

Executive Summaries

Reimagining Capitalism.

Rebecca Henderson, Harvard University

If we are to solve the great global problems of our time, the private sector must play a major role in driving the systemic changes we need. Climate change and inequality are public goods problems – symptoms of a world that has lost the will to focus on the common good and the long term. We will not solve them until we rebuild the political center and the institutions of a truly free society: the rule of law; an honest and independent media; transparent, responsive, and capable government; and an open and inclusive democracy. The business community has both a moral obligation and an economic incentive to move beyond its single-minded focus on shareholder value and towards a broader concern for the health of the economic, social, and institutional systems on which we all rely. Such a shift in focus would enable the private sector to play an active role in building a just and sustainable society.

Making Strategy Execution Work With Cascading Trees.

Christoph Loch, Cambridge Judge Business School, University of Cambridge; **Stylios Kavadias**, Cambridge Judge Business School, University of Cambridge; **B. C. Yang**, Sinyi Realtors and Fu Jen Catholic University Taipei.

Strategy cascading describes the translation of strategies and goals into more specific organizational actions in order to achieve desired results. Cascading requires a formal structure conducive to top-down alignment (in which the actions support the strategy), bottom-up tailoring and innovation (in which the actions modify the strategy), and horizontal coordination (in which interdependent actions in several areas are mutually adjusted to meet overarching goals). The tools used to address the complexity associated with strategy cascading have

been, until now, too formulaic, rooted in cascading top-down indicators or generic dimensions. By using a cascading tree, a tool rooted in total quality management, companies can fully customize cascades to their strategy, allowing for alignment, change, and coordination. The proposed tool has been effective in challenging cascading situations, including a police department and a company that implemented an ethical strategy with a range of stakeholder-oriented requirements.

What Is Organization? The Evolving Answer.

Dave Ulrich, Ross School of Business, University of Michigan and The RBL Group

The organizations where we live, work, play, and worship affect every part of our lives. Organizations turn individual competencies into collective capabilities, isolated events into sustained patterns, and personal values into collective values. In short, organizations matter in our lives. The definition and logic of organizations has evolved over time. Today they are less about hierarchy, systems, or capabilities, and more about creating what we have begun to call market-oriented ecosystems (MOE). The logic of MOEs starts outside in, by identifying market opportunities and then allocating resources in response to them. By allowing their answer to “what is organization” to evolve, leaders, employees, customers, and investors will be better able to improve their organization’s experiences.

Pay for Performance: When Does it Fail?

Nirmalya Kumar, Singapore Management University & INSEAD Emerging Markets Institute; **Madan Pillutla**, London Business School

Leading scholars of social psychology have concluded that pay for performance has a detrimental effect on human motivation. Both the *Harvard Business Review* and one of the most popular TED Talks have popularized

their conclusion, that managers should avoid rewarding people for specific accomplishments. Nonetheless, the prevailing compensation systems of most companies have rejected this view. We argue that these broad conclusions about the negative impact of incentives are based on comparatively narrow and specific studies. While it is true that, under certain limited conditions, rewards can reduce performance by over- or under-motivating people, by following our recommendations, managers can avoid creating those conditions.

Over-motivation leads to lowered performance when the increased incentive of possible rewards causes people to “choke under pressure.” Excessive focus on obtaining the rewards can distract people from their work and, in the case of practiced, routine tasks, lead to overthinking. This effect can be ameliorated by providing enough preparation time and reducing procedural accountability.

People become under-motivated when the possibility of rewards leads them to believe that money is the primary motivation for their performance. Managers can prevent this erosion of intrinsic motivation by designing rewards that provide positive feedback about the individual’s competence.

Seizing the Moment: Having Difficult Conversations about Race in the Workplace.

