another. As a result, businesspeople must reflect on and adapt their style to increase their effectiveness when working around the world.

Most people aren't aware of how culture influences workplace behaviour. How do you help people to see this?

How we give feedback is an interesting example. Americans give more positive feedback than any other culture in the world—and often we wrap our positives around our negatives. That's very confusing to people from other countries. In France, for instance, positive feedback is given less frequently and strongly. Take an example from my time working with **Netflix**: A French woman received a performance review from her American boss. He thought he had clearly told her that her work was unacceptable, but because he started by telling her what she was doing well, she thought it was the best feedback she'd ever received. To ensure you have correctly understood what is being said, you need to develop awareness of cultural differences.

In the West, students often get a grade for participation, so the best students know they have to raise their hand as much as possible. But in Singapore, Japan or Brazil, where the focus is on avoiding risk, people make sure they have thought carefully and checked with others in the group before they speak up. Once you're aware of that, you can deal with it. The leader of such a team can say, 'I'm going to be asking you for your input on this specific topic next week, so please prepare.'

There are also differences around how much silence we feel comfortable with. If I'm silent for three seconds, an American will think something's wrong and respond themselves. But in Japan, people can manage 12 seconds comfortably. So that, too, means some cultures speak more. If a multicultural team isn't aware of how to facilitate discussion, then the diverse voices will not be heard, and others will take up all of the space.

Does our globalized world mean business culture is converging on a single point?

The world is moving, but not converging. Take the dimension that looks at egalitarian vs. hierarchical cultures in my scales. This looks at how much we defer to authority. We can see that the whole world is shifting to be less hierarchical — from Nigeria, one of the most hierarchical cultures, to Denmark, the most egalitarian. But that doesn't mean that Denmark and Nigeria are coming together; it just means they're moving in the same direction. We also see that the whole world is moving to more low-context communication. The more we work with people from other countries, the less implicit messages work and the more we have to simplify.

How did Netflix go about managing its multicultural challenge?

In my work with them, the main thing Netflix learned was to approach culture in the same way they approach programming. Netflix has great movies and content coming out of many countries, each with local flavour. That's exactly the way culture should be approached. As you internationalize and move into new markets, you don't have to change your value systems or the underpinning reasons for why you are who you are—but you do need to let each country focus on behaviours that work in that particular environment.



Erin Meyer is a Professor of Management Practice in the Organizational Behaviour department at INSEAD. She is the author of two bestselling books: *The Culture Map: Breaking Through the Invisible Boundaries of Global Business* and *No Rules Rules: Netflix and the Culture of Reinvention*.

A longer version of this interview appeared in **Roland Berger's Think: Act** magazine.

In closing

In today's global economy, most companies, HR professionals and managers recognize the importance of global business initiatives. Companies have significant global contact and must coordinate across borders and exemplify a global mindset in order to succeed. While technical skills are often the focus in employees, it is 'soft skills' like the ability to communicate with culturally diverse others where organizations and employees often fail. CQ is perhaps the most important missed ingredient for multicultural and global team effectiveness. Some might even call it the skill of the century. **RM**



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Academic Director of Rotman Executive Programs, a Fellow of the Michael Lee-Chin Family Institute for Corporate Citizenship and member of the Board of Directors of the David & Sharon Johnston Centre for Corporate Governance Innovation at Rotman. He is the co-author of *Everybody's Business: How to Ensure Canadian Prosperity Through the 21st Century* (Sutherland House Books, 2023). **Freeda Khan** is Associate Director of Global and Experiential Learning at the Rotman School and teaches cultural intelligence in the Global Manager Initiative course. She is a PhD Candidate at the University of Toronto's Ontario Institute for Studies in Education and is certified in Cultural Intelligence (CQ) and Intercultural Development Inventory (IDI) Assessments.

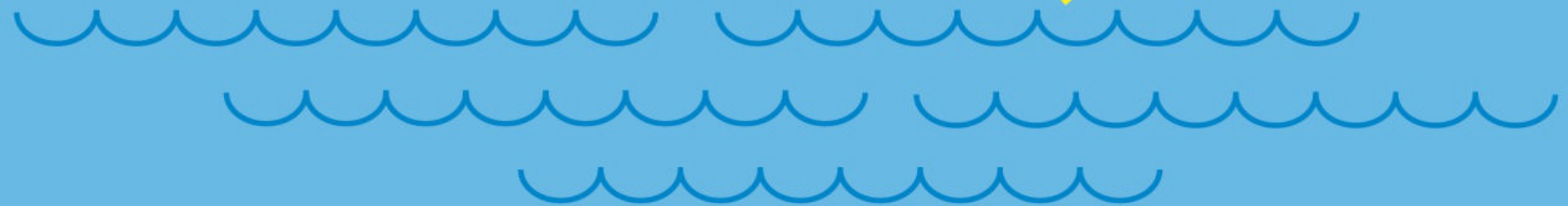
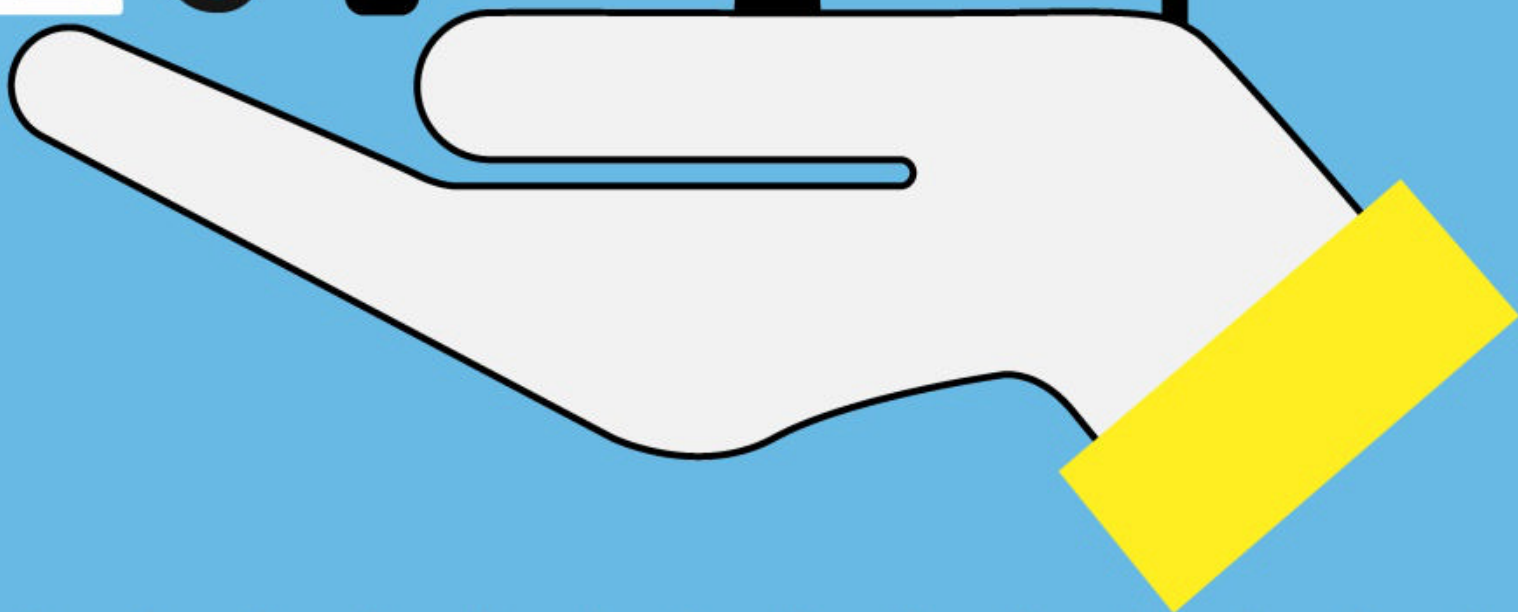
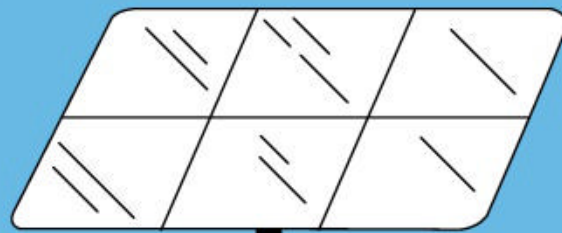
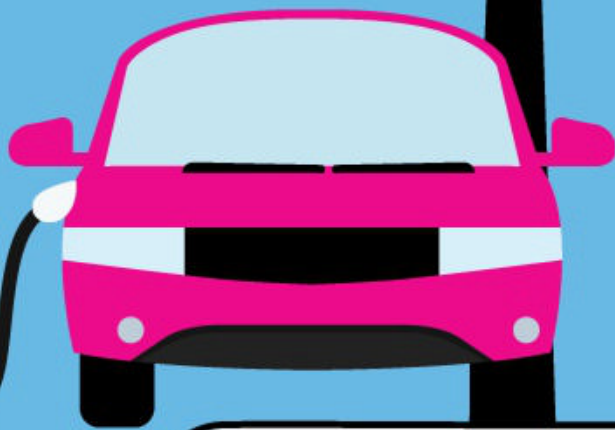
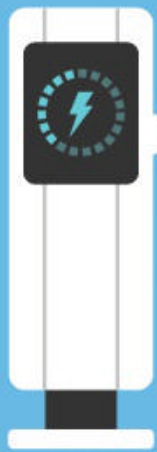
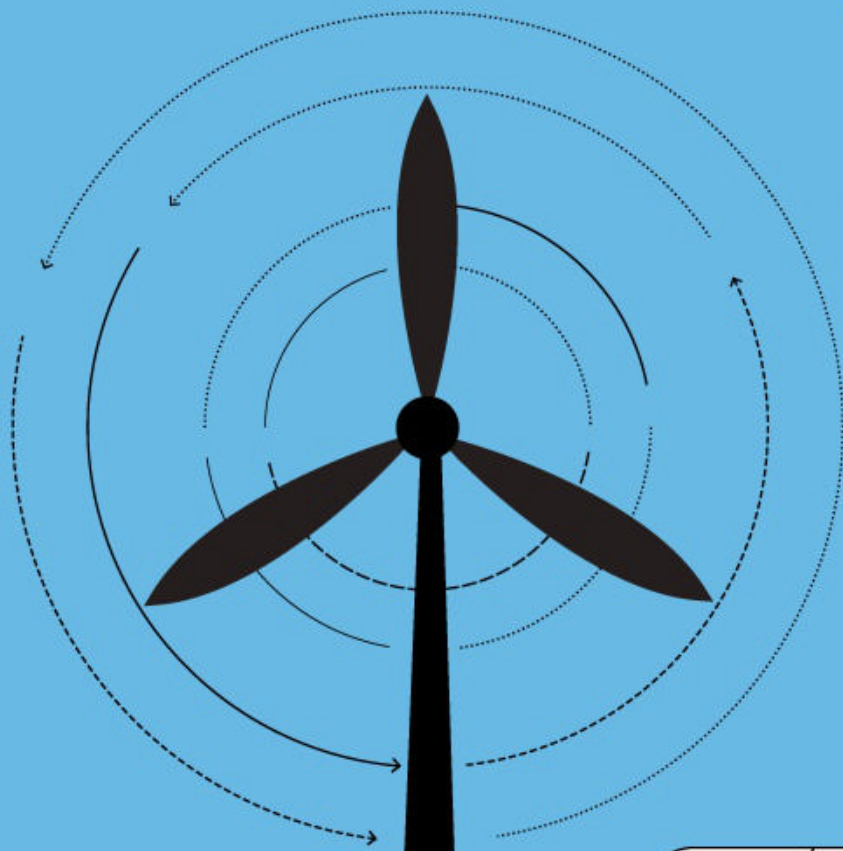
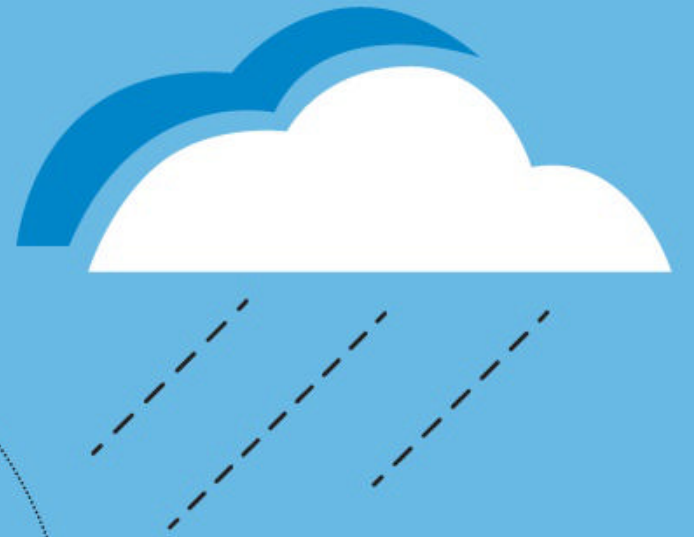
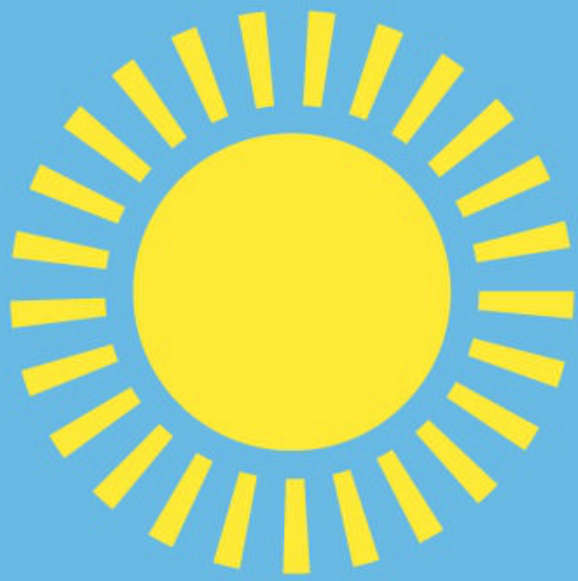
The playbook on change has just been **reinvented.**



New from bestselling authors and cohosts of the TED podcast *Fixable*, Frances Frei and Anne Morriss

Based on their work with fast-moving companies, Frei and Morriss reveal the five essential steps to moving fast and fixing things. You'll learn to:

- Identify the real problem holding you back
- Build and rebuild trust in your company
- Create a culture where everyone can thrive
- Communicate powerfully as a leader
- Go fast by empowering your team



Sustainable Growth: FROM VISION TO REALITY

Environmental policy and sustainability pioneer Steven Cohen shares insights from his latest book about what sustainability looks like in practice.

Interview by Karen Christensen

Karen Christensen: You believe we can shift the current economic paradigm to one that permits growth while protecting the planet. Please explain how.

Steven Cohen: Those of us in the developed world have a far greater environmental impact than people in the developing world, but there is great political pressure in the developing world to increase material wealth, and that pressure will lead to increased environmental impact. Our political stability and security depend on the maintenance of material wealth where it exists and economic growth where people are poor. But to achieve those goals, we must learn how to construct a high-throughput economy that does not destroy our planet's ecosystems.

The good news is, we have the capacity to develop methods of production and consumption that are less damaging to the planet. The goal is to close the system of production and consumption and create a circular economy in which all materials are reused rather than discarded. This transition has already begun. We just need to speed up our progress.

What are two or three of your top-level principles for achieving that?

