

## UNDERSTANDING AND TACKLING SOCIETAL GRAND CHALLENGES THROUGH MANAGEMENT RESEARCH

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**“Grand challenges” are formulations of global problems that can be plausibly addressed through coordinated and collaborative effort. In this Special Research Forum, we showcase management research that examines societal problems that individuals, organizations, communities, and nations face around the world. We develop a framework to guide future research to provide systematic empirical evidence on the formulation, articulation, and implementation of grand challenges. We highlight several factors that likely enhance or suppress the attainment of collective goals, and identify representative research questions for future empirical work. In so doing, we aspire to encourage management scholars to engage in tackling broader societal challenges through their collaborative research and collective insight.**

The world is besieged by challenges. Discourses in public media suggest that this decade is characterized by political instability, economic volatility, and societal upheaval. Whether it is war in Syria, migrant crises in Asia and Europe, climate change-induced natural disasters, poverty, water scarcity, or famine, global challenges remain stubbornly persistent despite technological, economic, and social progress. Whether it is elections to government office or discussions on trade and open borders, sociopolitical dialogues are increasingly nationalistic, populist, and socially divisive in many countries. Nascent technologies, such as the “Internet of Things,” machine learning, and artificial intelligence, threaten employment and will likely displace significant parts of the workforce. Even if potential solutions exist, these global problems require coordinated action. In this context, businesses have become active in vocalizing their concerns and working with governments and multilateral agencies to address these crises—with a goal of providing socially inclusive growth in which the poorest and the disenfranchised will have the opportunity to participate in social and economic progress. This is an opportune moment for management scholars to join the debate and turn research into actionable insights to frame and tackle some of the biggest challenges that we face in our global community.

### GRAND CHALLENGES: WHAT ARE THEY AND WHY SHOULD WE CARE?

The *Academy of Management Journal*'s 20th editorial team has defined its three-year term with a thematic emphasis on “grand challenges” (hereafter, GCs), and called for research through editorials on a wide array of topics that explored global problems including climate change (Howard-Grenville, Buckle, Hoskins, & George, 2014), aging societies (Kulik, Ryan, Harper, & George, 2014), natural resources (George, Schillebeeckx, & Liak, 2015), societal resilience (van der Vegt, Essens, Wahlstrom, & George, 2015), digital workforce (Colbert, Yee, & George, 2016), digital money (Dodgson, Gann, Wladwsky-Berger, Sultan, & George, 2015), and gender inequality (Joshi, Neely, Emrich, Griffiths, & George, 2015) among others, as well as methodological approaches with which to tackle them (Eisenhardt, Graebner, & Sonenshein, 2016; George, Osinga, Lavie, & Scott, 2016). This Special Research Forum is a culmination of the current editorial team's efforts to encourage research on societal problems with the aspiration that more management scholars would join global efforts at understanding and solving persistent, but tractable, GCs.

## Defining a Grand Challenge

The term “grand challenge” begins with the efforts of Dr. David Hilbert, a German mathematician later recognized as one of the most influential 20th-century mathematicians, who, in 1900, at the International Congress of Mathematicians in Paris, listed a set of 23 problems that were collectively termed as “grand challenges” (Hilbert, 1902). These challenges were specific mathematical problems that were articulated and formulated to spur interest and dialogue among mathematicians, which in turn generated breakthroughs in mathematics, physics, and other scientific fields. This idea of articulating challenges to focus efforts on addressing common problems has been used successfully by foundations, governments, academies, and multilateral agencies to engender collaborative responses to solving global problems. Though several definitions of GCs exist, they tend to focus on specific domains (e.g., health or engineering). We use a modified definition that was developed by Grand Challenges Canada (2011: iv), and define a “grand challenge” as *specific critical barrier(s) that, if removed, would help solve an important societal problem with a high likelihood of global impact through widespread implementation.*

GCs, by their very nature, require coordinated and sustained effort from multiple and diverse stakeholders toward a clearly articulated problem or goal. Solutions to GCs typically involve changes in individual and societal behaviors, changes to how actions are organized and implemented, and progress in technologies and tools to solve these problems. Thus, the tackling of GCs could be fundamentally characterized as a managerial (organizational) and scientific problem. Natural and physical scientists and engineers have readily adopted such a lens and GC language in their definition of global problems, with social scientists recently joining this coordinated effort.

## Sustainable Development Goals

There are several GCs defined by foundations; for example, the Bill and Melinda Gates Foundation’s GCs for global health have seven stated goals (e.g., improve vaccines) and 14 articulated GCs (e.g., develop vaccines that do not require refrigeration). Perhaps the most universal and widely adopted GCs, though, are the Sustainable Development Goals (SDGs) of the United Nations (UN). At a historic UN summit in September 2015, 193 member states of the UN adopted a set of 17 goals to end poverty, protect the planet, and ensure prosperity for all as part of a sustainable

development agenda. These 17 SDGs set 169 targets between them to be achieved by 2030. Figure 1 provides a concise representation of the SDGs. In Table 1, we provide further detail and give specific empirical examples of GC targets and problems faced by different countries.

Many SDGs are directly relevant to management scholars, chief among them “decent work and economic growth” (SDG 8), “industry, innovation, and infrastructure” (SDG 9), and “responsible consumption and production” (SDG 12). Related SDGs on which management scholars already conduct significant research include “no poverty” (SDG 1), “good health and well-being” (SDG 3), “gender equality” (SDG 5), and “reduced inequalities” (SDG 10). Other SDGs predominantly tend to be *contexts* for our empirical studies rather than the goal itself. For example, “affordable and clean energy” (SDG 7) could be served through empirical research on sustainable and green practices of businesses wherein management research might provide insight for businesses and prepare them to act toward these goals. The elegance of the SDGs are in the articulation that human progress stems from achieving these clear targets through collective, collaborative, and coordinated effort.