Stephanie J. Creary, The Wharton School, University of Pennsylvania

The incredibly long history of racism, injustice, and discrimination in the United States makes it particularly difficult to address issues of systemic racism. The density of class action lawsuits filed with the Equal Employment Opportunity Commission suggests that federal legislation has not succeeded in ending racism or discrimination. Management research echoes these findings. Black employees face cultural pressures to conform to white Eurocentric standards and norms and are penalized when they do not. Black employees are less likely to attain leadership roles, even when they are qualified. And when they do assume these roles, Black employees are likely to be evaluated less favorably than their white peers. Changing the social relations, structures, and culture of the workplace can help to mitigate the harmful effects of racism on Black employees. Having purposeful conversations about race is also important. To make these conversations more effective, leaders should: R – Reduce anxiety by talking about race anyway; A – Accept that anything related to race is going to be either highly visible or largely invisible; C – Call on internal and external allies for help; E – Expect to provide some “answers,” practical tools, skill-based frameworks, etc.

Leadership as Craft - Crafting New Leaders.

Philip Mirvis, Global Network on Corporate Citizenship and Social Innovation Lab, Babson College; **Karen Ayas**, The Ripples Business Academy; **Jason Grenfell-Gardner**, Teligent

We have developed an innovative approach to shaping new leaders by guiding them through three stages of development: apprentice, journeyman, and master craftsman. Our program focuses particular attention on the craft of leadership—combining its rational, aesthetic, and performative qualities. Within our program the CEO and company leaders teach all sessions on industry knowledge; participants interact regularly with exemplary craftspeople, including artists, athletes, actors, chefs, inventors, and leaders; executive mentors provide regular coaching; participants engage in increasingly complex and demanding project-based learning at each phase; and external faculty lead sessions on personal, interpersonal, team, and leadership development. Graduates join a craftsmanship guild in which they, in turn, mentor the next group of participants and help to steward the company’s culture. We use the case of Teligent to illustrate the success of our craftsmanship development program. Teligent is a fast growing generic pharmaceutical maker based in New Jersey with operations in Canada and Estonia. It employs 200 people and has a yearly revenue of \$70 million.

Leadership Development: A Psychologically Informed Process That Spawned a Generation of CEOs.

Karol M. Wasylyshyn, Leadership Development Forum; **Raj Gupta**, Chairman, APTIV PLC and Avantor, Inc. and Former Chairman, Rohm and Haas.

From 1988 to 2008, Rohm and Haas, a global manufacturing company, used a combination of talent management practices and a powerful leadership development process to train its top high potential employees. After the company was sold to Dow in 2009, more than 20 percent of the program’s participants went on to become CEOs elsewhere. We have identified the enduring aspects of this work which could be applied in current leadership development initiatives. These include managerial practices, guiding principles, methodology, and process considerations as well as a focus on the behavioral dimension of leadership, as represented by the construct of emotional intelligence and the long-term relationships participants formed with their executive coach. The active participation of the company’s CEO, which went well beyond funding and imprimatur, was also critical, particularly to the development planning and follow-up stages of this psychologically-informed initiative.

A Manager's Dilemma: Sow or Harvest.

Vijay Govindarajan, Tuck School of Business, Dartmouth College; **Ashish Sood**, School of Business, University of California, Riverside; **Anup Srivastava**, Haskayne School of Business, University of Calgary; **Luminita Enache**, Haskayne School of Business, University of Calgary; **Barry Mishra**, School of Business, University of California, Riverside

A manager must often choose between reaping the current profits of existing competencies (harvesting) or creating new competencies which will produce future profits (sowing). By examining how the stock market responds to a firm's unexpected shift from one strategy to another, we have evaluated this dilemma. Despite the popular view that they are willing, if not eager, to sacrifice long-term value to gain current profit, we find that shareholders do not favor firms' sudden shifts from sowing to harvesting. Shareholders do, however, favor harvesting value during periods of unusually good performance, when a firm finds sudden success with a product. These findings suggest that a firm must focus relentlessly on building competencies that contribute to long term value, such as strategy, brands, patents, customer relations, market intelligence, organizational technology, and human capital. Nonetheless, when it finds unexpected success in a given market, it should be prepared to immediately change its focus to reaping the profits.

Adaptive Space: Shifting from Structural to Social Design.