The way this will work is that new technologies will replace old ones, and the new ones will allow us to live the way we live now

— if not better — without destroying the planet. To get there, we have to shift to a political environment that focuses more on consensus than on taking sides and making enemies out of people. A stronger, more resilient economy with lower-priced energy and cleaner air and water is difficult to argue against.

One of the key causes of environmental degradation is consumer demand for products that pollute. What is the best way to tackle that piece of the puzzle?

The key is to create consumer goods that are as attractive or more attractive, but that pollute less. Of course, all human activity is going to pollute to some degree. The question is, how much damage will we do and how can we make sure it isn't irreversible? One example is to replace the internal combustion engine with the electric vehicle, and to ensure electric vehicles are powered with renewable energy. The key is to create products that are far less destructive.

The other element is to recognize that we are in a different kind of economy than we once were. There is a worldwide trend towards manufacturing becoming less important and services becoming more important. In the U.S. — and Canada is very similar — about 80 per cent of our GDP is in the service economy. There is lots of worry about automation putting people out

of work, which it does. Some of the transitions have been pretty wrenching. But then, something amazing happens: new professions and jobs sprout up in their place. Today, we see a whole range of professions that didn't exist 30 years ago, and that will continue to happen.

Consumers aren't the only problem. Businesses are equally, if not more, to blame for the current situation. Is there an example of a country or an organization that you feel has gotten this right?

Interestingly enough, one of the most environmentally sound organizations I know of is **Walmart**. It is the fastest adopter of solar power of any other retailer or corporation. Part of it is that they have these really big, flat buildings, and they've put thousands of solar panels on them. They use a lot of energy, and they have plenty of capital. They've been doing this for a

long time, but they also demand that their suppliers pay attention to environmental impact, waste and energy use. They're definitely worried about climate change, but they have also discovered that sustainability principles can reduce costs and that this model can be much more profitable.

If you think about pollution as waste, the manufacturing facility or anybody that pollutes is taking a resource and dispersing it into the wetlands. If you put more thought into it, you can capture some of that waste and put it back into production. This is an emerging field called Industrial Ecology, and it's the field of engineering that is growing the fastest. We are already beginning to see results from it.

You also believe the public sector needs to get involved by building infrastructure to support all of this. What is at the top of your list for them to tackle first?

Sustainability Tools: The Regenerative Compass by Sesh Vedachalam

We are well into what climate experts are calling 'the decisive decade' for sustainability and Net Zero commitments. And yet, significant action and momentum are missing in most organizations. Even in companies that have made bold commitments for 2030 and beyond, sustainability hasn't filtered into daily decision-making processes.

Bringing these priorities into our daily work can feel like an extra job — not a simple ask of a workforce that is still recovering from the massive tumult of a global pandemic. The first step is for organizations to adopt a new way of thinking: the regenerative mindset.

A regenerative mindset goes beyond sustainability to consider how we can do *more good* for people and planet, rather than limiting ourselves to doing *less harm*. This mindset acknowledges the scale and complexity of the challenge ahead and yet sees this as an opportunity — one of the greatest creative challenges of our times. Without this broader lens, sustainability is doomed to be seen as a cost or a regulatory obligation, and efforts will fall only to those individuals whose roles directly relate to creating (and therefore reducing) emissions.

We offer clients a tool called the Regenerative Compass, which is aimed at helping every person in an organization ask the big questions and engage in the larger movement for change. Quite like a regular compass, it looks at four directions to guide the innovation process and explore new opportunities.

LOOKING BACK: Interrogate Power

To reimagine anything, we must first be able to understand how our history has shaped the assumptions stitched into the social, financial and economic systems we currently live within. Making these invisible factors visible usually involves asking questions. Whose voice has been missing from the room? How much agency do the people

impacted by our work have in the decisions being made? How do we 'design with' rather than 'design for'?

Currently, organizations are learning to bring the voice of the customer into designing experiences and crafting business strategies. But we need to look at the entire ecosystem and consider how to bring in the voices of more stakeholders. For example, in a program defining the long-term vision and brand strategy for a top global fashion school, our team defined how the school could differentiate itself through its focus on sustainability, diversity and inclusion. Our approach was highly collaborative, involving multiple co-creation sessions with a wide variety of stakeholders that included alumni, faculty and industry partners. But, crucially, we also took particular care to bring in the voices of underrepresented students to help shape the future vision.

Looking back toward power is also about looking at what might have been lost. What are the Indigenous, traditional practices and ways of life that we can bring back into the field? Old practices that are uniquely suited to the needs of the moment can take us toward a regenerative future.

LOOKING UP: Reframe Scope

This direction is about raising our perspective and zooming out to see the problem at multiple levels. We must move away from the traditional business approach of utilizing customer journey maps and service blueprints that centre on products, services and experiences. Although this may serve some of the visible and immediate needs of the business, this approach is too narrow in scope to see the systemic factors impacting the user journey that might be at play.

As an alternative, we can conduct a systemic analysis and use the 'connection circles' approach to understand the state of the system — enabling us to spot where we can most effectively intervene.

It all begins with energy: solar, wind, geothermal, hydrogenation, microgrids, batteries, distributed electricity generation and high-voltage, long-distance distribution. The first thing on the list should be optimizing the electric grid. We waste enormous amounts of energy between the time we produce it and the time we use it.

The second area to tackle is waste management. I think we need to accept the fact that at-home garbage separation has been a failure. What we will see is a system where the entire waste stream goes to a factory and gets separated into its useful elements by robots and AI. Then, those reusable components become an alternative to mining the planet. We can get metals, paper and the raw materials for fertilizer. Those two technologies alone — new grids and the recycling of waste — need major investments in infrastructure, starting in the developed world.

And third, we need a water system built for a warming

planet. We need investment in desalination and the construction of new water filtration and distribution systems. In dry climates, we will need to recycle wastewater and utilize sewage as a fertilizer resource for growing food.

Despite all the extreme weather we're seeing and the havoc it is wreaking, you believe there is good news lurking beneath the surface. What is it?

What's happening is that people are becoming more aware of the problems caused by climate change. I've been working on these issues since 1975. When I started out, it was a fringe topic that very few people paid attention to. When the media started covering these issues back in the late 1990s, people were told that the impact of climate change would be felt largely in the future. Many couldn't figure out, 'Is this real or are the scientists making it up?'

We can also use system analysis to identify the impact of our actions and interventions, particularly considering the effect of growth and scale on the system.

We used this approach on a recent program for a U.S.-based government-funded housing agency that was looking into increasing the rates of Black home ownership. To identify insights, we combined a bottom-up approach of qualitative research of Black homeowners and renters, with a top-down systemic analysis of the various barriers and feedback loops that make it harder for these families to own homes.

LOOKING FORWARD: Expand Time

Most innovation and business-planning activities consider short time horizons — anywhere from one to five years. But the scale needed for effective climate action is usually incompatible with such short planning timeframes, and in doing this we tend to lose out on opportunities that can offer a more radical shift.

We often hear from clients that 'long-term planning isn't practical' because they want the work to be actionable and tangible. But we can thread the needle here by using tools that give teams an opportunity to immerse themselves in multiple 'possible futures.' Once we imagine these future worlds and the role we can play in them — without being restricted by practical constraints — we can start to work our way backward to the present day to define the tangible actions we can take toward bold future visions.

Another key consideration when planning and working with longer time horizons is to create flexible and adaptive strategies and plans. Most strategies and roadmaps are linear, which give them a very short shelf life in a VUCA [Volatility, Uncertainty, Complexity, Ambiguity] world. In many of our scenario-planning engagements, our teams use insights from a multi-factor analysis to create an adaptive

road map that lays out different paths to take when certain threshold conditions are met.

LOOKING DOWN: Reshape Capacity

This direction involves casting our gaze downward to the roots that sustain us. These are the foundational systems and structures that help create the environments and enable the conditions in which change can happen. This dimension is often overlooked, but I'm sure everyone has experienced or witnessed the 'organ rejection' phenomenon of a well-thought-out initiative being rolled out in an organization, only for it to fizzle.

In our work, we use an organization design lens, paying attention to how we can build capacity and capabilities in individuals and teams to prime them for change. We identify the key levers for change in creating a culture that is dynamic, inclusive and prepared for the complex challenges we face, co-creating actions and strategies with teams. This is key. Change has to be 'done with' rather than 'done to' for it to stick. For example, we recently worked with a major automotive manufacturer to design an internal sustainability institute consisting of a core group of people who will embed the company's sustainability agenda into its operations.

Each and every day that remains in this decisive decade will consist of a series of decisions that need to be made in order to meet our global 2030 goals. Now is the time to set your own path and lead your organization forward.



Sesh Vedachalam is Strategy Director at frog, part of Capgemini Invent, based in London. The Regenerative Compass Guide can be downloaded online.



We are in the midst of a transition that will continue to create new demand.

Now, 30 years later, we can see the impact of forest fires, flooding and extreme weather events with our own eyes. We are seeing five inches of rain fall in an hour and vast orange skies over Canada and the U.S. from forest fires. There can be no denying that these effects are unprecedented, so people are much more open to the idea that there is, in fact, a global environmental crisis.

Young people, in particular, whether they are conservative or progressive, recognize that our planet is under extreme stress and we need to address it. Corporations are producing environmental reports on an annual basis. People are thinking about these things, and in my view, these are very hopeful signs.

One thing people don't realize is that the air is cleaner today than it was at the start of the environmental era. Despite occasional problems due to climate events, if you were in downtown Los Angeles in 1970, you couldn't see the mountains. Now, typically you can. Water and air are cleaner and people are not as close to toxic waste as they were in the 1980s. The application of technology to our problems and to human life in general has made the world, in many respects, an easier place to live.

How can AI help with all of this?

There are aspects of human behaviour and aspects of pollution that can be predicted. For example, when an electric utility generates electricity and puts it out on the grid, they always send far more than needed because they want to make sure everyone can turn their lights on. But with AI, you can figure out how much energy people will use based on weather patterns, time of day, previous usage, etc. So you can reduce the amount of energy that is generated and waste less.

With waste-management systems, as indicated, AI can be built into the machines that separate garbage and pull resources out of the waste stream, and I think we're going to see that applied to other kinds of problems. Of course, there are lots of potential problems with AI, but in essence, it provides us with an ability to predict and to make decisions in production processes. And as such, it is a very powerful tool.

What is your parting message to entrepreneurs, business leaders and the investment community?

There are incredible opportunities to make money in the green economy. We are in the midst of a transition that will continue to create new demand. For example, I know a group of students who just started a company called **Voltpost**. They are taking those ubiquitous lampposts on every city street and turning them into charging stations for electric vehicles. Many of us who live in cities don't have garages, so if we want to charge an EV, where do we go? Here's a way to put charging stations right on the street.

That's just one example. There are going to be many more as we transition from an economy where we essentially chewed things up and spit them out, throwing everything away, to a circular economy where *everything we produce* gets recycled. This transition is going to create lots of business opportunities. We need to acknowledge that the human species is quite ingenious and we are very likely going to make our way out of this mess — just as we have always done. **RM**



Steven Cohen is the Senior Vice Dean of Columbia's School of Professional Studies and a Professor of Public Affairs at Columbia's School of International and Public Affairs. He is also Director of the Master of Public Administration Program in Environmental Science and Policy at Columbia's School of International and Public Affairs, Director of the Master of Science in Sustainability Management at the university's School of Professional Studies and Director of the Earth Institute's Research Program on Sustainability Policy and Management at Columbia. His latest book is *Environmentally Sustainable Growth: A Pragmatic Approach* (Columbia University Press, 2023).

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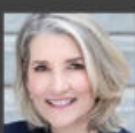
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An expert on workplace inclusion shares insights from her life and her new book.

Interview by Emily Adeyanju

Why did you decide to write a book about inclusive organizations?

I wrote the book because many people still don't understand what it means to create and foster an inclusive organization. I learned through research that, on average, companies spend US\$8 billion per year on inclusion training, but that roughly 95 per cent of employees still don't know how to drive inclusive efforts for organizational growth.

Five per cent of employees say, 'I am doing the hard work to drive inclusive efforts in my organization, but I'm not being recognized for my efforts.' That five per cent comprises DEI leaders, HR professionals and employee resource group enthusiasts. But the vast majority of employees say, 'I still don't know how to drive inclusive efforts.'

If employers are spending so much on DEI, and only five per cent of employees are actively engaged in it, how do we move the needle for everyone? What is it going to take to really empower people to see the results of their impact? People are seeking practical, actionable steps they can take to create inclusive environments.

I have been working in the DEI space for 15-plus years. I began this work based on experiences that I had in my early childhood — very traumatic ones. Those experiences — as well as observing how people are excluded in daily life — led to my desire to drive impact, unite and educate people.

People are seeking practical, actionable steps they can take to create inclusive environments.

What are some common misconceptions about DEI?

One big misconception is that DEI leaders don't need a team or a budget to be successful. Once an organization decides to hire a DEI leader, it should set a budget that is comparable to other department budgets, as well as establish the headcount that this leader will manage. This is the level of preparation that sets them up for success.

A second misconception is that anyone in the organization who is passionate about DEI should be tapped to lead these efforts. Passion alone is not enough to be an effective DEI leader. This work requires a specific skill set that is developed through field-specific training and experiences. Traits such as creative problem-solving, assertiveness, optimism, empathy and the ability to take strategic risks are crucial within a DEI role. Companies must thoroughly vet candidates to ensure that they have the necessary qualifications and strategies to drive sustainable impact — just as they would for any other leadership position.

A third misconception is that the DEI leader should report to Human Resources. Of course, it's important for DEI and HR to have a collaborative working relationship, but to have direct visibility and support, DEI leaders should report to either the COO or the CEO. What we know from research is that employees inherently don't trust HR departments because they perceive them as being heavily focused on protecting the employer. And despite the fact that there are some incredible HR professionals out there driving impact, this tends to be true. That's why it's key to have DEI as a standalone department.

You believe we are in the midst of a Great Divergence. Please explain.

As a DEI executive, I have seen a recurring theme across companies both large and small: there is a divided experience that is informing a divided understanding. I call it the Great Divergence, and I define it as the divide that separates individuals into two groups. The first group feels like the discrimination of today is a much-improved version of the discrimination of the past — that we are living in much safer and fairer times and therefore there isn't really a need for a strong shift in how we understand and address inequities. And the other group? Well, they disagree.

Although the world does indeed look different than it did a half century ago, if you take a step closer and examine societal structures with a keener eye, you will see the complex discriminative structure of accessible opportunity, power and protection that is interwoven into the fabric of daily life — including our workplaces. This structure leads to very different experiences for people who come from populations that I call 'systemically overlooked.' These include individuals who identify as Black+, Latinx+, Indigenous+, Asian+, as well as intersectional layers that include women, LGBTQIA+, caregivers and those who are differently abled. Each of these groups is faced with navigating their own historical and social context. And sadly, this discriminative structure can manifest itself in many ways in the workplace, including exclusion from opportunities, having to navigate code-switching and massive discrepancies in pay parity.

A ‘culture add’ is someone who may bring qualities or experiences that are not already present on a team.

Describe the distinction between a ‘culture add’ and a ‘culture fit.’

I remember the first time I interviewed for a role. At the end of the interview, the hiring manager said to me, “I’m so sorry, you’re just not a cultural fit.” I remember returning home and being very sad. I thought, “I’m not a cultural fit?” Without specificity, there was so much room for me to perceive what she said in so many different ways, even if she didn’t mean it that way. Because it wasn’t truly defined, I thought, “Well, is it because of my culture? I’m Liberian. Is it because I’m African? What is the culture? What am I missing out on?” I started to actually question myself.