## GRAND CHALLENGES AND MANAGEMENT RESEARCH

The response for this Special Research Forum call on GCs in management was overwhelming. We have reviewed more than 130 submissions and included 14 of the accepted articles in this issue.<sup>1</sup> The studies vary in context and issues being addressed, giving a rich variety of ideas for future research in management. In this section, we highlight how management scholars are studying these social problems. We separate the studies into two broad themes: (1) studies that address how management theories can be applied to address GCs—that is, *management insights on how global problems can be tackled*; and (2) studies that identify mechanisms and contexts by which GCs affect organizations and institutions—that is, *how global problems affect our business and work environments*.

<sup>1</sup> At the time of going to print, a handful of manuscripts were undergoing further revisions. These articles will appear in a 2017 *AMJ* issue. A few studies were conditionally accepted when this editorial was written and are integrated into this editorial, but the studies themselves will appear in print at a later date.

**Management as a Tool to Address Grand Challenges**

Eradicating and treating diseases that afflict the poorest in the world is one of the most compelling GCs of our time. Vakili and McGahan (2016) tackle health care as a GC, focusing on investments to stimulate basic scientific research on diseases that afflict the poor. They analyze how policies developed in affluent countries fail to address this important challenge. Specifically, the authors focus on the World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which came into effect in 1994, and the extent to which it has encouraged the use of basic science as a prerequisite to develop drugs for neglected diseases. Vakili and McGahan’s global-response analysis reveals that this requirement did indeed lead to an increase in research in both neglected and non-neglected diseases in TRIPS-compliant countries, and that this effect was the strongest for basic research on neglected diseases and applied research on non-neglected diseases. At the local level, basic research on neglected diseases increased in TRIPS-compliant low-income countries. The authors conclude that, although policies

designed to enhance science do play a role in increasing research on neglected diseases, delays in commercialization given an emphasis on basic research may limit the effectiveness of these policies. These findings may be extended to understand the effects of institutions on innovation and on institutional emergence and development in relation to tackling GCs.

Leveraging observational and interview data collected over a decade’s engagement with Gram Vikas, a non-governmental organization tackling water and sanitation issues in rural India, Mair, Wolf, and Seelos (2016) expose how such interventions can be effective at shifting broader norms underpinning persistent patterns of inequality. They advance *scaffolding* as a process that can transform the institutional and cultural patterns that allow GCs such as inequality to persist, drawing attention to how diverse groups of people can be drawn into new patterns of interaction that are ultimately stabilized into a new social order. While scaffolding involves the mobilization of specific resources to enable this transformation, it also importantly conceals more controversial goals, by, for example, presenting the proximate goal of sanitation to mask the goal of upsetting traditional social systems that sustain inequality.

**FIGURE 1**  
**UN Sustainable Development Goals**



Source: United Nations. 2015. Sustainable Development Goals. <http://www.un.org/sustainabledevelopment/> Accessed November 1, 2016

Source: United Nations (2015a)

**TABLE 1**  
**UN Sustainable Development Goals and Exemplars**

Goals <sup>a</sup>	Goal Target Examples	Numbers from the World, Regions, and Countries
1. <i>No Poverty</i> —end poverty in all its forms everywhere	By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	More than 800 million people live in extreme poverty, most of them in Southern Asia and Sub-Saharan Africa <sup>b</sup>
2. <i>No Hunger</i> —end hunger, achieve food security and improved nutrition, and promote sustainable agriculture	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round	Percentage of population undernourished: <sup>c</sup> Zambia, 47.8%; Central African Republic, 47.7%; Namibia, 42.3%; Democratic Republic of Korea, 41.6%
3. <i>Good Health and Well-Being</i> —ensure healthy lives and promote well-being for all at all ages	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	Children under-5 mortality rates per 1,000 live births: <sup>d</sup> Angola, 156.9; Somalia, 136.8; Haiti, 69.0; Lao People's Democratic Republic, 66.7
4. <i>Quality Education</i> —ensure inclusive and equitable quality education and promote lifelong learning for all	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	Literacy rate, population 24–65 years, both sexes: <sup>e</sup> Guinea, 23.9%; Mali, 26.79%; Afghanistan, 27.1%
5. <i>Gender Equality</i> —achieve gender equality and empower all women and girls	Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	Global Gender Gap Index (2015) score: Iceland, 0.881; Norway, 0.850; United States, 0.740; Pakistan, 0.559; Yemen, 0.484 <sup>f</sup>
6. <i>Clean Water and Sanitation</i> —ensure availability and sustainable management of water and sanitation for all	By 2030, achieve universal and equitable access to safe and affordable drinking water for all	Percentage of population using improved drinking-water sources: <sup>g</sup> Angola, 28.2%; Papua New Guinea, 32.8%; Afghanistan, 47.0%
7. <i>Affordable and Clean Energy</i> —ensure access to affordable, reliable, sustainable, and clean energy for all	By 2030, increase substantially the share of renewable energy in the global energy mix	Percentage of population with access to electricity: <sup>h</sup> Austria, 100%; Singapore, 100%; South Sudan, 5.1%; Malawi, 9.8%
8. <i>Decent Work and Economic Growth</i> —promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all	Sustain per-capita economic growth in accordance with national circumstances, and, in particular, at least 7% gross domestic product growth per annum in the least developed countries	Two-thirds of young women and men in developing countries are unemployed <sup>b</sup>
9. <i>Industry, Innovation, and Infrastructure</i> —build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Researchers in R&D (per million people): <sup>h</sup> Finland, 7,717; Singapore, 6,307; Guatemala, 25; Mali, 29
10. <i>Reduced Inequalities</i> —reduce inequality within and among countries	By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average	Gini index (World Bank estimate; reference year 2013): <sup>h</sup> Honduras, 53.7; Brazil, 52.9; Ukraine, 24.6; United States: 41.1
11. <i>Sustainable Cities and Communities</i> —make cities and human settlements inclusive, safe, resilient and sustainable	By 2030, ensure access for all to adequate, safe, and affordable housing and basic services, and upgrade slums	Over half of the world population lives in cities. <sup>i</sup> Largest cities around the world (in millions) include: Tokyo, 38; Delhi, 28; Shanghai, 25
12. <i>Responsible Consumption and Production</i> —ensure sustainable consumption and production patterns	Implement the 10-year framework of programs on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	To sustain the current lifestyle levels of an estimated 9.5 billion world population in 2050, natural resources equivalent of almost three planets will be required <sup>b</sup>
13. <i>Climate Action</i> —take urgent action to combat climate change and its impacts	Integrate climate change measures into national policies, strategies and planning	Global average sea level has risen nearly 7 inches (178 mm) over the past 100 years <sup>j</sup>