Michael J. Arena, University of Pennsylvania

One of the biggest challenges facing organizations today is the need to be agile in the face of digital disruption. Most organizations weren't designed to be agile. They grew up in a world where operational efficiency was king. As a result, they create environments in which the ideas needed for digital change are suppressed. Yet people who have accumulated social capital in their relationships are more willing to openly share, debate, and develop ideas. Agility, it turns out, is more social than structural. When workers debates are stifled, so is the firm's agility. In this era of disruption, social capital is critical if organizations are to adapt in real time. To facilitate this process, leaders must cultivate a deeper understanding of the power social interactions have to foment the flow of ideas, information, and insight. They need to build relational structures which ease the flow of information and resources to enable discovery, development, diffusion, and disruption, the 4D connections of adaptive space. Together, these 4D connections foster the innovative ideas and concepts necessary to positively disrupt.

Learning from the COVID-19 Pandemic to Address Climate Change.

Howard Kunreuther, The Wharton School, University of Pennsylvania; **Paul Slovic**, Decision Research

The COVID-19 pandemic has shined a bright light on society's difficulties in dealing with extreme events on a global scale. Few understand the explosive nature of the exponential growth that led to such a vast number of cases, seemingly overnight. Moreover, we tend to be myopic, failing to appreciate the value of undertaking immediate action in order to reduce severe consequences in the future. We are also often unduly optimistic about the probability of adverse events occurring. Because we are inclined to follow the herd, our choices are often influenced by the behavior of others, especially during risk and uncertainty. Decision makers should learn from the coronavirus pandemic and enact the following steps to reduce CO₂ emissions and slow climate change: (1) recognize the cognitive biases that impede effective action and decision-making; (2) heed the predictions of experts about the consequences of acting too late; and (3) design a risk management strategy that addresses these biases and heeds expert advice.

Boards and Sustainability: From Aspirations to Action.

N. Craig Smith, INSEAD; **Ron Soonieus**, Camunico and INSEAD

Boards of directors are vital to firms taking substantive action on sustainability. While prior research has suggested that boards pay little attention to the topic, a recent survey by Board Agenda suggests that many individual board members have ambitious aspirations for sustainability. Unfortunately, respondents also feel that their companies lack the people, knowledge, and tools to take action. We interviewed twenty-five directors from the boards of well-known firms, examining the obstacles to greater board engagement with sustainability, including board members' characteristics. In analyzing interview responses, we found five distinct archetypes of board member behavior. These profiles help explain the divergence between the attitudes of board members toward sustainability and the frequently inadequate action of the board as a whole. Our findings suggest ways to motivate each type of board member and the value of auditing the knowledge and mindset of board members toward sustainability, offering six approaches to strengthening board engagement with sustainability. While the economic effects of the COVID-19 pandemic might appear to reduce businesses' ability to become more sustainable, we believe the wise course is to focus on the lon-

ger-term trend toward meaningful action. We are confident that many board members will agree.

Don't Turn a Blind Eye to Environmental Violations.

Chris K. Y. Lo, The Hong Kong Polytechnic University; **Christopher S. Tang**, UCLA Anderson School of Management; **Paul Zhou**, Monash University; **Andy C. L. Yeung**, The Hong Kong Polytechnic University; **Di Fan**, Institute of Textiles and Clothing, The Hong Kong Polytechnic University

Despite the simmering trade war, American firms continue to use China as their primary source for manufactured products because of China's excellent production capabilities. Unfortunately, some Chinese contract manufacturers choose to pollute, while their overseas customers take no action to stop them or compensate for their actions. Yet when these misdeeds are exposed, the stock market penalizes the violators and, far more harshly, their customers. Western firms, therefore, have a clear economic incentive to address environmental violations proactively.

Climate Change: The Real Inconvenient Truth.

Yossi Sheffi, School of Engineering, Massachusetts Institute of Technology

The earth keeps getting warmer. Most countries will not meet their Paris Accord commitments. The 2019 climate summit in Madrid ended in bitterness and doubt. And the extent of current actions does not come close to matching the magnitude of the challenge. As a result, the climate battle, in the short term, has likely already been lost. Consumers throughout the developed world are unwilling to deprive themselves of some of the trappings of middle-class comfort. Without their support, and their willingness to pay for changes, companies enact only incremental initiatives rather than fundamental changes that can "move the needle." Governments also cannot take substantive action because their citizens will vote them down or take to the streets in protest.