A ‘culture add’ is someone who may bring qualities or experiences that are not already present on the team. When employers specifically seek culture fits, you may hear statements like, ‘I wish I could clone this person,’ or ‘I need them to have the same experience and behaviour as so-and-so.’ That can lead to homogeneous teams that perpetuate exclusive practices. Overall, it prevents the team from diversifying and pushing forward in a productive way.

What does it mean to move from allyship to ‘actionship’?

An ally is someone who is still learning and self-educating, but saying, ‘I believe in you. I stand with you.’ They make that verbal commitment. An actionist says, ‘I want to see what the results of my impact will be.’ That person is specifically setting the stage to take action that will create positive impact.

For example, in a previous position, I shared with my manager that I was looking to move up. She said, “Here’s what I’m going to do. I’m not only going to make sure that you have the training needed to move up, but I’m going to support you in every way. And I’m going to see that in the next three months, you are in that position.” That’s exactly what she did. She made a commitment, rather than just saying, “Yeah, I’m here for you.”

What challenges are inherent in the current DEI landscape?

I hope one day soon we can forget people’s backgrounds and experiences and just think of one another as human beings. I want to get to a point where people say to themselves, ‘I’ve been working here for a while, and I see disparities. There are barriers here. Why isn’t this person in this role? How come they haven’t gained support? What privileges do I hold?’ I think about that as a Black woman all the time. I grew up in the suburbs. I have two parents, and I went to school in a great educational system. Those are all privileges that I hold, and it makes me think, “Well, how do I give that back?”

At its core, inclusion is about identifying the privilege and power you hold and making a concerted effort to share it with those around you. If we can get better at that and equip employees with the tools to do the same, we will see a lot more change. We’re not going to see a perfect world, but we could get to the level of care and openness needed to understand and tackle the barriers that exist, because more people would recognize the importance of it. That is my hope. **RM**

Netta Jenkins is CEO of Aerodei and the author of *The Inclusive Organization: Real Solutions, Impactful Change and Meaningful Diversity* (Wiley, 2023). This article has been adapted from an *Author Talks* interview conducted by Emily Adeyanju. The full discussion is available online at: www.mckinsey.com/featured-insights/mckinsey-on-books/author-talks-is-there-a-seat-at-the-table.

Automating Creativity: Using AI as a Creative Engine



AN ASTONISHING CHANGE is occurring in the landscape of human creativity: there is now evidence that AI can help make us more innovative — if we use it properly.

The core irony of generative AIs like ChatGPT and Bing is that they were supposed to be all logic and no imagination. Instead, we get AIs that make up information, engage in (seemingly) emotional discussions and are intensely creative. And that last fact is one that makes many people deeply uncomfortable.

To be clear, there is no one definition of creativity, but researchers have developed a number of tests that are widely used to measure the ability of humans to come up with diverse and meaningful ideas. The fact that many of these tests were flawed wasn't that big a deal until, suddenly, AIs were able to surpass all of them. But now, ChatGPT-4 beats 91 per cent of humans on a variation of the Alternative Uses Test for creativity, and exceeds 99 per cent of people on the Torrance Tests of Creative Thinking. We are running out of creativity tests that AIs cannot ace.

While these psychological tests are interesting, applying human tests to AI can be challenging. There is always the chance that the AI has previously been exposed to the results

of similar tests and is just repeating answers (although the researchers in these studies have taken steps to minimize that risk). And, of course, psychological testing is not necessarily proof that AI can actually come up with useful ideas in the real world.

Yet, we have learned from three recent academic papers — all of which are available at **SSRN.com** — that AI really can be creative in settings with real-world implications. Each paper directly compares AI-powered creativity and human creative effort in controlled experiments. The first major paper is from my colleagues at Wharton: “Ideas Are Dimes a Dozen: Large Language Models for Idea Generation in Innovation.” In it, they describe how they staged an idea generation contest; pitting ChatGPT-4 against students in a popular innovation class that has historically led to many start-ups.

The researchers — **Karan Girotra** (Cornell University) and colleagues used human judges to assess idea quality, and found that ChatGPT-4 generated more, cheaper and better ideas than the students. Even more impressive from a business perspective was that the purchase intent from outside judges was higher for the AI-generated ideas. Of the 40 best ideas rated by the judges, 35 came from ChatGPT.

The most creative people can beat the AI (at least for now), and may benefit less from using AI to generate ideas.

In the second paper, “The Crowdless Future? How Generative AI Is Shaping the Future of Human Crowdsourcing,” researchers conducted a wide-ranging crowdsourcing contest, asking people to come up with business ideas based on reusing, recycling or sharing products as part of the circular economy. **Léonard Boussioux** (University of Washington) and his colleagues then had judges rate those ideas and compared them to the ones generated by GPT-4. The overall quality level of the AI and human-generated ideas were similar, but the AI was judged to be better on feasibility and impact, while the humans generated more novel ideas.

The final paper, “Generative AI Enhances Creativity,” did something a bit different, focusing on creative writing ideas rather than business ideas. The study by **Anil R. Doshi** (University College London) and **Oliver P. Hauser** (University of Exeter Business School) compared humans working alone to write short stories to humans who used AI to suggest three to five possible topics.

Again, the AI proved helpful: Humans with AI help created stories that were judged as significantly more novel and more interesting than those written by humans alone. There were, however, two interesting caveats. First, the

most creative people were helped the *least* by the AI, and AI ideas were generally judged to be more similar to each other than ideas generated by people. Though again, this was using AI purely for generating a small set of ideas, not for writing tasks.

Collectively, what does all of this mean? Having digested these studies, there are a few clear conclusions:

- AI can generate creative ideas in real-life, practical situations. It can also help people generate better ideas.
- The ideas AI generates are better than what most people can come up with, but the most creative people can beat the AI (at least for now), and may benefit less from using AI to generate ideas.
- There is more underlying similarity in the ideas that the current generation of AIs produce than among ideas generated by a large number of humans.

All of this suggests that humans still have a large role to play in innovation — but that they would be foolish not to include AI in that process, especially if they don’t consider themselves highly creative.

So, how should we use AI to help generate ideas? Fortunately, the papers, and other research on innovation, have some good suggestions.

Automating Creativity: Sample Output from Anthropic’s Claude 2

PROMPT 1: “Generate 15 original start-up ideas that could be a good fit for Y Combinator” (Zero-shot approach)

Results:

- 1.** An app that provides real-time translation for conversations: Use AI and speech recognition to offer live translation during in-person conversations.
- 2.** VR physical therapy: Offer immersive and gamified physical therapy through virtual reality.
- 3.** Automated grocery shopping: Enable fully automated grocery shopping by having users input preferences and recipes.
- 4.** AI reading companion: An app that summarizes books and generates thoughtful discussion questions.
- 5.** Smart garden sensors: Internet-connected sensors that monitor soil, light, moisture for houseplants.
- 6.** AR interior design: Allow users to visualize virtual furniture and decor in their actual rooms via augmented reality.
- 7.** Wearable health insights: A smartwatch app that provides personalized health advice and goals based on wearer’s vitals and habits.

8. Custom printable electronics: Allow consumers to easily customize and print basic electronic devices, like sensors and controllers.

9. Automated meal planning: App that generates personalized weekly meal plans based on family size, diet, schedule, etc.

10. Backyard mushroom farming: Simplified kits for easily growing gourmet mushrooms at home.

11. AI exercise coach: App that acts as a personalized trainer, adjusting workouts and coaching based on goals and feedback.

12. AR furniture assembly: Use AR to guide users through assembling furniture step-by-step.

13. Smart home security drones: Drones that can autonomously survey a property when alarm is triggered or suspicious motion detected.

14. Custom vitamins: Offer personalized vitamin packs based on individual health needs and blood analysis.

15. Remote team bonding: An app with virtual team activities and events to help remote teams connect on a social level.

Don't just ask the AI to generate ideas; use constraints, as well.

Prompting for Ideas

People get very hung up on the idea that you have to be great at prompting AIs with specific wording to get them to accomplish anything. But this just doesn't seem to be the case in idea generation.

In the paper comparing AI to crowdsourcing, the authors tested three kinds of prompts: basic ones that stated the problem, more advanced ones that gave the AI a persona to be more like a human solver ('You are a technical and creative professional, located in Europe') and a very advanced one that asked the AI to take the perspective of particular famous experts. While there were some differences between these groups, no one approach clearly dominated. So don't worry too much about the exact wording of the prompt. You can experiment to see what might work best.

Truthfully, simple prompts seem to work fine. The paper on innovation contests, for example, provided a simple system prompt as context:

You are a creative entrepreneur looking to generate new product ideas. The product will target college students in the United States. It should be a physical good, not a service or software. I'd like a product that could be sold at a

retail price of less than about US\$50. The ideas are just ideas. The product need not yet exist, nor may it necessarily be clearly feasible. Number all ideas and give them a name. The name and idea are separated by a colon.

It also provided a second user prompt:

Please generate 10 ideas as 10 separate paragraphs. The idea should be expressed as a paragraph of 40 to 80 words.

They repeated this process several times, because generating a lot of ideas is useful. They also compared the value of this ChatGPT-4 prompt to one using 'few-shot learning.' Few-shot learning is easy to do: you simply provide the AI with examples of the kind of results you would like to see (rather than 'zero shot' learning, where you provide no examples) before you ask it to generate ideas. In the study, while the AI generated more and better ideas with few-shot approaches, the difference was not statistically significant. At the same time, I generally would still suggest using few-shot techniques because they seem to help subjectively, other research has found them valuable, and they are easy to implement.

PROMPT 2: "Here is a list of 400 recent Y Combinator start-ups with a short description of what they do. Come up with trends, and based on those, generate 15 original ideas combining these concepts." (Few-shot approach)

1. AI assistant for therapists to automate documentation and billing.
2. Supply chain optimization for perishable goods using demand forecasting AI.
3. Computer vision and multilingual NLP for automated vehicle damage assessment.
4. AI-powered wealth management for Millennials combining robo-advising and social investing.
5. Voice assistant for multilingual households with automatic language translation.
6. AI tool for customized real estate investment recommendations and portfolio optimization.
7. Intelligent virtual care platform tailored for senior citizens leveraging multimodal AI.
8. Automated sous chef assisting home cooks with meal

planning, instructions and shopping lists via voice.

9. AI fashion design assistant generating trendy clothing designs combining visual and language models.
10. Smart electric vehicle charging optimized dynamically using forecasting algorithms and user preferences.
11. AI tool for developers to get coding help in natural language for faster problem solving.
12. Machine-learning pipeline monitoring platform for automated model testing, documentation and reproducibility.
13. No-code platform for building personalized health chatbots for patient engagement and treatment adherence.
14. Virtual interior design assistant generating customized 3D room rendering from user prompts.
15. AI-generated motivational audio coaching personalized to user's fitness level and goals.

As an example of the difference, I asked natural-language AI model Claude 2 to “generate 15 original start-up ideas that would be a good fit for **Y Combinator**” (the famous accelerator). This was a zero-shot approach. Then I tried a few-shot method where I gave the AI a list of 400 recent Y Combinator start-ups, with one-sentence descriptions of each, and prompted: *Here are 400 of the latest start-up ideas from Y Combinator. Come up with trends, then generate 15 original ideas combining these concepts.* You can see the difference, and why I prefer the few-shot approach.

Outside of these suggestions, I have a couple of my own. First, don’t just ask the AI to generate ideas; use constraints as well. In general, and contrary to what most people expect, AI works best to generate ideas when it is most constrained (as do humans!). Force it to give you less likely answers, and you are going to find more original combinations, which may solve the originality problem. You might want to ask: *You are an expert at problem-solving and idea generation. When asked to solve a problem you come up with novel and creative ideas. Here is your first task: Tell me 10 detailed ways an AI (or a superhero, an astronaut or any other odd profession) might do _____. Describe the details of each way.*

You can also use other techniques that take advantage of the ways that AI can ‘hallucinate’ plausible, but interesting, material, and use that as a seed of creativity. Consider asking it for interview transcripts for fake interviews: Create an interview transcript between a product designer and a dentist about the problems the dentist has, for example. Or ask it to describe non-existent products: *Walk me through the interface for a fictional new water pump that has exciting new features.* There is an art to this that you can learn from experimentation, and you should feel free to share other prompt techniques that work in the comments.

We still don’t know how original AIs can actually be, and I still hear people arguing that large-language models can’t generate any new ideas. To me, it is increasingly clear that this is not true, at least in a practical, rather than philosophical, sense.

In the real world, most new ideas do not come from the ether; they are based on combinations of existing concepts, which is why innovation scholars have long pointed to the importance of recombination in generating ideas. And LLMs are very good at this, acting as connection machines between unexpected concepts. They are trained by generating relationships between tokens that may seem unrelated to humans but represent some deeper connections. Add in the randomness that comes with AI output, and the result is, effectively, a powerful creative ability.

In closing

In the most practical sense, we are now much less limited by ideas than ever before. Even people who don’t consider themselves creative now have access to a machine that will generate innovative concepts that beat those of most humans (though not the most creative ones). Where previously, there were only a few people who had the ability to come up with good ideas, now there are many. This is an astonishing change in the landscape of human creativity, and one that likely makes execution, not raw creativity, a more distinguishing factor for future innovations. **RM**

Ethan Mollick is an Associate Professor at the Wharton School of the University of Pennsylvania, where he studies and teaches innovation and entrepreneurship and examines the effects of artificial intelligence on work and education. He also leads Wharton Interactive, an effort to democratize education using games, simulations and AI.



The woman leading Deloitte Canada's Reconciliation Action Plan shares insights and tools from her work.

Interview by Karen Christensen

Since 2020, Deloitte Canada has been working to rebuild relationships between Indigenous and non-Indigenous peoples. Why is this issue so important to your company?

We believe that every organization in this country has a responsibility to advance reconciliation. In June 2020, we released a Reconciliation Action Plan in response to the Truth and Reconciliation Commission's Call to Action Number 92. It called on the corporate sector to do more, specifically around hiring of Indigenous Peoples, education of our shared history and meaningful consultation. We believe this is not only the right thing to do in terms of corporate citizenship, but that there is also a huge business case for it.

Describe the origins of Deloitte Indigenous.

We formed an Indigenous Leadership Committee at the firm in 2018-2019, where non-Indigenous and Indigenous leaders came together to advise on our reconciliation strategy. This resulted in our inaugural Indigenous Impact Report being released to highlight our impact with Indigenous communities. From there, we reflected upon the opportunity that Deloitte had to do more towards reconciliation. We did research globally, and we learned a lot from **Deloitte Australia** because at the time, Reconciliation Action Plans were not a common term in corporate Canada.

Ultimately, we created our Reconciliation Action Plan under four pillars: Education, Employment, Inclusion and Economic Empowerment. The Education pillar has two parts to it. In addition to investing in the education of Indigenous youth outside of our firm, it entails educating our 14,000+ employees across Canada around our shared history and the current realities of Indigenous Peoples and communities.

Our Employment pillar is about ensuring that our firm mirrors contemporary Canada—which means our workforce must consist of at least five per cent First Nations, Métis

Indigenous youth are the fastest-growing population in Canada.

and Inuit employees. The Inclusion pillar is about providing the space for Indigenous and non-Indigenous peoples to contribute to our reconciliation journey, whether that be through employee resource groups, events or meaningful actions around corporate responsibility.