**TABLE 1**  
**(Continued)**

Goals <sup>a</sup>	Goal Target Examples	Numbers from the World, Regions, and Countries
14. <i>Life Below Water</i> —conserve and sustainably use the oceans, seas and marine resources for sustainable development	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	Almost half of the world population depends on marine and coastal biodiversity for its livelihood <sup>b</sup>
15. <i>Life on Land</i> —protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and stop and reverse land degradation and halt biodiversity loss	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought, and floods, and strive to achieve a land degradation-neutral world	The reduction in food production owing to land degradation over the next 25 years is expected to increase world food prices by 30% <sup>k</sup>
16. <i>Peace and Justice</i> —promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels	End abuse, exploitation, trafficking, and all forms of violence against and torture of children	Estimated percentage of population in modern slavery: <sup>l</sup> North Korea, 4.373%; Uzbekistan, 3.973%; Cambodia, 1.648%; India, 1.400%; Qatar, 1.356%
17. <i>Partnerships for the Goals</i> —strengthen the means of implementation and revitalize the global partnership for sustainable development	Significantly increase the exports of developing countries, in particular with a view to doubling the least-developed countries' share of global exports by 2020	Merchandise exports by least-developed countries account for 1.1% of world trade <sup>b</sup>

<sup>a</sup> United Nations (2015a)

<sup>b</sup> United Nations (2015b)

<sup>c</sup> Food and Agriculture Organization of the United Nations (2015)

<sup>d</sup> World Health Organization (2015a)

<sup>e</sup> UNESCO Institute for Statistics (2016)

<sup>f</sup> Global Gender Gap Index 2015 rankings (scores range from 1 = *equality* to 0 = *inequality*) (World Economic Forum, 2015)

<sup>g</sup> World Health Organization (2015b)

<sup>h</sup> World Bank (2013)

<sup>i</sup> United Nations (2014)

<sup>j</sup> NASA (2015)

<sup>k</sup> United Nations (2012)

<sup>l</sup> Walk Free Foundation (2016)

Cobb, Wry, and Zhao (2016) investigate the funding of “microfinance organizations,” the providers of financial services that have been considered as effective means in alleviating poverty in least developed and developing countries. Their article on funding financial inclusion contributes to the institutional logics perspective by contrasting the financial logic of commercial funders with the developmental logic of public funders. Using data from 891 microfinance organizations and their 1,490 funders in 92 countries over the period of 2004–2012, Cobb and his colleagues demonstrate that different funders, owing to their different institutional logics, prefer to invest in different types of microfinance organizations based on the organizations' size and performance. However, the authors find a convergence in these institutional logics, leading to a focus on the size of microfinance organizations and thus to the inability of smaller microfinance organizations to attract funding. This change

in funding, in turn, has adverse effects on the microfinance sector and those in need of inexpensive loans during times of uncertainty.

Zhao and Wry (2016) focus on the issues of gender equality and poverty reduction in the context of microfinance lending in 115 developing countries. They conceptualize lending to women borrowers by microfinance organizations as a reflection of patriarchy, a broader societal logic. Their analysis of archival data on 2,326 microfinance organizations from 1995 to 2013 and interviews with 27 professionals in 14 countries reveals that patriarchy has different influence across sectors of the society such as the family, religion, professional, and state. In addition to contributing to research on institutional logics, their empirical evidence on the varying effect of patriarchy on different societal sectors may help microfinance organizations in developing different funding and lending practices in societies characterized by different levels of patriarchy, and, thus,

improve the effectiveness of financial assistance to the poor in developing countries.

Lawrence (in press) analyzes how North America's first and only government-sanctioned supervised injection site for illegal drug users was established in Vancouver, modeled on such sites in Europe. Drawing on this as a case of the successful translation of a morally, ethically, and emotionally divisive practice into a community, Lawrence theorizes a process of *high-stakes institutional translation*. High-stakes institutional translation is energized by intense public emotion around an issue, and proceeds through waves of discursive and material translations by actors with various perspectives, roles, and bases of legitimacy. Through these waves, ideas and practices that were once considered morally repugnant become locally validated and embedded in a community's network of concepts, routines, and relationships. In exposing how high-stakes institutional translation transformed supervised injection from a violation of moral standards (apparently condoning illegal drug use) into an important component of health care provision (recognizing that drug addiction was a medical condition and drug addicts were worthy of respect and compassion), Lawrence's analysis sheds light on how ideas and practices surrounding morally charged GCs might be ultimately transformed.

Using a seven-year panel dataset, Berrone, Gelabert, Foce Massa-Saluzzo, and Rousseau (2016) address income inequality by testing a framework that examines how institutional and competitive dynamics across over 200 communities in the United States influence the role of non-profit welfare organizations. The article reveals an interesting non-linear trend in how non-profit organization density in a community impacts its income inequality—increasing the number of these welfare organizations reduces inequality, but only up to a point and only under certain conditions. Beyond a certain density, the authors surmise that resources may be inefficiently deployed and have diminishing effects on inequality. Surprisingly, weak government policies increased the effectiveness of these organizations in reducing inequality, suggesting that welfare organizations compensate for inadequate state support.

In a similar vein, Olsen, Sofka, and Grimpe (2016) provide an understanding of the complexity of coordination across multiple stakeholders in resolving GCs. Partnerships between multiple organizations to search for solutions—"search consortia"—are successful not only because of the technological capabilities of partners, but also based

on the participation of advocacy groups that do not have any technological capacity and yet occupy a unique vantage point to address the challenge. Based on a dataset of all 35,249 applications submitted to the European Commission's Seventh Framework Programme for research and technological development (FP7), spanning 192 different problem areas such as health, information, transportation, and energy, the authors find that GC environments do differ in the extent to which they include advocacy groups. However, the involvement of these groups reflects a deeper understanding of stakeholder concerns, particularly when consortia represent dispersed technological knowledge. These groups also provide a legitimizing influence when a consortium lacks prior experience. The authors discuss the implications of these findings for stakeholder theory.