On top of all this, almost half of humanity lives on less than \$5.50 a day. For them sustainability is an unaffordable luxury. And when they do industrialize and move into the middle class, emissions will increase even faster. Given the amount of carbon already in the atmosphere and its continued increase, the only solution is technology. While current efforts may slow down the increase in emissions, they are unlikely to reverse the trend in time. Long term respite is likely only if corporations and governments will turn away from "sustainability theater" and focus their efforts and investments on research into carbon sequestration and removal technol-

ogies. Such technologies have the potential to actually reverse climate change.

The Case for Climate Optimism: A Response.

Kieren Mayers, Sustainable Operations Initiative (SOI), INSEAD; **Jonathan G. Koomey**, Researcher, Author, Lecturer, and Entrepreneur

"Climate Change: The Real Inconvenient Truth," by Yossi Sheffi, suggests that current efforts to halt climate change will fail. It claims they are too expensive, undermined by misguided environmentalists, and beset by industry inaction. Sheffi argues that longer-term investment in carbon capture and storage is the only viable solution. We argue that a range of measures enacted over this decade can address climate change. These include renewable power, electrification, energy efficiency, phasing out coal, reforestation, and soil management. While these approaches require substantial international investment and political action, they are unlikely to cause the dire economic circumstances often envisioned. Inaction certainly will.

The falling cost of renewables is upending energy markets, making renewable power competitive with coal and nuclear. In contrast, relying solely on long-term carbon capture and storage, particularly directly from the air, is an unaffordable gamble, rigged to fail at the first hurdle. It would consume an infeasible proportion of the world's economic and electrical output and miss critical 2030 emissions targets.

With sufficient political will, we can address climate change. The UK's coal phase-out and adoption of renewables, and the renewable energy use and reforestation in Costa Rica are substantive successes. Pessimism should not blind us to our progress or to our opportunities to address climate change now.

Service Industrialization, Convergence, and Digital Transformation – I.

Uday Karmarkar, UCLA Anderson School of Management

Information-intensive services already dominate the US and other developed economies in GNP and wage bill share. Economies around the world are following this trend at differing rates as technological industrialization drives massive changes, not only for economies and industry, but also for firms, work processes, and jobs. The consequences of this transformation present a mixed picture for economies, companies, and individuals. While average wealth in the US continues to increase, employment is declining in many job categories, accompanied by losses in wage share. Technology has created fundamental changes in the economics of service processes, enabling their industrialization and thereby

altering industry structure. As a result, previously distinct service sectors have begun to converge in ways that are driving significant structural changes, including vertical de-integration, horizontal dominance by specific technologies, the outsourcing of noncritical processes, third party provision of web services, the emergence of platform strategies, and a rapid growth of lateral bundling. These dramatic changes have already severely disrupted many service sectors, leaving others on the edge. Managers and policy makers need to respond swiftly to such changes which are likely to continue to occur for several decades. Delays could prove very costly.

Navigating Digital Turbulence.

George S. Day, The Wharton School, University of Pennsylvania; **Paul J. H. Schoemaker**, The Wharton School, University of Pennsylvania

When digital turbulence becomes normal, vigilant organizations win by following three navigation principles. First, their leaders focus on detecting and understanding early warning signals. Second, they adjust their perception of urgency and timing so they are poised to act swiftly and decisively when the time comes. Third, they ensure that each level of the organization is capable of sensing change, seizing the moment, and transforming itself, bringing agility to the whole. We use Adobe, Ford, and Mastercard as instructive examples of how leaders can spot and act on new possibilities amidst digital turbulence. Firms which do not follow these principles lose their strategic freedom and become vulnerable to attack because their only remaining option is to react to passing events. Knowing how to navigate digital quakes, which can strike suddenly and without respect for market boundaries, requires agility, urgency, and clarity of thought in the face of the complexity and uncertainty that new business models or ecosystems create. Digital turbulence can be either a bane or boon, depending on how leaders shape organizational mindsets, structures, processes, and culture.