The final pillar, Economic Empowerment, is about recognizing the diversity of companies in our supply chain and providing meaningful opportunities for Indigenous businesses to partake in it. We have made a bold goal to ensure that at least five per cent of our overall procurement spend is spent on Indigenous businesses.

The Education pillar is foundational. Some readers might not be aware that one-third of Indigenous Peoples have not completed high school. Can you describe your efforts to make change on this front?

There is a huge gap in education amongst Indigenous Peoples across the country, and helping to close it is front and center in our plan. We have formed a multi-year commitment of \$175,000 per year with **Indspire**, a national Indigenous registered charity that invests in education for First Nation, Inuit and Métis students. This is not only for the long-term benefit of those individuals or families, but also, for Canada at large. We work with students in high school, providing workshops and programming, and we provide scholarships and bursaries to students attending post-secondary institutions. Since 2017, we have enabled more than 100 First Nations, Métis and Inuit students to pursue post-secondary education.

In addition, we are providing scholarships through Deloitte's Bloom Scholarship Program. We recognize that post-secondary education for Indigenous students often entails additional expenses. Some of them may have to travel to and from remote communities, for instance. This program provides funding for any school-related costs, as well as opportunities to pursue co-op positions at Deloitte Canada across the country.

Talk a bit more about your Indigenous Talent Strategy.

We're working closely with individual candidates to find meaningful opportunities that reflect their interests and passions. If they'd like to work with our Indigenous Client Services teams, they can absolutely do that and will get to see the impact of their communities thriving. There are also opportunities to work across the country on pro-bono projects as part of our corporate responsibility efforts. That

might involve, for instance, developing strategies for Indigenous organizations or working with youth through mentorship programs.

We are also looking at our working environment. As Indigenous Peoples continue to join our firm, we need to ensure that the job environment is suitable for them. For instance, the ability to work remotely is important. We have 27 offices across Canada, but many of our people aren't in the office every single day. It depends on the role, but there are opportunities to work from anywhere within Canada. We also provide opportunities for 'flex time,' working with the individual to create their ideal schedule.

Our HR policies and procedures are being updated to ensure that there is Indigenous representation within them. For example, we've just rolled out cultural days for Indigenous employees, above and beyond vacation days, personal days and Deloitte days. These are designated days when Indigenous professionals can get paid time off to attend cultural events in their communities or across Canada as they see fit. And recently, we've made adjustments to our personal spending account program, which is a benefit that folks can use around health and wellness. We've updated the requirements so that Indigenous candidates can use this bucket of funding to pay for things like sacred ceremony items, working with elders, traditional medicines and the like.

You touched on the business case earlier. For resource companies, ignoring Indigenous consultation is a question of survival. But you believe that all companies can benefit from better relationships with Indigenous communities. How so?

There are so many reasons, but I'll start with a hard fact: Indigenous youth are the fastest-growing population in Canada. So this is a key opportunity for employers to ensure their workforces are inclusive of Indigenous candidates. Research has found that if the gap in opportunity for Indigenous communities was closed, it would result in a boost of more than \$30 billion to Canada's GDP. This is all outlined in the National Indigenous Economic Strategy that was released in 2022. It has 107 calls to economic prosperity, highlighting that reducing poverty among Indigenous Peoples would save the federal and provincial governments more than \$8 billion per year. This is really about the prosperity of our country. All companies need to have reconciliation top of mind internally, but also, ensure that they are taking steps to eliminate socio-economic barriers.

For Indigenous youth to aspire to white-collar careers in, say, accounting or consumer products, they need to know that these jobs exist. How are you getting such messages to young people?

The corporate sector has historically been seen as colonial institutions that many Indigenous Peoples are not interested in working for. That's one reason why we see such low representation throughout. I encourage leaders across industries to develop a talent strategy and Reconciliation Action Plan to ensure Indigenous Peoples are represented in their organization, at all levels. At Deloitte, for example, we have two Indigenous women on our Board of Directors who are helping to set the tone from the top.

In terms of recruiting, for us it's about changing our strategy by not going to all the same universities and colleges that we have historically gone to every year and using different recruitment tactics—like developing relationships with Indigenous student centres, creating co-op positions and internships.

Word of mouth remains a very powerful tool in Indigenous communities. So, even reaching the community through social media can work. For corporate Canada, it's about being able to walk the talk, because Indigenous candidates are going to be asking, 'What is your organization doing around reconciliation? How are you enabling our youth to thrive? How are you giving back to our community?' These are questions that we continue to hear from candidates in interviews.

Deloitte has some powerful tools in its tool kit, including an Indigenous Supplier Portal and a Diversity Dashboard. Please describe how they work.

As I indicated earlier, we have committed to spending at least five per cent of our procurement spend on Indigenous businesses. The reality is, there are more than 65,000 Indigenous businesses in Canada, but there was a disconnect because many of our people were not aware of that. So, we built a platform that any Deloitte professional can access whenever they need to use a third-party vendor, whether it's for an internal request or a client project. Already, we've onboarded over 60 certified Indigenous businesses to the platform, and we offer training to help foster relationships. These vendors have all been certified by the **Canadian Council for Aboriginal Business**.

The Diversity Dashboard is another tool we've created to create transparency around the hiring and retention of

diverse candidates. The dashboard allows you to sort by region or job level, and highlights all the equity-deserving groups: Indigenous, Black, 2SLGBTQ+, women and people with disabilities. This is a tool that leaders can access at any point to track new hires and find retention and promotion information. It's been important for us to be able to hold leaders accountable and to have the data to back up our progress—as well as our pitfalls.

Since you launched your Reconciliation Action Plan, other organizations have stepped up to the plate. Are you seeing enough attention to Indigenous reconciliation from the corporate community?

When we released our Reconciliation Action Plan, we were the first company in corporate Canada to do so. But that isn't because we were experts in this space. From the beginning, we have wanted to empower others to join the journey and take accountability. Since we released ours, more than 60 organizations have released Reconciliation Action Plans, many modelled upon our framework.

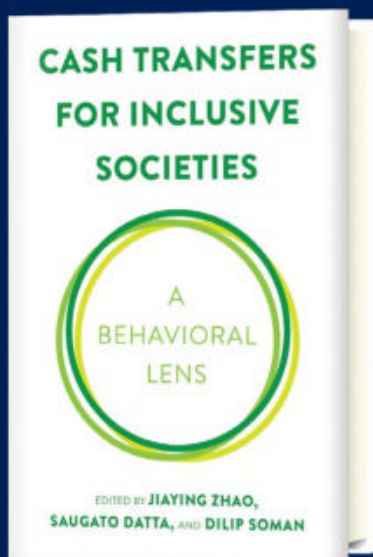
From a corporate standpoint, a good indicator of companies that are doing well in this area is referencing the Canadian Council for Aboriginal Business's Progressive Aboriginal Relations Program. This is the only organization in Canada that is truly holding organizations accountable to their reconciliation journey by rating their progress as committed or certified under bronze-, silver- and gold-level status. Those that have reached gold and silver status have been operating in this space for quite some time, but they continue to have Indigenous-led solutions within their organizations to address some of the barriers within corporate Canada.

You have described your mission as "Indigenizing the way people think, speak and act at Deloitte Canada." For readers who want to bring this mindset to their organizations, what is the first step?

There is not one model that will fit all situations, but three things come to mind. First, ensure that you have Indigenous representation within your organization. Start by identifying the Indigenous individuals who already work there, take steps to hire more and ensure that you have Board representation.

Second, every reconciliation journey must be Indigenous-led. Corporate leaders need to put ample time aside to listen to Indigenous Peoples in the communities that

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they operate in, to hear what they think is important. It's not about what the organization thinks is important. What would Indigenous Peoples and communities value and like to see from the corporate perspective?

Third, as I've indicated, education is a critical part of this. We rolled out mandatory learning for all Deloitte professionals to complete. The program was called 4 Seasons of Reconciliation, and it was created in collaboration with the First Nations University of Canada. This really helped to accelerate our 'reconciliACTION,' as some folks call it. Many of our employees, whether they grew up in Canada or were new immigrants, were unaware of our shared history. Many were hearing about residential schools for the first time.

We will continue to put education first, providing ongoing opportunities to bring in Indigenous leaders, Chiefs, youth and Elders to share learnings and embed culture and ceremony in all that we are doing at the firm. Embracing these three principles is a great starting point for any organization beginning its own journey. **RM**

Alexandra Biron is a Senior Manager of Deloitte Indigenous, where she is leading the execution of Deloitte Canada's Reconciliation Action Plan. She holds a BBA from Wilfrid Laurier University and a Graduate Diploma in Social Responsibility and Sustainability from the University of Toronto, where she was awarded the President's Award for her capstone project: Deloitte's Indigenous Impact Report (available online). Alexandra is proud of her Anishinaabe/Ojibway identity and is committed to furthering both reconciliation and innovation in support of making an impact in Canada for Indigenous and non-Indigenous Peoples.



Guess what: Leadership isn't about you. It's about nurturing a culture of trust, inclusivity and collaborative problem-solving.

Interview by Karen Christensen

Mark Zuckerberg has a famous motto: Move fast and break things. Tell us how your preferred mantra, 'Move fast and fix things,' differs from his.

We all want to accelerate progress within our organizations and in society at large. But Zuckerberg's quote implies that a certain amount of wreckage is the necessary price we have to pay for inventing the future. We can either make progress or take care of people — one or the other. That quote gave speed a bad name. The other option is to go slow, which no one wants to do. So both options are unappealing and sub-optimal.

The irony is, *moving fast and breaking things* actually slows you down, because you have to address all the wreckage along the way. But my co-author **Anne Morriss** and I have found that you actually can move fast if you fix things along the way. It might feel good in the moment to think, 'We're just going to steamroll right over everyone.' But if you zoom your lens out, you realize that you can't get the best from people if they're busy cleaning up a mess.

The most effective leaders solve problems at an accelerated pace while also taking responsibility for the success and well-being of their customers, employees and shareholders. They move fast and fix things. Our framework is basically a playbook for solving hard problems with the level of urgency they demand.

Fixing things is synonymous with solving problems. What's the best way to create an environment for doing that?

First of all, you're going to need lots of diversity on the team. The last thing you want is a group of people who all have the same perspective. We think of it as 'diagonal representation' across a lot of categories and layers of the hierarchy. You also want to have people around you who are really good at *finding* problems, because some people have an allergic reaction to them. They think, 'If I point out a problem, it will somehow make me look disloyal to the organization.' You want people who are excited about making their organization better.

Tackling problems definitely takes a bit of fearlessness, as well as optimism, because it means believing that everything is fixable. The fact is, no one wants to work in an environment where nobody ever talks about problems — and as a result, nothing improves.

The first step in your framework is to identify a problem to address. What if people come up with five or six things that need fixing? How do they decide what to tackle first?

I advise teams to address the problem that is causing the most pain. Some might think you should tackle the one that is easiest to solve, but I don't subscribe to that. I want to know which one can add the most zeros if we fix it. So, go to the problem with the greatest consequences or your organization, and whatever that 'presenting problem' is, do your due diligence to discover the underlying issues beneath it and to ensure it's the real problem.

Can you give an example of what a 'presenting problem' might look like?

I was recently working with an organization that said to me, "We really need your help: We have a gender problem." I was like, oh, tell me about it, and they explained they had no women in senior management. I agreed that this sounded like a gender problem. Then they said they also had another problem: the business wasn't performing. Their question was, "Should we solve our gender problem or our business problem?"

Once I analyzed the situation, it turned out that their presenting problem was not actually a gender problem. Yes, it manifested itself in variance across gender, but it turned out that the real problem was the company's communication style. Its leaders had a preferred way of communicating that was very aggressive and confrontational. If someone said 'Hello,' they would ask, 'What do you mean by that?!' They had managed to assemble a team that was world class in one area: being confrontational.

The fact is, in that industry and more generally, women with other options will not gallop toward confrontational directness. So, what initially looked like a bias against women was actually a bias against anyone who didn't want to be confrontational. Once we solved the communication prob-

lem, it made the environment better for everyone, including women. If we had continued to focus on solving the original presenting problem, it wouldn't have worked, because we would have been solving the wrong problem. It took an outsider to help them go from presenting problem to symptom to underlying diagnosis the first time. But they will be able to do this themselves going forward, having seen how it's done.

Trust is a key element of your framework. Can you touch on some of its key drivers these days?

Speed unleashes your organization's energy and reveals where you're going; but trust convinces your stakeholders to come along for the ride. The best leaders invest as much time and energy into building trust as they do into building speed. Whenever you have a problem that involves human beings, it is very likely that trust has broken down. And here's what we know: breakdowns in personal trust can be traced down to three culprits. If you don't trust me, it's because you doubt my authenticity, you doubt my logic or you doubt my empathy.

Just like personal trust, organizational trust relies on the presence of authenticity, empathy and logic. Organizations that fail to build as much trust as they could tend to get shaky or 'wobble' on one of these three dimensions. We've worked with thousands of organizations and have yet to find a situation that couldn't be described by a breakdown in either authenticity, logic or empathy. So first of all, figure out which of the three is the culprit of your trust issue.

You believe a culture of inclusion has four levels to it. What are they?

The four levels of inclusion are feeling safe (physically, emotionally and psychologically), feeling welcome, feeling celebrated and feeling championed. Despite any difference that any of us brings to the table, it is the job of *all of us* to make sure that each of us feels safe and welcome, is celebrated for our uniqueness and that we champion people even when they are not in our presence.

If we're not deliberate about inclusion, we are likely to succumb to one of the most common human biases: we naturally like people who are similar to us. Without even realizing it, we are more likely to champion people who are like

The long-term goal for every organization should be to operationalize what it means to feel safe at work.

us. But we have to address all four steps for everyone — not just for the those who are similar to us.

How does an organization know where it sits on ‘the inclusion dial’?

If you want to know where your organization or department sits on the dial, gather everyone and do an anonymous poll, asking them to describe their personal feelings of inclusion at the organization. Give each participant four choices: I feel safe, I feel welcome, I feel celebrated and I feel championed. No one will have any incentive to give a wrong answer, because it’s anonymous. This is an easy way to understand where you sit on the dial. Once you know the distribution, the goal is to move people up the dial.

Here’s the catch: you can’t move one group up the dial at the expense of moving another group down. This is an example where society cannot be our role model. In society, at least in the U.S. today, Republicans want to make Republicans feel included at the expense of Democrats feeling excluded, and vice versa. Few would argue that this is a sub-optimal state of affairs. Organizations have to be better than society. Leaders must do things in a way that makes it better for everyone.

Are there any tried-and-true ways to succeed while feeling different within an organization?

The first step is to make sure you feel safe, and as indicated earlier, there are three levels to that: physical safety, emotional safety and psychological safety. If even one person on your team doesn’t feel physically safe, no level of psychological safety is going to matter.

One engineering organization I spent some time with had very few female engineers on staff, and once I studied it for a while, I saw why: women were coming forward with stories of unbelievable things happening to them on a daily basis. I remember one example where a female manager said to a colleague, “I’m going to stay late today; can you stick around for a while and help me with this?” The male engineer answered, “Sure, if you sleep with me.” Then, after a pause, he added, “Just kidding.” Anytime someone says, ‘just kidding’ — at work or in life — it’s a telltale sign of a problematic environment.