In their study of resilience and sustenance in the context of the 2010 Haiti earthquake, Williams and Shepherd (2016) use a grounded methodology to unpack the role of emergent organizations in responding to natural disasters. Their analyses reveal two types of approaches respecting how these organizations respond to suffering and build resilience to disasters: sustaining and transforming. Both approaches were able to address basic needs of survivors, but the latter was associated with greater self-reliance, while the former led to greater dependence on the organization. Through their rich observational, interview, and archival data gathered over two years, the authors develop a new understanding of the competencies organizations need to build resilience in the wake of disasters.

Ballesteros, Useem, and Wry (in press) also study disaster relief, but examine the role of local corporates in disaster response. They predict that, while traditional aid providers are important for disaster recovery, relief will arrive faster and nations will recover more fully when locally active firms account for a larger share of disaster aid. These authors use a proprietary dataset comprising information on every natural disaster and reported aid donation worldwide from 2003 to 2013. The analysis uses a novel, quasi-experimental technique known as the *synthetic control method* and shows that nations benefit greatly from corporate involvement when disaster strikes.

### **Grand Challenges and their Impact on Organizations and Institutions**

The following set of studies examines how societal problems and GCs affect organizations and institutions, and, in turn, how these actors respond (or fail to respond) to these challenges.

In a study of sustainability practices in “conflict minerals,” Kim and Davis (2016) explore the challenge of supply chain accountability in an era of globally distributed production and diverse labor and environmental practices. Exploring what companies disclosed to comply with legislation requiring them to report on whether their products contain conflict minerals sourced from the Democratic Republic of the Congo, Kim and Davis found that a mere 1% of companies could certify their products as conflict-mineral free. Based on cross-sectional regression analysis, the authors conclude that nearly eight out of ten companies are unable to determine the provenance of these minerals in their products. Organizational complexity, most notably the sheer size and geographical scope of companies’ supply chains, is the primary contributor to this outcome. Only when controlling for supply chain complexity does a company’s reputation influence its likelihood of verifying its products as conflict-free. The authors present their problem-driven inquiry as an opportunity to build understanding of how greater accountability could be achieved in supply chains through collective, voluntary efforts, including those that might lower the costs of collecting verification information.

An aging workforce has been recognized as a GC facing employers and governments alike all over the world. Using a stereotype threat model, Kulik, Perera, and Cregan (2016) examine the impact of threat-inducing and threat-inhibiting contextual factors on the engagement of older workers. A key insight offered by the study is that diversity-conscious organizational practices helped mitigate the effects of threat-inducing factors, but diversity-blind or high-performance practices had a direct effect on engagement among mature-age workers regardless of other threat-inducing facets of the context. The authors recommend that organizations rely on the complementarities between these different types of practices to maintain engagement among their mature-age workforce.

Luo, Zhang, and Marquis (2016) explore the question of how civil society can influence businesses operating in countries with authoritarian regimes. Because the Internet is a potentially potent vehicle for activism in societies where traditional media is restricted, the authors theorize that Internet users might trigger corporate responses through a mechanism of social comparison. Using regression analysis of corporate contributions to disaster relief following the catastrophic 2008 earthquake in Sichuan Province, China, the authors explore the

relationship between Internet activism and the speed and scope of corporate responses. They find that online rankings and articles on corporate donations are tactics that speed corporate responses, as does firms’ higher image vulnerability. Luo, Zhang, and Marquis’ findings shed light on a new form of activism that might be especially important in societies where traditional social movements have limited leverage, suggesting the power of social comparison for addressing corporate power in authoritarian societies, as well as new directions for the literature on social movements and organizations.

Speaking to societal inequality and growing up in poverty, Martin, Côté, and Woodruff (2016) find that early-childhood economic status exerts a long-term influence on many facets of effective leadership. The authors test their hypotheses in the context of active-duty U.S. army soldiers, a setting in which the current income of respondents is comparable. Using multisource data, the authors combine social learning theory with the trait-behavioral model of leadership to put forth a serially mediated model that shows a link between parental income, narcissism, task-, relational-, and change-oriented leadership behaviors and reduced engagement behaviors among direct reports.

Climate change is a GC that has been characterized as a “super wicked” problem because of the scale, scope, and time horizon over which mitigation efforts must take place, without central authority. As Wright and Nyberg (in press) demonstrate, corporate responses to such challenges might be visionary and expansive at first, but become watered down considerably over time due to the sheer contentiousness of the issue. Drawing on longitudinal analysis of five Australian companies operating in different industries, Wright and Nyberg develop a process model that captures a common trajectory of the early framing of climate change as an urgent issue for business eventually being normalized into business as usual. The authors assert that this response to a GC, by the very organizations that are at the heart of contributing to the challenge, is a cautionary tale for the limits of business alone to address GCs.

In their article on health care service provision and regulatory environments, Heese, Krishnan, and Moers (2016) offer insights into the organizing of the global health GC by studying regulatory reactions to mispricing practices in the health care industry of the United States. Using patent and hospital data from California from 1996 to 2007, they illustrate the challenges local governmental agencies face in their efforts of providing access to affordable health

care in the state while reducing the occurrence of fraudulent practices, such as mispricing. The authors contribute to the literature on decoupling by introducing the idea of *selective decoupling*, exhibited by regulators' greater leniency toward the mispricing practices of beneficent hospitals, or hospitals that provide charity care and medical education, relative to other nonprofit hospitals. Beneficent hospitals, in turn, also selectively decouple their activities, according to the findings of Heese and his colleagues. These hospitals provide medical services to their uninsured patients while "upcoding" their services for the care of their insured patients.