What Evolutionary Biology Can Teach Us About Corporate Reputation.

Paul A. Argenti, The Tuck School of Business, Dartmouth College; **Ryan Calsbeek**, Department of Biological Sciences, Dartmouth College

Since the advent of the *Fortune* Most Admired list in the early 1980s, major corporations have been obsessed with rankings. We suggest that they should instead focus on the attributes that influence those rankings. By combining evolutionary biology, the study of traits that make great competitors, with corporate reputation research, focusing on contributing attributes

rather than external ratings, we have developed a new, interdisciplinary approach to measurement. Through this approach, corporations can better understand which attributes differentiate great companies from their competitors in various contexts. We have tested it with major corporations, hoping to determine how to influence rankings and refine communication strategies. We believe it is time for companies to use scientific methods to measure and nurture their reputations, rather than social science approaches rooted in gut instinct. The ability to adapt to the changing needs of constituents in the 21st century depends upon it.

Leonard Kleinrock, Internet Pioneer.

Dr. Morten Bay, USC Annenberg School of Communication

The Internet is a technological movement borne out of collaborations between thousands, or perhaps millions, of contributors. But it began with a small group of people who had a vision and took on the intense labor of realizing it. One of those essential figures in the history of the Internet is Leonard Kleinrock. Kleinrock was instrumental in the development of technologies that underpin most networked data transmissions today, including the Internet. In 1967, the Defense Advanced Research Project Agency, or DARPA (then ARPA) tasked Lawrence Roberts with planning and managing the construction of ARPANET, the world's first network of heterogeneous computers. Roberts brought Kleinrock on board and ARPANET was launched on October 12, 1969. It was a remarkable success, spawning multiple imitation networks that eventually merged into what we now know as the Internet. In 1988, Leonard Kleinrock chaired the National Research Council committee that produced the report upon which then-Senator Al Gore would base his 1991 High Performance Computing Act, legislation which dramatically improved and upgraded the computer network infrastructure across the U.S. and paved the way for the Internet's eventual ubiquity.

George Bernard Dantzig: The Pioneer of Linear Optimization.

John R. Birge, University of Chicago Booth School of Business

George Dantzig introduced the world to the power of optimization, creating trillions of dollars of value and saving countless years of life across the globe. Linear programs and Dantzig's many other contributions to optimization have driven enormous increases in productivity throughout the global economy. Linear programming has also become a vital tool in advancing artificial

intelligence and machine learning, and it is used in electrical stimulation therapy, chemotherapy plans, drug discovery, radiation therapy designs, and finding optimal diets. Linear programming and its various extensions continue to play an influential role in the economy and in all our lives.

Enterprise Adoption and Management of Artificial Intelligence.

Thomas H. Davenport, Babson College

Roughly a quarter to a third of large businesses are now adopting artificial intelligence (AI), particularly in data-intensive industries. AI is supported by key technologies with a range of applications, and it is being put to a variety of uses. Nonetheless, in order for firms to transform to AI from less advanced systems, they must approach it with an appropriate level of ambition. AI tends to be applied to innovation and efficiency-oriented objectives, though this may change with economic conditions. AI is affecting both jobs and marketable skills already and will probably have a greater impact in the future. Currently, there are four main trends which seem likely to substantially influence the future use of AI in enterprise.

The New AAA Supply Chain.

Hau L. Lee, Graduate School of Business, Stanford University

Supply chains need to be agile, adaptive, and aligned. In today's business environment, with increasing uncertainties in both demand and supply, we need something more than standard agility. Super-agility demands sensing that is smart and very fast, and a response that is equally fast. To achieve super-agility we must apply advances in digital technologies, along with all the principles of supply chain management such as postponement, advanced analytics, and flexible manufacturing. Geopolitical changes in global trade, as well as disruptions caused by either natural or man-made disasters, also demand the adaptation of supply chain design. This process requires the dynamic adaptation of sourcing strategies, investment in technology, agile operational capabilities, and end-to-end configuration of value chains. With an ever-increasing number of stakeholders influencing how effective a supply chain is, companies need to align the interests and incentives of their broader ecosystem, including non-market elements such as NGOs, industry consortiums, governments, companies in related supply chains, and global communities.