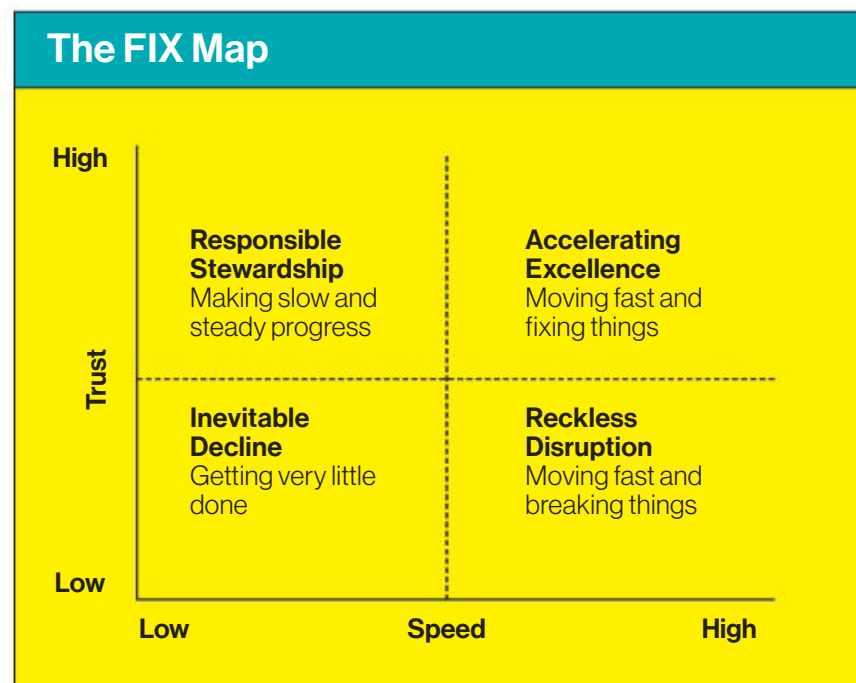


FIGURE ONE

The long-term goal for every organization should be to operationalize what it means to feel safe at work, for everyone. Only once that happens can you free up the resources that make tough problems solvable — things like energy, creativity, even joy. These things can feel difficult to access right now, as we all try to live and lead through historic levels of uncertainty. But without them, we and the people we work with have little chance of thriving. **RM**

Frances Frei is a Professor of Technology and Operations Management at Harvard Business School. Her latest book is *Move Fast and Fix Things: The Trusted Leader’s Guide to Solving Hard Problems* (HBR Press, 2023), co-authored with Anne Morriss, with whom she hosts the TED podcast *Fixable*. Frances has worked as an executive for Uber and currently serves on the board of directors at Robinhood (HOOD).



An expert on succeeding in the digital economy shares insights from his latest book.

by Jason Hreno

You believe that a whole new approach to running companies has emerged in recent years. Please describe it.

Think about a start-up, but at scale. An archetypal tech start-up is an egalitarian band of people on a mission. It's not terribly hierarchical — people do whatever needs to be done, but they're all pointed in the same direction. They keep iterating and trying things out to ensure they have the right product-market fit.

This has always been the typical 'Silicon Valley way,' and until recently, the rest of the business world has been saying, 'That's fine for tech start-ups, but it wouldn't work in our industry, or at scale.' They think this approach is too chaotic and that you have to plan every move really carefully. But what I refer to as 'the Geek Way' says to the business world, 'Actually, our basic vibe and culture is widely applicable and it does scale.' Now, it doesn't scale perfectly. You might have to tolerate a bit more chaos and weirdness along the way, but that's a small price to pay for the benefits of this approach.

How do you define the Geek Way?

The Geek Way is based around four great big 'geek norms' — which are expected standards of behaviour. The first one is Science — making decisions based on evidence, not an org chart, a PowerPoint presentation or charisma, but evidence that you can argue about. This entails an inherently group-level argumentative process.

The second geek norm is Ownership — or distributed responsibility for accomplishing goals with an explicit focus on not having a ton of bureaucracy. This makes a lot of organizations uncomfortable and sounds like a recipe for chaos. But what the Geeks have figured out is how to minimize chaos, even at scale, by having a very tightly constrained bureaucracy consisting of decentralized autonomous activities that are aligned with the overall goals.

I can't think of an industry that won't be affected by the Geek mindset.

The third geek norm is Speed: plan as little as possible and iterate as quickly as possible. And the reason that works so bizarrely well is that iterating and getting ongoing feedback from the customer turns out to be the best way to accelerate learning.

The final geek norm is Openness—which is the opposite of defensiveness. That means being able to say things like, 'Oh, I hadn't thought of it that way, but you're totally right; thanks.' A fairly close synonym for Openness is psychological safety, which is a concept introduced by Harvard's **Amy Edmondson** that is super important.

Describe how the industrial-era 'Model One mindset' differs from this approach — and the key risks of continuing to embrace the outdated mindset.

Let me contrast the Geek Way with companies that grew up during the industrial era — the large successful incumbents of the 20th century. Today, here they are in the 21st century confronting the Geeks. Instead of Science, what you find is decision-making by hierarchy, job title, experience, credentials, ego — lots of different things except this inherently argumentative, egalitarian, evidence-based scientific approach. Instead of Speed, the giants have a deep fondness for process, analysis, planning and risk mitigation. That means getting everything right before you ever start dealing with a customer. It's a completely different approach. A good synonym for it is bureaucracy.

And finally, instead of Ownership, the central idea of Model One is defensiveness. This means clinging to the status quo and holding on to your turf, your headcount, your ideas and defending them tenaciously. The Geeks are legitimately more open, and as a result their organizations can pivot. They embrace the power of saying, 'Wow, I hadn't thought of that.' It's the opposite of a defensive mindset.

Are there any inherent downsides to The Geek Way?

Absolutely. A couple are fairly obvious. One is chaos. The Geek's preference for autonomy and decentralization can easily turn chaotic. Another issue can be the commitment to Science. Geeks love to argue, but they don't always do

so in a respectful, compassionate way that builds psychological safety. And with speed, there is always a risk that you will take too many risks. This highly iterative approach and the reduction in the amount of upfront planning sounds great, but if you're launching a rocket, you do need to think carefully.

Talk a bit about the ultimate Geek ground rule — ultra-sociality — and how it fits into all of this.

The ultimate Geek ground rule stems from asking a question: Why are we human beings the only species on the planet that launches spaceships? The octopuses aren't doing it. The chimpanzees, our closest relatives, aren't doing it and neither are the ants, bees or wasps. That's a deep question, and the answer lies in the relatively new science of Cultural Evolution.

We are the only species that comes together in very large groups of unrelated individuals to co-operate intensely and learn very rapidly. Every living thing on the planet experiences biological evolution, but we are the only species (as far as we know) that experiences very rapid *cultural* evolution. And why is that? It's because of our ultra-sociality as a species.

For the purposes of business, if you want a group to experience rapid cultural innovation, you have to take advantage of and use the right levers to shape its ultra-sociality so that the innovation, productivity and growth happen as fast as possible. Under any circumstances, we humans will come together and be ultra-social. We will create and evolve our culture.

Which industries stand to be most affected by the Geek Way?

I can't think of an industry that won't be affected by it. Industries are groups of companies — unrelated individuals who come together to accomplish a goal. To be more agile, innovative and productive, you need to have higher efficiency and execute better. These are all aspects of cultural evolution — so why wouldn't you want the best tools to shape your organization, no matter what industry you are in?

Organizations with low psychological safety are miserable places to work.

Describe the approach to innovation in the Geek Way. Are all old-school innovators destined to be, to use a quote used from the book, “caddies at a golf course they’ll never play”?

I love that quote, which comes from **Barry Diller**. The entertainment legend was describing the plight of Hollywood’s incumbents. Hollywood has been the epicentre of the filmed entertainment industry for a century. It’s very good at what it does, and it’s been doing it for a long time. Waves of technological disruption have come along, but for a long time Hollywood stayed on top. After a century you would think, ‘Wow, this industry is extremely stable.’

Then along comes **Netflix**, founded by a guy whose first company was software debugging tools. Hard to imagine a bigger outsider to Hollywood. Not sure if your readers are old enough to remember, but Netflix started as an e-commerce site that would ship you DVDs in an envelope. That was the business. And no more than about 25 years into that company’s history, it pivoted to streaming as opposed to mailing DVDs. Then it pivoted to making its own entertainment. When it announced plans to become a production studio, there was this wonderful quote from the head of **Time Warner**, who said, “It’s a bit like, is the Albanian army going to take over the world? I don’t think so.”

So **Reed Hastings**, the CEO of Netflix, got some Albanian army dog tags, started wearing them around and got to work. The streaming revolution started, and these new entries have upended Hollywood so thoroughly that Diller says all the old studio heads are now “caddies on a golf course they will never play.” Ouch. They did not see this kind of disruption coming. And this is not the last industry where the incumbents are going to stand back and ask, ‘What the heck happened here? We designed this golf course, we owned it. It was ours. And now, the only way we can get on it is as a caddy?’ We’re definitely going to see more of that.

Looking ahead, what key opportunities does the Geek Way present?

There are two that stand out. The first is the opportunity to accelerate the cultural evolution of your organization. In order to innovate and execute with greater agility and efficiency, there is a much better tool kit available today, and it doesn’t bear much similarity to the one many managers grew up with. So the first big opportunity is to *get better faster*.

The second opportunity is to create better places for human beings to work. North Americans spend more hours at work than we do asleep — more time than with our partners and just a bit less time than with our children. Organizations with low psychological safety are miserable places to work. Not surprisingly, people don’t love leaders who shoot down their ideas or are unwilling to admit when they’re wrong.

We humans are ultrasocial creatures, so our working lives are extremely important to us. They can provide us with purpose, community, status, dignity, belonging, learning — lots of really important things. One fundamental reason the Geek Way is so valuable is that it is better aligned with how people want to spend their days — and in the long term, their working lives. **RM**

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A researcher and author describes ‘the art of empowered refusal.’

Interview by Carolyn Drebin

In both our professional and personal lives, we often say Yes to people, even when we know our honest answer is No. Why is that?

No is such a simple two-letter word, but it’s really hard to say. Through my research, I’ve identified three main reasons for this and they all relate to other people. The first is our concern for relationships. We want to have, and keep, our friends and we worry that saying No will disappoint the people we care about. The second reason is our concern for reputation — how people view us and what they say about us when we are not in the room. We say Yes when we want to say No, when we are anxious that saying No will result in other people not seeing us in a positive light. And the third reason is simple inability. We have not been socialized or taught how to say No effectively. Learning how to do this is an important skill for all of us, regardless of age or occupation, because over time, it enables us to reach our potential by focusing on the things that are most important to us. There is very little upside to saying Yes when you really want to say No.

Please explain the term ‘empowered refusal.’

Put simply, empowered refusal is a way of saying No that stems from our identity and gives voice to our values, priorities, preferences and beliefs. When we use empowered refusal, we come across as being in control — in the driver’s seat of our own life — and we get less pushback from others. By learning the tools of empowered refusal, the people in your life will start to understand that when you say No, you are speaking from a place of authenticity. By giving voice to your identity, empowered refusal communicates that your No is about *you* — it’s not a rejection of the other person’s offer.

The key to empowered refusal is that it stems from within us. We use our identity — who we are — to convey conviction and determination.

I encourage people to audit their calendars and ask themselves if each to-do item on the list reflects their priorities in life.

Talk a bit about some of the traps people get involved in when they don't say an effective No.

We need to be self-aware in order to convey an empowered No. In my research, I often come across people who label themselves as 'people-pleasers.' This is shorthand for saying that we want to say No, but we'll say Yes because we can't help it or we feel guilty. By avoiding the use of labels that disempower us, we can learn to avoid the traps where we say Yes when we want to or should say No. I believe that the way we speak to and about ourselves truly matters. We need to begin to think about ourselves as people who say Yes to things that matter, and No to things that don't.

Another common trap is the Acquaintance Trap. When we are close with someone and have a strong relationship, it is easier for us to say No because we understand that the relationship is secure and will not be damaged by our refusal. Similarly, it is easy to say No to a complete stranger, since it is unlikely that we will ever see them again, and we don't really care what they think. In between these two sets are people we would call acquaintances. This group makes up the majority of people we interact with and the ones we are most likely to struggle with saying No to. I call it the acquaintance trap because these are people with whom we have relatively weak relationships, yet we still want them to see us in a positive light.

Another trap I'll mention is the House of Cards Trap. We fall into this trap when we become overly concerned with our reputation. Maybe we believe that our competence is tied to taking on more tasks, and we convince ourselves that we will somehow find the time to get everything done. To avoid this trap, you need to think critically to determine three things: what you *must* do, what you *want* to do, and what you realistically *can* do. To avoid the House of Cards Trap, I encourage people to audit their calendars and ask themselves if each to-do on the list reflects what they prioritize in life. Too often, we postpone things that are meaningful and important to us in favour of things that seem urgent in the moment, but that ultimately, are not important.

What is the 'A.R.T.' of empowered refusal?

There are three competencies that we must learn in order to master the art of empowered refusal. The acronym A.R.T. stands for Awareness, Rules rather than decisions and Totality of self.

First, you have to master self-awareness, because empowered refusal is you-centred. Reflect on yourself and have an awareness of your values, priorities and preferences. Your ability to distinguish between activities that are 'good' or 'bad' for you will help you determine what to say Yes or No to.

The second competency is the ability to use that deepened self-awareness to formulate simple rules that guide your choices, actions and decisions. I refer to these as 'personal policies.' When we rely on personal policies we communicate our refusal with more conviction.

The third competency is totality — the ability to keep in mind that effective empowered rejection requires both verbal and nonverbal cues. A refusal is an act of communication, so when you use empowered language — 'I don't,' 'I always' or 'I never' — you should accompany those words with empowered body language as well as non-verbal cues like a smile, a forward inclination or a friendly gesture to emphasize that your refusal is about *you* and is not a rejection of the asker.

How do personal policies differ from excuses?

Personal policies are the internal-to-us principles that shape our actions and decisions and determine how we live our lives. Excuses are the things we look to outside of ourselves to explain why we can't do something. When you use an excuse, you communicate that there is an extenuating circumstance that prevents you from doing something — and that if it didn't exist, you would happily oblige. In contrast, your personal policy says to the world, 'Sorry, but this is the kind of person I am. This is what I believe in and care about.' It is a long-lasting element of your identity, whereas an excuse is, by its nature, temporary.

To help people define their personal policies you have developed the DREAM framework. Please describe it.

The DREAM framework begins by identifying an area in your life that you want to change. With this in mind, you then reflect on how you would like things to be. Ask yourself, ‘What values and beliefs do I have with regards to this domain, and what do I want to change?’ Answering questions about our priorities and preferences helps us to understand where we stand on specific issues so that we can establish policies.

In my research I’ve found that observing how and where you operate best, reflecting on that and then setting policies around it is an effective way to do this. Self-awareness is key here. People often confuse personal policies with goals or boundaries. True personal policies are your specific operating system. Everyone is different, and it’s ok to be honest about it.

Do gender stereotypes come into play when it comes to empowered refusal?

Anecdotal and research-based evidence show that women, in general, have a harder time saying No — and that mostly comes down to their desire to keep the peace, avoid conflict and maintain harmony. Society tends to expect women to be more altruistic and accommodating than men. In fact, research finds that women are significantly more likely to say Yes to workplace requests. They are also 44 per cent more likely to be asked to take on tasks that have nothing to do with their actual jobs compared to men and are more likely to say Yes to performing these tasks: 76 per cent of women will say Yes compared to 51 per cent of men.

What are the best strategies to deal with pushback to a No?