Drawing on an ethnographic study of medics at the British-led Camp Bastion hospital in Afghanistan, de Rond and Lok (2016) explore how institutional and organizational contexts shape psychological injury from war. War and its psychological costs are under-examined because rarely have injuries like post-traumatic stress disorder been considered in light of the cultural, professional, and organizational contexts that produce them. The authors find that medics' feelings of senselessness, futility, and surrealism arose from the dissonance they experienced between their professional and cultural values and the reality they faced on the ground. Unable to enact an ethic of care while conforming to organizational rules, such as those that demanded they hand over injured Afghan children to inadequate local hospitals, led medics to use various ultimately ineffective coping mechanisms. The authors explore implications of a contextual understanding of war and its psychological costs for extending institutional theory to consider the existential stakes associated with participating in organizational life. They also expose the dark side of people's calling to meaningful work that is both essential to addressing GCs but stymied by the very organizational contexts in which those challenges are acted upon. Additionally, the authors reflect on implications for studying GCs, and, similar to Mair and colleagues' (2016) study, assert that such challenges cannot be adequately addressed without considering the social, institutional, and cultural contexts in which they reside.

Exploring the research–practice gap through a stakeholder lens, Banks, Pollack, Bochantin, Kirkman, Whelpley, and O'Boyle (2016) interview management academics and practitioners to build theory on the causes of the gap. Considering this gap itself a GC for academics and management practitioners, the authors also survey a larger sample of academics and practitioners to learn their perspectives on the management field's GCs. This

reveals 22 topics that could benefit from collaborative research between academics and practitioners, of which more than one third are recognized by each stakeholder group (academics and practitioners). The article summarizes some challenges that we have good knowledge about, and finds that the pay gap is the most-articulated challenge needing further work. The authors reflect on ways to address the research–practice gap through collaboratively designed projects and attention to issues that matter to both stakeholder groups.

Taken together, this set of studies provides detailed insight into interventions to address GCs. The studies draw on a range of theoretical lenses to better explain why, and under what conditions, certain practices are (in)effective or (in)appropriate. Similarly, the second set of studies focus on how organizations are affected by and respond to global problems. These studies articulate the challenge of accommodating global issues within a work environment. Whether it is an aging workforce or gender inequality, organizations are being shaped by the global context. The questions examined in this research serve as exemplars of management research with potential for societal impact, and engenders new streams of research on tackling GCs. These studies collectively highlight that management research can serve a complementary function to corporate, social, and multilateral initiatives by helping better understand the problems, and, indeed, by providing an organizational perspective to convert stubborn societal problems into tractable managerial challenges.

## A FRAMEWORK TO STUDY GRAND CHALLENGES

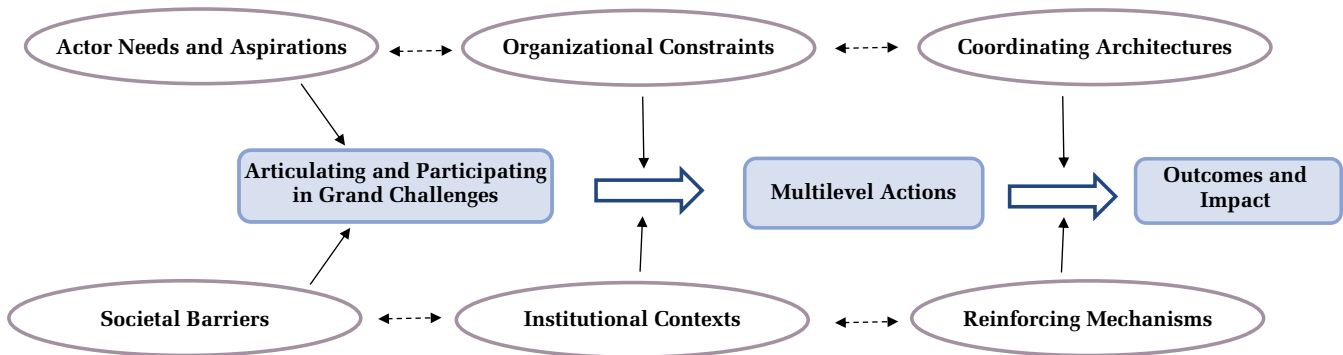
We develop a framework with which to explore the study of GCs from an organizational and management perspective. Our goal is not to provide a comprehensive review of prior work. Indeed, many researchers have articulated the need to study GCs (e.g., Colquitt & George, 2011; Ferraro, Etzion, & Gehman, 2015; George, 2014) or have developed models and theoretical lenses useful for examining the organizational drivers of socially inclusive growth (e.g., George, McGahan, & Prabhu, 2012). However, in this article, we propose a higher-order framework that integrates work on GCs and provides a structure to embed future research in this area. In Figure 2, we provide an illustration of our framework.

### Articulating and Participating

The core of beginning to address a GC lies in its articulation. The call to address the challenge needs



**FIGURE 2**  
**A Framework for Addressing Grand Challenges**



to inspire others to contribute effort and resources with a sense of purpose. An organization with purpose likely embraces certain values such as dignity, solidarity, plurality, subsidiarity, reciprocity, and sustainability, and targets its efforts at a common good in addition to the pursuit of its own goals (Hollensbe, Wookey, Loughlin, George, & Nichols, 2014). In our editorial on natural resource scarcity (George et al., 2015), we highlighted minimal engagement with this topic in the management literature and articulated a research agenda around corporate and institutional responses as well societal and individual impacts of scarcity. In doing so, we attempted to frame the GC of resource sufficiency within a global context in such a way that it would appeal to scholars within many divisions of the Academy. The participation, vocalization, and identification of GC goals is a foundational step to its success, which requires sponsors to develop collective goals that harness individual and societal aspirations by giving them a collective sense of purpose.