Digital Operations: Autonomous Automation and the Smart Execution of Work.

Robert N. Boute, KU Leuven and Vlerick Business School; **Jan A. Van Mieghem**, Kellogg School of Management, Northwestern University

In digital operations, firms use a data IT platform to digitally support their workflow. By linking the platform to the Internet, they enable web-based applications, remote assistance, and real-time connections with physical devices (Internet of Things) and mobile/wearables (Internet of People). Like airport control towers, digital operations permit firms to monitor and visualize the flow of work in real time. A digital foundation allows companies to use advanced algorithms, and perhaps artificial intelligence, for real time analysis and optimization. By digitizing operations they can augment human work with smarter workflows or replace it with increased automation. We present a framework that disentangles the implications of automation and autonomy from those of smart control and artificial intelligence.

By evaluating the levels and reach of digitization, automation, and smart control throughout the value chain, we offer a diagnostic tool that can guide future digitization. Finding your optimal level of digitization requires a careful cost-benefit analysis. In complex environments, the cost of autonomous automation often exceeds its benefit. We therefore believe that collaboration between human and machine will remain worthwhile. We caution against full automation in complex settings with high downside risk because such autonomous automation requires the highest level of smart control.

The Cost of Capital. If Not the CAPM, Then What?

Ivo Welch, UCLA Anderson Graduate School of Management

The capital asset pricing model (CAPM)—the workhorse model for determining the cost of capital—is simply wrong. In fact, the equity component is so badly wrong that it is better to ignore it altogether and instead to assign *equal* costs of capital to equities with different market-betas. The CAPM is still taught because it has taken on a life of its own. Students need to learn it only because most firms and valuation assessors use it, not because it has any empirical validity. However, this does not mean that projects should all be assigned the same cost of capital. There are many project and corollary characteristics that should be used to help assess differing costs of capital. For example, comparables, leverage ratios, market capitalization, project duration, liquidity, etc., should all be taken into account. Unfortunately, good cost of capital estimates no longer follow a simple, tidy theory. C'est la vie. I suggest an alternative, albeit

ad hoc, capital structure theory: firms could minimize the weighted cost of debt capital, effectively ignoring the cost of equity capital.

Give Yourself a Nudge to Make Smarter Business Decisions.

Ralph L. Keeney, Fuqua School of Business, Duke University

The foundation for quality decisions rests upon three elements: defining the decision, stating its objectives, and creating alternatives from which to choose. Research shows that many people make decisions without working through these steps, which leads them to make inferior decisions. Our innovative approach uses a range of concepts and techniques to help you create a sound foundation for your decisions. Defining the decision you *should* make constitutes a decision in itself. It helps to develop several decision statements and select the most appropriate one. To help you generate a complete set of objectives for your decision, we suggest several mind-stimulating techniques drawn from decision consulting experience and practical research. Use these objectives to create desirable alternatives, since any useful alternative must contribute to at least one objective. Then, combine initially suggested alternatives to create

alternatives that contribute to all of your objectives. The full set of objectives will guide you to select the alternative which will best achieve them. As you work through the three foundational decision elements, you will better understand your decision, nudging yourself toward the ultimate business advantage: making smarter decisions.

How Analytics Allowed the FCC to Save \$7.3 Billion by Auctioning Underused Television Spectrum.

Subodha Kumar, Temple University

In order to reallocate underutilized portions of the television spectrum to the wireless industry, the US Federal Communications Commission (FCC) innovatively used modern analytical tools to design and enact the world's first two-sided incentive auction. This auction not only allowed the FCC to save \$7.3 billion, but also helped to meet the growing US demand for wireless data and created jobs throughout the country. This use of analytical tools has lasting implications and lessons for managers and policymakers, not only in telecommunications, but also in related industries. It constitutes an exceptionally efficient means of matching supply against demand. Other industries, such as healthcare and hospitality, face similar apparent mismatches and might profitably employ a similar process.