Just because you master the art of empowered refusal doesn’t mean that you will not encounter a pushy asker who will not take no for an answer. They might use active pushback so that when you say No, the person doing the asking uses aggressive or external pressures to convince

A Framework for Establishing Your Personal Policy

- D** Diagnose: identify pain points in your life
- R** eflex: look within with understanding
- E** stablish: formulate your policy
- A** ct: get started and implement it
- M** onitor: update and change it as required

How to Harness Your Full Potential

- Say No to things that don’t matter
- Use empowered refusal
- Develop your system of personal policies
- Accept the empowered refusal of others
- Achieve a new harmony

you to change your mind. They will show negative emotions or come up with reasons why you should change your mind. Passive pushback is a more indirect way of getting you to change your mind via things like guilt-tripping or the silent treatment. Learning to stand your ground takes energy, skill and practice. Once you recognize the type of pushback you’re dealing with, you can respond without caving to pressure.

The best weapon against pushback is having a meaningful purpose, understanding your own strengths and weaknesses, and having the confidence to handle what is thrown at you. Practice reinforcing your position, re-stating your personal policies and creating distance between yourself and the asker. Using technology as a buffer, buying time or even delegating your No to someone else can also help. **RM**

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The Creative Power of Constraints



IF YOU THINK about how creativity is changing in the 21st century, it's impossible not to think about social media and platforms like **TikTok, YouTube** and **Instagram**. After many years with the **CBC** in 2020 I joined the leadership team at TikTok. Even before I joined the company, it was known for changing the way that storytelling and content have evolved in recent years. And I think I know why it has been such an unbridled success with users.

But first, if you'll indulge me, I'd like to start by taking us back in time to 1957. That's the year when one of the greatest children's books of all time was created — *The Cat in the Hat* by **Theodor Seuss Geisel**, otherwise known as Dr. Seuss. One reason why this publication was so interesting was that it only used 226 words in the entire book. Despite its limited vocabulary, the book was incredibly successful — and it remains so today. Like myself, I'm sure many readers share it as children and went on to read it with their own children.

Shortly after the book was published, **Bennett Cerf**, the then-publisher and founder of **Random House**, had an idea. He made a bet with Geisel that he could not follow-up *The Cat in the Hat* with an equally successful book using an even smaller vocabulary: 50 words. Unfazed, Geisel accepted the challenge. For a full year, he sequestered himself at his studio and selected the 50 words that he would use over and over to tell an engaging story. The result, as some of you might have guessed, was *Green Eggs and Ham*, which surpassed *The Cat in the Hat* in terms of its success and went on to become Dr. Seuss's most popular book. Today, it has been adapted into every format imaginable, from TV to film to video games, and it serves as an enduring legacy of the power of constraints in creativity.

In the business world, constraints are usually thought of as a negative aspect of a project. But as Dr. Seuss proved, they can also be harnessed to unlock creative energy. I myself have witnessed the power of constraints at TikTok — and how its early decision to self-impose a significant

A constraint should be regarded as a stimulus for positive change.

constraint on the platform became the catalyst for solving some of the traditional hurdles for content creators.

In its early days, TikTok butted heads with three particular constraints that have traditionally been seen as deal breakers for successful content platforms, both traditional or contemporary. Before TikTok emerged in 2016, if you wanted to create a successful television program, streaming service or entertainment platform of any kind, these were three things your project required. First, you needed star power. You had to involve celebrities or sports figures with name recognition who were capable of drawing a crowd.

Second, you needed official gatekeepers for your project — people who could curate its content. In the realm of content creation, these are the people who have historically made all the decisions about who gets to create content and which projects get produced.

And third, if you managed to jump through the first two hoops, you needed access to distributors of premium content to help you find an audience. Today, most of us subscribe to streaming services like **Netflix**, **Hulu** and **Crave**. Each has set out to offer end-users the best of the best from a range of content genres. It's become a bit like an arms race to see who can offer the most premium content possible.

When TikTok launched, it had none of these things. So, how was it able to succeed?

In his book *A Beautiful Constraint*, **Adam Morgan** writes: "A constraint should be regarded as a stimulus for positive change. We can choose to use it as an impetus to explore something new and arrive at a breakthrough." I love that quote, and I would argue that TikTok's singular decision to self-impose a constraint in terms of video length is the core reason for its success.

Traditionally, the content we were used to came in 30, 60 or 90-minute formats. That has been the typical duration of everything from the news to television series and movies. But as you can imagine, producing content

at that length is extremely expensive. When TikTok first launched, users couldn't create or upload anything longer than 15 seconds in length. And in many cases, the videos were much shorter than that.

By limiting the length of its videos to 15 seconds, TikTok was able to democratize content creation and vastly expand the number of people who could participate in it. I would argue that everyone reading this article has a good 15 seconds of engaging content in them — but only a few would be able to create an hour or 90 minutes' worth.

The significance of TikTok's decision cannot be underestimated. At a time when there was plenty of bandwidth and cloud storage capability, limiting video length to 15 seconds might have seemed unwise. But this bold decision became the catalyst that enabled everyone out there to feel like they could participate in content creation.

The 15-second rule also helped the platform address the three traditional constraints that I mentioned earlier. The first was the requirement to have some level of star power or celebrity involved. In its early days, pretty much nobody was interested in participating on TikTok — no celebrities or sports stars whatsoever. And without those big names on the platform, it might have seemed that there was no hope for it to be successful. But precisely *because* of the 15-second format, TikTok was able to draw in a huge number of everyday people, who could experiment in a very low-friction way to tell stories, create memories, share joy, inform and educate.

To this day, being a highly authentic and relatable form of storytelling is the defining feature of the platform. I would argue that TikTok offers a level of authenticity that is virtually impossible to replicate on other platforms. It's not just about the length of the videos; it's about the enthusiasm of people who want to create content and the endless appetite of those who consume it. Just imagine if the initial decision was to rely on celebrities. Authenticity could never have emerged as a central feature of the platform.

In many cases, the most creative solutions can only emerge from a constraint-filled environment.

The second constraint for traditional content creators was the need for gatekeepers to be involved. In the traditional storytelling model, we had film studios, TV networks and streaming services hunting for content. These people basically decided who could and could not create content.

What's so interesting about TikTok is that because the barriers to creation were so low, copious amounts of content were created. And that enabled an algorithm to quickly learn which content would resonate with each user — which only expanded the platform's popularity. Say you needed to entertain yourself for an hour while waiting for a delayed flight to board. If you were to watch a film on **Netflix** for an hour, what would the back-end of its system learn about your content preferences? It would definitely take time before your preferences became evident. Not so with TikTok, where multiple videos are watched in each viewing session.

The third traditional constraint for content creators was the need to connect with a premium content provider. With TikTok, that isn't necessary. If you allow more and more people to participate in content creation, a lot of really interesting things happen. Over time, we have seen many 'sub-cultures' of content emerge on the platform. Readers may have heard of spinoffs like **WitchTok** (a thriving community of users who share a fascination with magic and witchcraft), **PlantTok** (for indoor plant fanatics), **CleanTok** (for those who find cleaning therapeutic) and endless others that focus on a particular niche. Micro communities are emerging that we never imagined would be of interest to people.

As you work to bring more creativity and innovation to your own workplace, it may be tempting to try to remove the constraints you face by throwing money and resources at the problem. My message for you is this: Stop to consider that in many cases, the most creative solutions to our problems can only emerge from a constraint-filled environment. Businesspeople should start to think about creativity as 'a response to an environment with limited resources.' I think **Orson Welles** said it best when he said, "The enemy of art is the absence of limitation."

So, whether you are faced with financial constraints in your business or time constraints in your personal life, as indicated herein, those constraints just might be the fuel require to unlock creativity, innovation and solutions. Put those constraints to work for you and you can discover opportunities you never imagined. If Dr. Seuss could do it, so can we. **RM**

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Management: Philosophy in Action



LOOKING BACK OVER MY CAREER, I sometimes I think of a roller-coaster as an analogy for the relative arbitrariness of a career: there are ups and downs, not necessarily related to personal effort or work. Today's success does not guarantee tomorrow's victory.

Luck, moreover, plays an important role. Because things rarely turn out as we plan or imagine them, a measure of humility and modesty is essential for keeping a level head over the years.

And yet humility is not a virtue that is typically thought to characterize powerful people, whether politicians, business leaders or intellectuals. The traditional definition of humility associates it with prudence, conformism and submission, which is why leaders often reject it and people tend to associate it with the also-rans of this world.

Aristotle placed humility between two extremes: insecurity and inferiority at one end of the spectrum and arrogance, vanity and pride at the other. Simply put, humility is the recognition of one's limitations, which leads to self-improvement. And in my experience, rather than limiting our scope, it helps us achieve our goals.

Following are some principles to embrace that will enable you to display humility in your personal and professional life:

LISTEN. Some of the great teachers I have had the good fortune to meet in my career possessed the gift of listening, a sign of genuine humility. One memorable encounter occurred during my first meeting with architect and **Pritzker Prize** winner **Sir Norman Foster**. At that time, we were creating IE School of Architecture and Design, and were seeking expert advice for the mission, programs and faculty of the future school. Lord Foster listened to me for almost 40 minutes, without interrupting me or asking questions, attentive and fixing me with his gaze.

Eventually, he intervened and then spoke for an equivalent amount of time. I remember his advice, and some of his phrases almost verbatim. One of the lessons I learned from that meeting, which I have tried to practise since, is not to talk for too long — two or three minutes at the most — in the first meeting with a person. To go on for longer than that can be seen as an expression of vanity and arrogance, whereas listening reflects modesty, and is a sign of intelligence.

How do you react when someone starts to tell you something you already know — about a character, a place or your own field of work? Do you interrupt to say, 'I already know that'? I have always considered that keeping quiet and listening in these situations to be a sign of humility and refinement, and that is why I usually try to restrain myself — even if I know the story well, or even if I have been the

It makes more sense to talk about the ‘most reasonable’ answer to a strategic problem than the ‘right’ one.

protagonist of the episode being told. With age and experience, you will find yourself in déjà vu situations again and again. A good opportunity to exercise modesty.

GET USED TO NOT KNOWING. In life as in business, there is often no right answer. Occasionally, when discussing a business case with my students, someone will ask me what the right decision would be in a given situation. The question incorrectly assumes that there is a right decision for every business scenario.

When I reply that the best solution depends on a range of factors, such as shareholder values, stakeholder interaction, along with opportunity, not everyone is satisfied. I explain that it makes more sense to talk about the ‘most reasonable’ answer to a strategic problem — and in general to any complex business issue — rather than the ‘right’ one. Moreover, as strategists explain, a decisive success rate, say 80 per cent, depends on how a decision is implemented, not just on the strategy per se. And as indicated earlier, luck can also play a huge role.

Traditionally, teachers have been expected to provide the authoritative answer for their students. But the advent of the Internet has changed the rules of the game. The role of the teacher has shifted to that of an orchestrator of learning. At times, we still play the role of the voice of wisdom, the benchmark for what is right. At other times, I find it’s a good idea to simply oversee a debate so as to extract the best ideas from the class, as Socrates did during his conversations with his students.

This process is often played out in companies, where a good number of managers seem to believe that what they say in meetings or presentations should have priority and that they are somehow systematically correct. This tendency is often rooted in a fear of getting it wrong, which typically unsettles them. Many feel that if they do not show the best possible judgment in all situations, their leadership is in jeopardy.

However, as with teachers, there is no reason to expect that the boss has the answer in every situation. What is more, I would say that one of the most-appreciated virtues of a leader is the ability to listen to the ideas of others before making a decision. The ‘sustained certainty’ some managers like to think they possess, and that some faint-hearted

subordinates are willing to go along with, is a poor system of governance and decision-making. It destroys all the benefits of teamwork, generates groupthink and stifles innovation.

In *Eristic Dialectics: The Art of Winning an Argument*, the 19th-century German philosopher **Arthur Schopenhauer** explores the concept of *fas* and *nefas*, that is, fairness and unfairness. Schopenhauer distinguishes between *recht haben*, or being right, and *recht behalten*, which we could translate as getting the better in an argument. In the first, one is defending an objectively true proposition, while in the latter, one is imposing an opinion, irrespective of whether the proposition is true or acceptable.

This acerbic treatise offers 38 strategies that can be used to come out top in a discussion. In addition to presenting the classic arguments used in rhetoric over the centuries, Schopenhauer provides a complete list of legitimate dialectical resources, such as the *petitio principii* (petition of principle, in which the fundamental assumption behind an argument is questioned), together with others that are clearly spurious, such as the argument *ad hominem* (attacking the character of one’s opponent, rather than their ideas) or even being rude so as to unbalance them.

While Schopenhauer’s advice seems to have been taken to heart by many politicians, management meetings in companies are governed by different rules. Nevertheless, I have occasionally attended gatherings at which such dialectical devices have been employed. Years ago, when I was a member of a board discussing business school accreditation, I always marvelled at how one of my colleagues systematically reproduced the arguments I had previously made in a more refined and convincing way, without mentioning me. I’m sure you are familiar with this practice, which is not uncommon among some so-called colleagues.

EMBRACE DIVERSE VIEWS. Leaders should avoid imposing their will, and instead encourage the flow of information and alternative views. Just as in a strategy class, a teacher might ask a student directly what they think about a particular topic, it is healthy for managers to organize meetings that allow their colleagues to take the floor, offer their opinion on specific topics or provide an opportunity for an expert to provide insight, while inviting everybody to speculate about the future.

FAIL — AND LEARN FROM IT. Leadership is a long-term exercise, and throughout our careers there will not only be successes, but failures—which are more natural and frequent than we tend to recognize. To err is human, and if we learn from it, so much the better.

Years ago, after finishing my MBA, I wanted to apply for a PhD in management at Harvard Business School (HBS) with the intention of extending the area of research developed in my previous PhD in applying moral philosophy to business ethics. I prepared my application, substantially improved my GMAT scores, and contacted an acquaintance, then an associate professor at HBS, who very kindly arranged an interview with the then director of the doctoral program. All my ducks seemed lined up.

On the day of my interview, I arrived at Soldiers Field in time to meet my acquaintance, and on our walk across campus we passed the director of the doctoral program with whom I had an appointment. After introducing myself, he replied curtly, “I was expecting you an hour ago in my office; I’m sorry but I don’t have time for you right now.” It turned out that my acquaintance had mistakenly arranged to meet me an hour late. Needless to say, I was not admitted to the program.

Speculating on what might have happened had I arrived on time is to enter the realm of the counterfactual and a waste of time. Had I been accepted to HBS, my career path and personal life would have been very different, and perhaps I would not be as happy as I am now. I certainly wouldn’t have become Dean of IE Business School, nor would I have become the first President of IE University, a fascinating experience that I would not trade today for any other academic career.

When they hear this story, my students are to some degree consoled, aware that everybody else in the world is also subject to the whims of chance and that we are often not responsible when things don’t go as we planned.

It’s worth remembering a few pointers to help overcome the gloom that can descend when we feel we have failed. First, put so-called triumphs and failures into perspective. Personal development and professional careers are long-distance races, a marathon rather than a sprint. Sometimes early success spoils talent, as has happened so often with young actors or singers, who derail as they ma-

ture. Similarly, some young entrepreneurs obsessed with monetizing their inventions and start-ups lose sight of the bigger prize. When we look back on our life from the vantage point of a couple of decades, the contrasts provided by those supposed successes and failures is what gives depth and distinction to our experiences.