The SDGs were built on consensus among the UN's member states and achievement of the UN's Millennium Development Goals. Whether it is the Gates Foundation or the Executive Office of the President of the United States, articulation of GCs toward a common goal (e.g., "improve nutrition" or "land a person on the moon and return them safely to Earth") and the participation of stakeholder groups raise interesting questions for management scholars on how organizations can inspire purpose. In addition, the statement of the GC as a consensus of multiple stakeholder voices also creates opportunities for research on negotiations, consensus-seeking behaviors, re-directing narratives, and identifying achievable but inspiring goals. For example, Vakili and McGahan (2016) explore organizational responses

when a goal is articulated to stimulate basic research on therapies that address diseases of the poor. Alternatively, scholars can explore how the articulation of GC goals sometimes leads to organizational efforts that fall short, but nonetheless represent important movement toward addressing the GC. For example, Kim and Davis (2016) find that the expression of concern over mining of conflict minerals led to organizational efforts to learn more about their supply chains, even when full disclosure of conflict-free supply was rare.

### Actor Needs and Aspirations

The GC is a reflection of actor needs and aspirations, even if the actors themselves do not have the voice to articulate needs (e.g., marine life or poverty). Regardless of whether the focal actors are able to voice their own needs and aspirations or rely on third parties to give them voice, these actors likely have multiple goals and agendas, and priorities within and among them. These goals could also have conflicting elements; for example, provision of employment in the natural resource-rich countries of Africa could also conflict with the exploitation of natural resources and protection of the local environment. The identification of actor needs and the alignment of goals toward a common, shared agenda is a research agenda in itself. Mair et al.'s (2016) study of how a non-governmental organization concealed its actual goal of eliminating persistent social inequality under a proximate goal of providing sanitation is an example of how actors can work to achieve goals that might be threatening to others who may not share their aspirations. At the same time, when multiple actors attempting to coordinate efforts as members of a search consortium have

complementary capabilities, Olsen and colleagues (2016) show that they can resolve coordination challenges and enhance goal alignment.

### **Societal Barriers**

GCs are targeted toward the elimination of a specific barrier, which could be manifest in several forms. Individual barriers (e.g., physical disability or lack of education), sociocultural barriers (e.g., caste or stigmatized communities), technological barriers (e.g., Internet or medical access), and structural barriers (e.g., poverty) are the root causes of disenfranchisement and disengagement from mainstream socioeconomic progress and well-being (e.g., George et al., 2012). How these barriers influence access to opportunities or livelihood, and what roles organizations can play in mitigating or overcoming these barriers, are at the foundation of GCs. For example, Kulik et al. (2016) consider how organizational policies influence the experiences of mature-age workers. In Zhao and Wry's (2016) study, patriarchy underpins the widespread practice of lending to women by microfinance organizations, but is shown to have different outcomes under different conditions.

### **Organizational Constraints**

When collective goals are involved and orchestrated resources are needed, the question becomes one of benefit and to whom it accrues. Given the nature of the problems, several organizational constraints arise, including coordination costs among stakeholders, goal and incentive conflicts within the management team, information asymmetry, and transaction costs between partner firms in a collaborative effort. These organizational problems likely frustrate goal-directed action. The related challenge is also to decide who bears the cost and how these costs are shared in a multi-actor, multi-engagement model over time. Here, studies on public-private partnerships and issues of conflicts, constraints, and costs between partners who have differing agendas and goals become an important area of research (Tihanyi, Graffin, & George, 2014). Organizational constraints are also manifest in how organizational actors approach their work; Cobb et al. (2016) find that microfinance funders targeted a certain size of microfinance organization because of the institutional logics that guided them, resulting in the exclusion of some microfinance organizations from funding. In acting on initially bold aspirations to address climate change, businesses in Wright and Nyberg's (in press) study eventually regressed as

actions were deemed too risky in light of the issue's contentiousness.

### **Institutional Contexts**

When we discuss the global reach of GCs, it is critical to recognize that institutional contexts differ widely. Societal norms or logics may influence how participants think of the goal, whether they engage, and how they act. Institutional contexts also reflect issues such as stability and intent of governments, societal norms and taboos, regulatory environment and rule of law, social activism in public life, and organizational engagement with public problems. Institutional contexts vary by communities, countries, and regions, and this pluralism will affect coordinated action and behavior of actors in a loosely monitored coalition or collaboration. In our review of studies in the African continent, for example, we find that the ability to shape the institutional context toward the achievement of common goals remains a significant roadblock for shared socioeconomic progress (George, Corbishley, Khayesi, Haas, & Tihanyi, 2016). For example, Martin and coauthors (2016) show how childhood poverty acts as a barrier to people in their workplace relationships and inhibits their leadership. Berrone and colleagues (2016) also highlight the role of institutional context, showing compensatory dynamics at play among institutional actors such as local governments and welfare agencies in reducing income inequality.

### **Multilevel Actions**

Actors operate at multiple levels—at the individual level (e.g., person, group), community level (e.g., village or city), country or regional level (e.g., Syria or Middle East), and the multilateral level (e.g., UN, European Union, Gulf Cooperation Council). These actors' behaviors or actions have multilevel influences, either as trickle-down or bottom-up effects. Regulation and government interventions could drive corporate actions toward sustainable goals or could divert them. These multilevel actions could be aligned synergistically toward goals or could also compete and frustrate the attainment of higher- or lower-level goals. The relationship between actors at different levels and their mutualism affects how actors behave, and has important implications for the attainment of GC outcomes. For example, in their study of corporate responses to the Sichuan earthquake, Luo et al. (2016) consider how Internet activism by Chinese citizens influenced the speed and

scope of corporate giving, especially in the absence of other channels for activism in an authoritarian society. De Rond and Lok's (2016) account demonstrates how individual experience of post-traumatic stress disorder is shaped by organizational and professional norms that operate within the even broader institutional contexts of warring nations. And, Kulik et al. (2016) demonstrate how organizational practices can seep into the individual-level stereotype threat responses of mature-age workers to influence their attitudes toward work.