Second, it is good idea to ignore the guilt complex in the face of setbacks, especially when we are not personally responsible. Often in life, many random factors play a role in the final outcome. There is no reason to feel culpable in the face of misfortunes or setbacks. The important thing is to assume and internalize that we should bear no responsibility for unintentional failure.

Third, we should work on developing the mental muscle that allows us to take setbacks as being part of the game. The best thing to do is shake off despair quickly. Think about what things change your mood, what brings you back to feeling calm. It might be hanging out with friends or family, or reading a book or watching a feel-good movie or television series. We can learn here from the great athletes, who are able to overcome failure or defeat and turn in a winning performance.

Fourth, we should never forget that the important thing in life, as philosophy and literature have taught us down through the centuries, is that it is not so much the desire to reach a destination, but the journey that counts.

In closing

Philosophy does not provide categorical, one-size-fits-all solutions to the problems we face in work and in life. But it can help us to articulate our thoughts better, make sense of our intuitions and find better arguments to justify our decisions.

My parting advice is to never forget the value of humility. In the end, reality always puts us in our place; and in most cases, that place is not centre stage. **RM**

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In an Era of Digital Everything, Is Lean Still Relevant?



NO ONE WOULD argue that digital technologies are taking the world by storm. Spending on these technologies and services worldwide was US\$1.85 trillion in 2022 — a 185 per cent increase over the last five years. Undoubtedly, digital tools have shifted the paradigm from traditional working methods to much faster, more efficient, high-quality operating models impacting firms' bottom-line and value-creation opportunities. And yet, more than 70 per cent of digital transformations are failing. What is the recipe for a successful digital transformation?

From an operational standpoint, digital technology interventions can be viewed in three stages:

- **THE READINESS STAGE.** Crafting a digital strategy and preparing people, processes and existing technologies for a digital change.
- **THE DEPLOYMENT STAGE.** Aligning behaviours, making investments and customizing solutions.
- **THE EXPLOITATION STAGE.** Scaling up digital efforts, building digital capabilities and creating a culture of change.

The problem is, too many organizations embark on digital transformation initiatives that don't match their stage of preparedness. And as a result, they face unforeseen consequences. For instance, in 2018, candy-maker **Haribo** launched advanced enterprise resource planning (ERP) software only to end up with supply chain problems and inventory management issues owing to disconnected infrastructure in its regional branches that dated back to the 1980s.

In some cases, organizations are well prepared to go digital but fail in the deployment stage. For instance, despite having advanced systems in place, **General Electric** launched a separate digital wing to centralize its digital initiatives — only realizing later that its digital needs could be better planned and deployed within individual units. Other companies, like **BMW**, **Michelin**, **Spotify** and **Disney** have achieved significant efficiencies with digital, but have yet to achieve the promised scale and scope of their digital investments.

One common factor in failed digital transformations is a lack of systems thinking. To achieve this, leaders must have a clear understanding of the constituent 'cogs' of the organization and how they interact. Lean is one approach to

systems thinking that has proven to reduce non-value-adding activities and enhance process flows.

Some of the key concepts in Lean are:

- **KAIZEN:** Continuous improvement, emphasizing incremental and ongoing enhancements to processes, products and systems.
- **JUST-IN-TIME:** A production and inventory strategy aimed at minimizing waste by delivering products, materials and components exactly when needed in the production process, reducing inventory costs and improving efficiency.
- **MISTAKE-PROOFING:** Also known as *poka-yoke*, this involves designing processes or products to prevent errors or mistakes, thereby improving quality and preventing defects.
- **JIDOKA:** This entails empowering operators to detect abnormalities in the production process, stop the process if an issue arises and address the root cause to ensure quality and prevent defects.
- **GEMBA:** This translates to ‘the actual place’ where work is done, and in Lean practices, it emphasizes the importance of going to the actual work area to observe, understand and improve processes.

Over the past few decades, Lean has enabled a continuous improvement culture in several firms and redefined many tenets of management thinking. For example, when sales slowed down at **Starbucks** in late 2008, it adopted Lean practices to help guide its organizational redesign. But unfortunately, for many organizations, the race to achieve digital transformation has moved Lean initiatives, both existing and new, to the back burner.

For instance, diverging from the Lean approach of process integration, **Ford** launched a new digital campus, Ford Digital Mobility, siloed from its operations, focusing on automating fragmented elements of its production. Consequently, other business units perceived the new digital wing as a separate entity. With no systems view, technology disintegration reared its head, resulting in a million-dollar loss.

In contrast, at **Anheuser-Busch InBev**, digital transformation leaders decided to put 90 per cent of their efforts into process-improvement projects using Lean practices including just-in-time, *kaizen* and mistake-proofing before

launching digital technology tools. **Schneider Electric** introduced the concept of Lean Digitalization, under which it began an effort to revolutionize its worldwide network of production facilities by digitizing work data and implementing Lean management techniques, all aimed at enhancing the overall performance of its plants. And, **IKEA**, known for its adherence to Lean practices, continued to embrace Lean while accelerating its e-commerce revenues from seven to 31 per cent in just three years.

Clearly, organizations with strong process-improvement cultures can effectively realize digital technologies’ disruptive potential. Following are some examples of how the marriage of Lean and digitalization can lead to successful digital transformation journeys.

LEAN PRACTICES FOR THE DIGITAL READINESS STAGE. In 2009, **DBS Bank**, which had a reputation for being unimaginative and unresponsive, transformed itself into a stellar example of successful digital transformation by identifying processes with significant waste in time and resources before going digital. In its initial Lean process improvement exercises, it realized that a whopping 95 per cent of its processes contributed to waste and took immediate steps to address this. In one such instance, it automated process handoffs between departments as it recognized that most of the waste (and thereby delays) was caused by these hand-offs. Similarly, **Intel** leveraged Lean practices to create capabilities like agility to adapt its methods, focus and values when required. Accordingly, as technologies evolved, the company quickly upped its focus from productivity and process reliability via lean to differentiation and disruption.

THE TAKEAWAY: Organizations should identify the processes that need improvement, implement Lean to streamline them and *only then* proceed to the deployment stage. Otherwise, a *bad process that gets automated will only result in an automated bad process*, and consequently, digital investments will end up in firefighting mode rather than focusing on progress.

LEAN BEHAVIOURS FOR THE DIGITAL DEPLOYMENT STAGE: Several studies point out a common oversight in many digital deployments: a failure to address and align employees’ mindsets and attitudes toward digital technologies. As a result, organizations often face reluctance from employees for fear of losing their jobs or hesitancy toward learning new skills.

The Virtuous Cycle of Lean + Digital

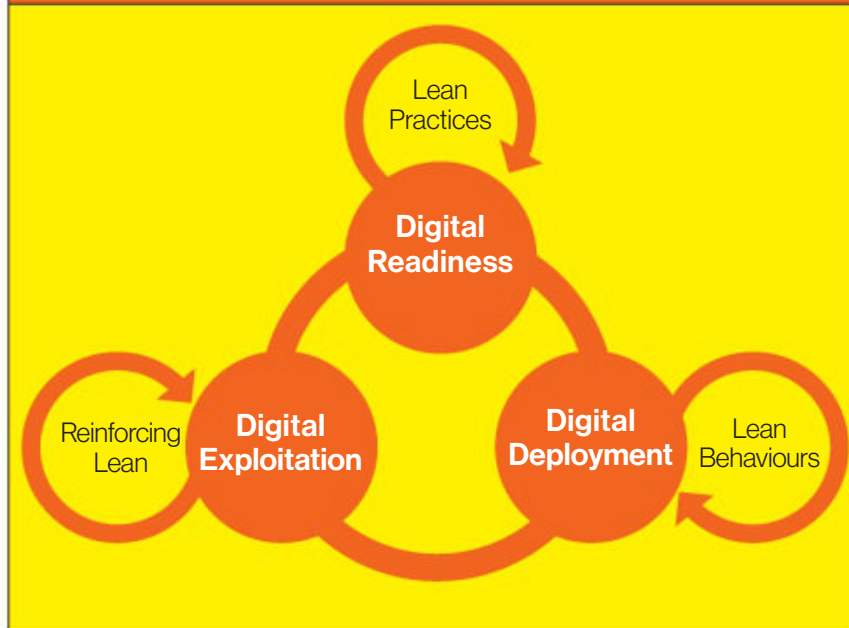


FIGURE ONE

As fundamental as it is for businesses to eliminate waste in their processes, it is even more vital to eliminate waste in the realm of human behaviours. In digital deployments, partnering with employees and allowing them to adopt the technology that aligns with their current skills can reduce reluctance. Here, Lean behaviours help overcome contradictory thoughts and actions that lead to defensive behaviour, ineffective relationships, poor co-operation and negative attitudes among people. For example, **Rite-Solutions** introduced a ‘Buy-a-Feature’ approach, where employees are given a budget and can invest in features or improvements they believe would benefit the company’s products. This practice encourages employee involvement in decision-making by leveraging Lean behaviour.

Also, as Lean encourages employees to identify and solve problems, leaders can deploy digital interventions as ‘practical solutions’ rather than impositions. Enabled by Lean behaviours, digitalization then happens *from the source, not by force*, and employees can propose ideas for applications of digital technologies, paving the way for innovation. With this approach, employees will soon realize that digital technologies are there to make them more efficient in their jobs — not to replace them.

REINFORCING LEAN IN THE DIGITAL EXPLOITATION STAGE: One of the most used techniques in Lean is Start, Stop and Continue for process improvement. Whenever a worker finds a defect, they pull a chord that halts the entire process and allows managers to address the defect. Popularly known as automation (*jidoka*), this Lean practice resumes the process only after successful resolution, thereby reducing defects. However, this practice can sacrifice production value in terms of the time taken to fix the defects in the short-run,

while addressing root causes is valuable over the long-run. Increasingly, technologies like artificial intelligence and machine learning when integrated with Internet of Things (IoT), can be employed to dynamically observe, analyze and provide real-time resolutions in a fraction of a second, addressing problems without losing valuable production time.

Similarly, technologies like augmented reality (AR), predictive analytics and the IoT can significantly improve the impact of Lean practices on processes:

- ‘Gemba walks’—whereby managers physically go to the actual problem site—can be coupled with AR for better visibility and quicker detection of defects;
- Predictive analytics can significantly improve *kaizen* (small daily improvements) by giving the workers traceable and predictive recommendations; and
- IoT can support real-time value stream mapping to trace out waste as and when it occurs.

Consequently, the Lean practices that lay the foundation for digital implementation in the Readiness Phase get invigorated in the Exploitation Phase and propel the organizations toward achieving the desired disruption, leading to a virtuous cycle.

In closing

In sum, the ‘Lean recipe’ for successful digital transformation can be defined as embracing three principles:

- Implement Lean practices first to help improve processes for digital readiness;
- Foster Lean behaviours among employees to prepare them for seamless digital deployments; and
- Leverage newer digital technologies to enhance Lean thinking to exploit the full potential of continuous improvement.

By making these principles part of an organization’s operational blueprint, leaders can actualize the symbiotic nature of Lean and digital technologies and enable systems thinking to achieve successful digital transformation efforts. **RM**

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The Power of Contextual Intelligence



IN GREEK, THE WORD *EIDO* means two things: ‘to see’ and ‘to know.’ In English, we use the term ‘intuition’ to describe the unique application of one’s observations and learned knowledge. Many business leaders and CEOs apply their intuition to make tough judgement calls and decisions. This is one of the many reasons why they are called to serve in the role.

However, intuition alone has its flaws. Behavioural Science teaches us that it can be significantly influenced by cognitive biases. Yet alternatively, there are myriad business success stories illustrating how a CEOs’ intuition — not data and analytics alone — can generate revolutionary outcomes. **Apple** is one of the most well-known examples of the successful application of leadership intuition.

Why is intuition sometimes spot-on, while in other cases, it takes us down a path of organizational catastrophe? The difference is not between good or bad intuition, but rather, a different competency altogether — that of Contextual Intelligence.

What is Contextual Intelligence?

Contextual Intelligence is fundamentally the ability to recognize quickly and intuitively—and diagnose—the dynamic variables inherent in a circumstance, resulting in the intentional adjustment of behaviour to appropriately influence outcomes. It involves being adept at appropri-

ately assimilating broad insights into a current situation, irrespective of where the original insights were gleaned from.

Researchers **Erik Dane** and **Michael Pratt**, who published an article in *Organizational Behavior and Human Decision Processes* titled “When Should I Trust My Gut?,” note that despite a growing body of insight on the concept of intuition, there is little empirical research spotlighting the circumstances in which this form of decision making is effective. They argue that in a contextually-rich world, one plus two doesn’t always equal three. Today, the correct answer to a challenge is rarely linear, meaning the accuracy of an individual’s insight is highly influenced by context.

Context is all the external, internal and interpersonal factors that contribute to the uniqueness of a situation or circumstance. It is often both real and perceived, and includes such things as: environment, genders, industries, experiences, attitudes, beliefs, values, politics, cultures, packaging, organizational climate, the past, the preferred future and personal ethics.

Compounding the difficulty of understanding a given context is the need to recognize these variables in yourself as well as in external and internal stakeholders. The presence of these variables — and any number of other variables—makes each context unique. The implication is that the ability to understand context is a skill that transcends specific organizational roles.

Fundamentally, Contextual Intelligence (CI) is the proficiency of adapting *what you know* from one situation to another. Someone with CI is knowledgeable about how to do something (i.e., has technical knowledge from formal education), but also has the wisdom to know what to do.

Knowing *what* to do, as opposed to *how* to do it, enables an individual to act appropriately in a context of uncertainty and ambiguity, where cause and effect are not directly predictable. This implies that CI doesn't solely manifest from formal education or intellect but is drawn from the connections between experiences — and, not exclusively the longevity of experience.

Typically, we consider intelligence as analytical, referring to abilities such as reasoning, processing of information and analyzing. Alternatively, creativity is the ability to combine seemingly unrelated facts to form new ideas, which is typically not measured by traditional intelligence tests. But CI is different from both. It entails using the practical application of broad and specialized knowledge, both adapting to and modifying it in an environment to accomplish a desired goal. Leaders with CI approach every context with the intent to extract knowledge from it and that knowledge becomes transferable to any future setting.

Three Tiers of Knowledge

At the technical level, every leader needs to be grounded in 'factual knowledge' and information. This includes business theory and methodologies, ranging from organizational models to competitive strategies. Leaders must also have 'process knowledge,' which is insight into the more fluid challenges that the organization confronts. For a CEO, this can range from team dynamics to project workflows. This knowledge is often used to help drive initiatives and organizational goals throughout the company.

But what often goes unconsidered is 'contextual knowledge' — the understanding of environmental and cultural nuances that truly influence how employees operate. Knowing the historical and philosophical evolution of that context, as well as its formal and informal political structure and decision-making processes — is the difference between a leader with CI and one without.

The ability to transform data into useful information, information into knowledge, and then assimilate that

knowledge into practice is driven by the ability to intuitively extract wisdom from a wide range of different experiences. CI, in turn, is the culmination of skills and knowledge that enables future contexts to be more effectively diagnosed.

The concept of CI may also help explain what happens (or what is missing) when, in one context a leader flourishes, but that same leader, when promoted or transitioned into another context, is not as successful. Successful leadership requires understanding the context in which one operates — knowing what works with which people in which situations. It is more than 'knowing what' to do; it is 'knowing how' to get it done.

This means identifying and understanding the context through which someone views and functions in a particular situation. A leader can then use this context to present information in a manner that is consistent with another's view of reality. However, they must have a framework to make that happen — essentially, a cognitive map.