### Coordinating Architectures

Given the multistakeholder, multilevel functioning of global GCs, coordination and structural architectures to enable dialogue and mutual understanding become critical. Management scholars have studied multi-actor coordination in different contexts; for example, standard setting in technological or social platforms. Structural apparatus helps to coordinate goals, develop and reinforce norms, standards, and compliant behaviors, and funnel resources toward those actors implementing actions or bearing the costs of this effort. The pacing, building, empowering, or dismantling of these coordinating architectures has implications for the nature of the outcome attainment and whether specific goals are met. For example, the study by Olsen et al. (2016) shows that the involvement of advocacy groups within consortia searching for solutions to GCs enables a deeper understanding of stakeholder concerns and brings a legitimizing influence to the consortia's work. Berrone et al. (2016) illustrate the limits to the effectiveness of non-profit welfare organizations when these increase in density beyond a certain point. Ballesteros and colleagues (in press) find that local private entities were likely more responsive than other organizational structures in responding to disasters, which frames this issue of coordination as a fundamental problem in GCs.

### Reinforcing Mechanisms

The UN SDGs are targets to be achieved by 2030, and continued efforts to achieve these targets need to be sustained over time. Reinforcing mechanisms are those structural (e.g., poverty, hunger), natural (e.g., earthquakes, fresh water), or social mechanisms (e.g., immigrant crises) by which actors are motivated and replenish their efforts toward goal-directed solutions in a sustained manner. These

mechanisms include continued societal vocalism that sheds attention on specific problems and exogenous or natural events such as climate change-driven Arctic ice melt, bleaching of the Great Barrier Reef, famine due to water scarcity, or tsunamis and rising sea levels. These events focus our attention on existential problems and do not permit diversion of attention or dilution of effort toward GC goals. For example, the 2010 Haiti earthquake focused attention on relief and recovery efforts, as Williams and Shepherd (2016) document, but also drew attention to the socioeconomic fragility of the communities within which the disaster struck. Reinforcing mechanisms may be less event driven and more experiential, as when empathy drove and sustained the response of people with different experiences to contribute to addressing the problem of drug addiction in Vancouver in Lawrence's (in press) study.

### Outcomes and Impact

Measures of success vary across GCs, and they are contingent on how these GCs were articulated. Commonly discussed outcomes, however, capture scale in implementation and impact. Societal resilience to disasters and wars, organizational innovation and implementation of practices to address components and milestones toward a GC, as well as behavioral and societal change are all plausible outcomes. It is important to recognize that the 17 UN SDGs have 169 constituent targets, which can then be further decomposed into geographical, community, or organizational outcomes. Heese et al. (2016) show that efforts to reduce mispricing practices in hospitals are influenced by the reactions of regulators to hospital's other characteristics, demonstrating that measures of success are often subject to political processes.

Our framework provides an architecture to situate a rather complex, global, and multilevel challenge. Our intent is not to provide specific constructs but to facilitate ways to think about the GC issues. The framework might help management scholars identify specific societal or organizational barriers, and parse larger problems into smaller, definable research questions that can be tested with empirical rigor. To that end, in Table 2, we provide a summary table with the elements of the framework and some representative empirical questions. These questions could then use a micro, meso, or macro theoretical lens to draw out a theoretical contribution. The ultimate goal, beyond theory development, is impact

**TABLE 2**  
**Constituent Elements of the Grand Challenge Framework**

Categories	Exemplar Dimensions	Representative Empirical Questions
Actor Needs and Aspirations	<ul style="list-style-type: none"> <li>• Individual Needs</li> <li>• Organizational Aspirations</li> <li>• Community Goals</li> <li>• Societal Welfare</li> </ul>	<ul style="list-style-type: none"> <li>• Who articulates or sponsors a GC? How does that affect the participation of others?</li> <li>• Why and when do individuals (as consumers) change behavior toward collective social goals such as water conservation and food waste? How do organizations facilitate behavioral change processes through innovation, product development, and service design?</li> <li>• How do communities react to organizational practices that create or destroy social value? How do community aspirations shape organizational responses toward GCs?</li> <li>• When and why do aspirations and needs remain unsurfaced? What institutional, cultural, or organizational forces suppress the articulation of GCs?</li> <li>• How do interactions among organizations at the community or local level shape the expression of GCs?</li> </ul>
Societal Barriers	<ul style="list-style-type: none"> <li>• Individual Barriers</li> <li>• Technological Barriers</li> <li>• Structural Barriers</li> <li>• Social Barriers</li> </ul>	<ul style="list-style-type: none"> <li>• How do life circumstances, like childhood poverty, disability, or age, influence organizational participation and opportunity?</li> <li>• How does the Internet of Things affect individual employability, skills, organizational value chains, and business models? Do new technologies exacerbate poverty and employment? What models of reskilling and training are most effective for organizations, individuals, and governments?</li> <li>• When and how do social stigma or social structures (such as untouchability or caste, tribes) affect work environments, the types of work roles, and emotional well-being among the poor?</li> </ul>
Articulating and Participating in GCs	<ul style="list-style-type: none"> <li>• Multivocalism</li> <li>• Identification</li> <li>• Prioritization</li> </ul>	<ul style="list-style-type: none"> <li>• What factors promote voice and engagement in multilateral dialogs among organizations, societies, and their stakeholders? When is it most effective?</li> <li>• When and how do institutional logics shape identification and prioritization of issues worthy of action? How can alternative voices and additional perspectives be integrated?</li> <li>• How can top management teams identify and prioritize social goals and articulate organizational vision that aligns stakeholder and stockholder interests?</li> </ul>
Organizational Constraints	<ul style="list-style-type: none"> <li>• Coordination Costs</li> <li>• Transaction Costs</li> <li>• Goal Conflict</li> <li>• Incentive Conflict</li> <li>• Information Asymmetry</li> </ul>	<ul style="list-style-type: none"> <li>• Why do goal and incentive conflicts encourage short-termism and discourage long-term pursuit of GCs? How do employee and leadership commitment shape narratives on GCs?</li> <li>• Why and when do organizations self-disclose information on supply chain practices that violate social norms or inappropriately exploit natural resources?</li> <li>• Do certain compensation structures and incentives crowd out motivation toward GCs? What processes or practices can mitigate goal conflict?</li> </ul>
Institutional Contexts	<ul style="list-style-type: none"> <li>• Societal Logics</li> <li>• Institutional Pressures</li> <li>• Institutional Pluralism</li> </ul>	<ul style="list-style-type: none"> <li>• Why and when do societal logics shift to galvanize action toward GCs? How do societal shifts shape organizational practices and strategies?</li> <li>• How do professional norms suppress or help surface contradictions between intentions and actions on GCs?</li> <li>• How do organizations navigate institutional pressures and negotiate investment to achieve specific GC outcomes or targets?</li> </ul>