There is unlimited information in any given situation that could be incorporated within a cognitive map, and cognitive maps can be quite different depending upon the individual or group. However, cognitive maps can be designed simply through:

1. Identifying the **structural context** that influences behaviour, including formal and informal hierarchies.
2. Examining the **operational context** that influences behaviour, both process-driven and environmental.
3. Understanding the **cultural context**, which influences potential behavioural opportunities and obstacles, both real and perceived.

For example, contextually-intelligent leaders recognize the importance of knowing both the formal and informal structures that exist within their organization to effectively assert influence — in essence, the 'structural context.' This includes an understanding of who is authorized to make which decisions; and who is *informally* recognized to make which decisions; who the informal leaders are; and who are the followers. There are also various characteristics of the team structure to take into consideration. Is it rigid or flexible? Is

Contextually-intelligent leaders understand that there are typically both formal and informal patterns to consider.

the sense of hierarchy rigidly locked in place and applicable to all situations, or is there a flexibility in structure where roles are liable to change in response to changing situations?

Just as there is a 'structural context', there is also 'operational context.' How does information flow? Who does what at which points in time when making decisions? Again, contextually-intelligent leaders understand that there are typically both formal and informal patterns to consider. In addition, there is 'cultural context,' considering employee attitudes and mindsets that reflect their values, predispositions and prejudices. The contextually-intelligent leader considers all of these elements when making decisions.

Power, Influence and Perspective

As a rule of thumb, influence is often more useful than the simple notion of power. Power is essentially a linear concept where influence is simply the result of interactional aspects of relationships. For instance, a coach can cut a player from a team, but may not actually have the power to make them play better. A team owner may have the authority to fire a coach, give financial rewards and other efforts at influence, but does not have the absolute power to make the coach successful.

A contextually-intelligent leader recognizes a person at the bottom of an organization's structure does not have much power; but he or she can still have extremely effective means of influence. These may include a range of actions, such as complaining to higher ups, expressing support for organizational superiors, working to build up a skill deficit, or organizing a mutiny.

Leaders with CI understand how influence or power works within a system, using that context to identify how they might influence individuals within the system, as well as how individuals within the system influence others. This requires widening the lens to avoid becoming locked in a single perspective, such as seeing an individual as simply bad or good. For instance, viewing an individual as being passionate rather than resistant can facilitate shifting to this broader perspective. In doing so, it becomes easier to present ideas or change concept in a way that reflects their view of reality. A contextually-intelligent leader sees and appreciates the broader context and reality of each individual or department.

In closing

Leaders who exercise Contextual Intelligence think differently about the circumstances and context surrounding their employees, providing them the ability to succeed more consistently than their peers. By continuously scanning for insights, they gain more clarity on the structural, operational and cultural contexts that influence mindsets and behaviour change. And by routinely going outside of their existing environment to acquire new contextual insights, they can integrate that information into making, faster and more effective decisions.

As we look to create a new generation of leaders — as well as improve the performance of existing ones — Contextual Intelligence should join the ranks of Emotional Intelligence as not just a 'nice to have,' but a *required* business skill. **RM**

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The woman ranked #1 on the Thinkers50 list shares insights from her latest book.

Interview by Martin Reeves

In your latest book you make a clear distinction between *failing well* and *failing badly*. Please describe the difference.

There is so much rhetoric out there in business, especially in tech: Fail fast, fail often. Let's have a failure party. It's important to recognize that not all failure is alike. None of those tenets distinguish between the type of failure we should celebrate, and the kind we should not. In my work, I've distinguished three archetypes. Two of them represent 'bad failure' and one represents 'good failure.'

The first type of failure is *basic failure*. These are single-cause, human-error-created failures that occur in known territory and could readily have been avoided through better practices, more vigilance or greater attentiveness. For example, sending an e-mail intended for your sister to your boss or checking the wrong box on a financial transfer—which happened at **Citibank** a couple of years ago, leading to the accidental transfer of principal rather than interest to a corporate client. This resulted in a US\$800 million loss that, unfortunately, was irreversible.

There is an aspect of human psychology that codes our perception of reality as reality itself.

The second type is *complex failures*, and these are multicausal. They occur when multiple factors line up to create a failed outcome. Any one of the factors on its own wouldn't have led to the failure, but because they co-occur, a 'perfect storm' situation is created. Many healthcare failures involving hospitalized patients can be categorized as complex failures. In such cases, we often see a perfect sequence of multiple process inadequacies coming together in just the wrong way.

The third type is the good kind: *intelligent failure*. These failures are intelligent because they represent the only way to obtain some valuable form of new knowledge that you require to make progress. Whether it be at work or in your personal life, these are the experiments in relatively new territory that you undertake hoping that they will work out — but alas, sometimes they don't.

Are complex failures preventable?

Definitely. The Space Shuttle *Challenger* disaster is a classic case of a complex failure. And by all analyses, it could have been prevented if better practices had been employed, including high-quality conversations. A well-known dialogue took place the night before around making a final decision to launch (or not) in unusually cold temperatures the next morning. This was a classic example of a low-quality conversation. It disintegrated into an antagonistic debate rather than a thoughtful scientific discussion of, 'What do we know for certain? What do we *not* know, and what are the implications of not knowing those things?' This line of questioning just doesn't happen often enough.

What is it about our biology or psychology that makes us prone to behaviours that result in bad failure?

Unfortunately, there is an aspect of human psychology that codes our *perception* of reality as reality itself. We have an erroneous sense that we see what's really going on, and if someone sees things differently, they must be wrong-headed

in some way. This gets in the way of being deeply and persistently curious about things, because we believe we have sized the situation up already.

That lack of curiosity leads us into *execution* mode — we've got to get the task done, we've got to hit our targets — and moves us away from *learning* mode. The fact is, learning mode is not a bad mode to be in, nearly all of the time. You can take a break now and then for the things you can do in your sleep — like empty the dishwasher, for example. But for most of the things that matter in life, like relationships and work, we should pretty much always be in learning mode. We should be doing what needs to be done, but at the same time, remain deeply curious about what is happening.

That sounds so sensible. What stops us from doing that?

Two key things stop us. First, our brain's hard-wiring. Maybe because there is just so much to take in, our brains necessarily filter out a lot, and yet maintain a sense of confidence that they see reality. And second, socialization. From an early age, we are socialized in school and in early work experiences to favour knowing over learning, to believe that the people who get ahead are the ones with the right answer, not those who have the best questions or who take risks and try things that don't work. The combination of our wiring and our socialization leads us to behave in ways that are not optimal for a highly uncertain, complex and interdependent world.

As individuals, how can we hone better learning skills and avoid mistaking our mental model for facts?

We have to do this on a couple of levels, and it starts with a personal, internal stance to actively embrace learning over knowing. Make that an active choice, day in and day out. Remind yourself, 'Hey, as much as I know, I might be missing something here.' That is not a depressing statement; it's a joyful one, because it's always a good day when you learn something new or are surprised by something that expands your awareness.

The combination of our wiring and our socialization leads us to behave in ways that are not optimal for a highly uncertain world.

Choosing learning over knowing falls nicely under the rubric of the growth mindset defined by **Carol Dweck**, which says, ‘We are better off when we think of ourselves as works in progress, when we think about getting better and smarter every day because of the experiences we have and our ability to pay attention to them.’

The other thing that is really important is to master the art of diagnosing context. That means taking a quick pause to ask yourself, ‘What is at stake here, and how much uncertainty am I facing?’ Consciously doing this is simple, but in my experience, it is not often done. And the result is that we sort of respond similarly in every situation, whether it’s low stakes/ high uncertainty or high uncertainty/high stakes.

I advise people to regularly ask themselves two questions. First, ‘If I do this experiment and it doesn’t work out, will I be “bringing down an airplane,” or will I just be slightly embarrassed at my next meeting?’ What you’re willing to do should be very different based on the answer to that question. The second question is, ‘How much uncertainty am I facing?’ How much is known about how to get the result you want in this context? Is it a high-knowledge domain or an exploratory-opportunity domain?

If leaders want to establish a culture where intelligent failure is predominant, what are the required institutional-level or leadership-level moves?

Let’s start with messaging. Leadership messaging is so important, and in my experience the messaging that is often missing is the acknowledgement of both the challenge and the uncertainty that lie ahead. Again, that doesn’t have to be a depressing statement. It can be a statement of great ambition and opportunity. But make it discussable. Make it clear. Emphasize it. Because that is an implicit invitation to others to be the eyes and ears of the organization — to share what they see and share their ideas.

If you don’t explicitly acknowledge uncertainty or challenge, people will assume you have an industrial-era mindset: ‘We’ve got plans, we’ve got targets, and they are ours for the taking.’

So paradoxically, the way to reduce failure is to acknowledge our limitations and what we don’t know — even though that might be seen as a failure of confidence or certainty. Am I on the right track?

You are spot on — and yes, it can feel like a paradox. Think about inherently risky operations like air traffic control or nuclear power. How do they operate essentially safely all the time? The answer isn’t, ‘Oh, they just don’t think about failure.’ Not so: They are *consumed* by thoughts of failure. They make it discussable, and by doing so, they are first and foremost making it easy for people to speak up.

When you’re sending the message that ‘given the nature of reality, something could go wrong,’ you’re lowering the threshold for people’s willingness to speak up when they’re not quite sure about something. When people are in over their heads or they notice an anomaly that may or may not be important, you definitely want them to err on the side of speaking up.

But of course, there is a cost to pausing to assess a situation. In some cases, people don’t want to waste time. Part of the leader’s responsibility is to make judgments about when to zoom in and when to do the opposite. How does that fit within your theory?

First of all, I’m a big believer in *not wasting time*. And in fact, I’ve seen a lot more time wasted in organizations by powering ahead with wrong-headed thinking. Then you end up having to undo the damage — some of it costly. When I distinguish between an *execution mindset* and a *learning mindset*, I don’t mean to imply that one is doing and the other

The learning mindset says, ‘Here’s the plan. It looks pretty good, but remember: it’s just a hypothesis.’

involves pondering and then, maybe later, doing. I advocate for ‘execution as learning.’ This means, ‘We’re trying this out, but with wide-open eyes to what the experience says back to us, so we can pivot as needed.’

The wonderful **Donald Schon** wrote about this years ago in a remarkable book called *The Reflective Practitioner*. He found that among lawyers, physicians and architects — people doing the same job as each other — some were doing their job in a way that he called ‘reflection in action.’ He argued that those who were beautifully attentive to what phenomena were saying back to them were much more effective in the practice of their craft than the others. I am advocating for the organizational or team-level analogue to that. The execution mindset says, ‘OK, here’s the plan. Let’s do it!’ while the learning mindset says, ‘Here’s the plan. It looks pretty good, but remember: it’s just a hypothesis. Let’s be as scientific as possible about the data we receive as we progress.’ Can we have thoughtful conversations in the face of uncertainty that are quick and designed to get us to the best outcome? We can and we should.

Experimentation and learning are undisputedly great things. But with the cost of capital increasing, running 10 pilots is often not an option. How can we make the process of learning more efficient?

This brings me back to my definition of intelligent failure. As indicated, it happens in new territory and in pursuit of an opportunity. It’s driven by available knowledge, and the actual failure is always as small as possible. I think the ‘as small-as-possible’ aspect helps to answer your question. Experimentation is important in an uncertain world, but it should only be big enough to get the knowledge you need.

For instance, talking to one customer is clearly not enough. But how many is enough? What size of pool do you need to get enough data to know whether your experiment is

working? The answer will vary depending on the context, of course, but making sure you have a thoughtful answer to that question is key to making experimentation efficient. There will always be some waste, but the goal is to minimize it and maximize learning by experimenting at the right scale.

How do you apply these insights in your own work?

Being in new territory is the very essence of my work as a researcher. You hope to be figuring something out that hasn’t been discovered before. So, by definition, you’re in new territory in pursuit of a goal. Maybe you have a hypothesis, and the goal is merely publishing a paper. Of course, you have to read all the related literature that has come before. Otherwise, you will not be well equipped to do your experiment. I’ve done this throughout my professional life, and I’ve always tried to make each new study as small as possible while still generating learning.

In my own field of strategy, whenever I feel I understand a situation, I always remind myself that it’s just a mental model, it’s not a fact. How important is that mindset?

That statement is so powerful; reminding yourself it’s a mental model, not a fact. That is something people don’t do naturally. But if we can get into the habit, we will be unleashed — as better learners, team members and leaders.

RM

Amy Edmondson is the Novartis Professor of Leadership and Management at Harvard Business School. Ranked #1 on the Thinkers50 list of the most influential management thinkers, her latest book is *Right Kind of Wrong: The Science of Failing Well* (Atria Books, 2023). This interview is a condensed version of the BCG Henderson Institute podcast *Thinkers & Ideas*, hosted by **Martin Reeves**, Managing Director and Senior Partner at BCG and Chairman of the BCG Henderson Institute.

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**One community.
Infinite possibilities.**

Thank you to everyone who participated in our 3rd annual Rotman Giving Day. Together, we are preparing the leaders of tomorrow to tackle the world's greatest challenges.

\$258,362

raised in total

\$53,286

**raised for student
experience funds**

\$49,648

**raised for mental health
and wellness and EDI funds**

Exciting Lineup of Upcoming Events and Conferences

Explore cutting-edge ideas, immerse yourself in research-based insights, and stay up-to-date with the latest in strategy, leadership, self-development, healthcare, and more. Our exciting events offer numerous opportunities to learn from world-class speakers and thought leaders. Whether you join us in person or virtually, ignite your passion for learning and maintain a leading edge in knowledge and innovation.

Highlights for Winter / Spring 2024

JANUARY 10, 5:00 PM | IN-PERSON & VIRTUAL

The Perfection Trap: Embracing the Power of Good Enough

Thomas Curran

Author; Associate Professor at the London School of Economics and Political Science

JANUARY 16, 5:00 PM | IN-PERSON ONLY

Inside the C-Suite: Innovation and Leadership

Heather Chalmers

CEO, GE Canada

Penny Wise

President, 3M Canada

JANUARY 17, 8:00 AM | IN-PERSON ONLY

Research Roundtable in Health Sector Improvement

An insightful discussion featuring Rotman School faculty as they share their research and key findings, with a focus on enhancing the health sector.

JANUARY 25, 12:00 PM | VIRTUAL ONLY

4 Short Talks About Big-Picture Thinking

Featuring 4 contributors from *Rotman Management Magazine's* Winter 2024 Issue

FEBRUARY 7, 5:00 PM | IN-PERSON ONLY

Blood: The Science, Medicine, and Mythology of Menstruation

Dr. Jen Gunter

OB/GYN; Physician; Bestselling Author

MARCH 4, 5:00 PM | IN-PERSON & VIRTUAL

The Possible Self: A Leader's Guide to Personal Development

Maja Djikic

Associate Professor; Director, Self-Development Lab, Rotman School of Management; Author

MARCH 6, 5:00 PM | IN-PERSON & VIRTUAL

17th Annual Post City Real Estate Roundtable

What will the Spring 2024 housing market bring? Join Toronto's top real estate experts, as they share their insights into the latest market trends and what's next for the housing market.

MAY 24 | FULL-DAY IN-PERSON CONFERENCE

Lifelong Learning Conference

Ideal for business, government, and academic leaders, this one-day event will combine real-world case studies and practical advice from experts to explore how anyone can successfully advance their career goals.

Never miss out.

Sign up to be notified about upcoming events.

www.rotman.utoronto.ca/events

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