**TABLE 2**  
**(Continued)**

Categories	Exemplar Dimensions	Representative Empirical Questions
Multilevel Actions	<ul style="list-style-type: none"> <li>• Individual Behaviors</li> <li>• Organizational Practices</li> <li>• Government Regulation</li> </ul>	<ul style="list-style-type: none"> <li>• How do governments effectively regulate corporate responsibility actions? Are regulatory interventions successful in enabling organizational action toward GC goals?</li> <li>• What organizational processes and structures are needed to generate socially responsive practices in employment, production, and supply chains? How do practices help attain GC goals?</li> <li>• Under what conditions do changes in individual behavior accrue to shifts at the community, organizational, or societal levels? What roles do information technology, “celebrity” actions, and/or highly visible events have in enabling or inhibiting such shifts?</li> </ul>
Coordinating Architectures	<ul style="list-style-type: none"> <li>• Community Platforms</li> <li>• Shared Norms</li> <li>• Shared Resourcing</li> </ul>	<ul style="list-style-type: none"> <li>• When and how do shared norms develop between organizational stakeholders and their communities in the presence of goal and incentive conflicts?</li> <li>• How do advocacy organizations shape action on GCs? What influences do Internet and communication technologies have on advocacy organizations and their effectiveness?</li> <li>• Why do organizations commit to resource investments toward GCs? What are their motives, and how does it shape coordination of stakeholders?</li> </ul>
Reinforcing Mechanisms	<ul style="list-style-type: none"> <li>• Societal Vocalism / Attention</li> <li>• Exogenous / Natural Events</li> <li>• Goal-Directed Progress</li> </ul>	<ul style="list-style-type: none"> <li>• What triggers consumer, investor, or employee attention toward specific GCs? What factors sustain and reinforce their attention toward these goals over time?</li> <li>• How do exogenous shock events (e.g., drought, disaster) and media attention bias organizational goals?</li> <li>• Does short-term demonstrated organizational success toward a GC goal strengthen or reduce subsequent investments? Why do organizations persist (or desist) with GC goal-directed action?</li> <li>• What role do extreme advocacy groups play in altering the discourse around GCs and how do they shape opportunities for action by more moderate advocacy groups?</li> </ul>
Outcomes and Impact	<ul style="list-style-type: none"> <li>• Resilience</li> <li>• Innovation</li> <li>• Sustainability</li> <li>• Goal attainment</li> </ul>	<ul style="list-style-type: none"> <li>• How do organizations celebrate or vocalize success in their GC goals? Do narratives of celebration and attainment spur further coordinated action toward GC?</li> <li>• How do organizations contribute to individual and societal resilience? What organizational practices and strategies promote innovation for socially inclusive growth?</li> <li>• Given their complex and nonlinear nature, how does one measure progress on GCs?</li> </ul>

through empirical analysis that truly assists the coordinated and collaborative effort toward a societal GC.

### A CALL TO ACTION

Businesses should add value to society, and yet there are divergent views on how to create and deliver social value (Wang, Tong, Takeuchi & George, 2016). Management scholars are conflicted, but in a different way—we recognize and aspire to engage in solving global problems, but feel that these

questions, data, and contexts are structurally inaccessible to us. This Special Research Forum highlights that tackling global problems does not imply that we cannot publish our results in leading journals. Indeed, our field is richer and more diverse because of the work being done to understand societal GCs.

### Management for a More Inclusive Society

There are plenty of GCs around us and in our own communities. Global hunger and poverty is not just in

a different continent but also in our backyards. In 2015, the UN High Commissioner for Refugees and Eurostat reported that more than 1.3 million migrants have reached European shores to apply for asylum, and that does not account for the scores lost at sea. The number of forcibly displaced people worldwide at the end of 2014 is about 60 million, the highest level since World War II (UNHCR, 2015). Water scarcity and food waste are topics that appear distant, but some of these statistics are staggering and local. According to a report by the United Nations Environment Programme and the World Resources Institute, about a third of all food production worldwide (around \$1 trillion) gets lost or wasted in food production, distribution, and consumption (Lipinski, Hanson, Lomax, Kitinoja, Waite, & Searchinger, 2013). In the USA, 30–40% of the food supply is wasted, equaling more than 20 pounds of food per person per month (Lipinski et al., 2013). Coordinated actions, such as the Global Agribusiness Alliance, launched in September 2016, and the Food Waste Reduction Alliance, are exemplars of globally coordinated efforts at a multilevel, geographically dispersed problem—yet, many solutions are local and involve changes to individual behaviors and organizational responses.

It is not just about research. As educators, we have an equal responsibility in social inclusion, retraining of skills, and the focusing of our efforts on not just the cream of the crop, but at the globally and locally unemployed, displaced, and disenfranchised. New technologies such as the Internet of Things and artificial intelligence are increasingly equipping machines to perform tasks that were done by skilled and educated individuals, thus starting what is expected to be a larger structural unemployment problem as industries harness these technologies to improve productivity and financial performance by driving down labor costs. Educational initiatives could then embrace different business models and pedagogical initiatives through lifelong learning and continuing education to retrain for new skills. Similarly, technology-enhanced blended learning and low-cost education models could be more global and open, providing opportunities for global citizens to leverage local educational resources and creating opportunities for new skills, entrepreneurship, and better livelihoods.

There are numerous examples of potential avenues for engagement as management scholars and educators, and, for each SDG, there are equally numerous local and global targets, participants, and aspirations. Collectively, the Academy of Management has taken pride in several of its annual

conferences to engage in fundamental debates on society and organizations. Management scholars, thus, are uniquely positioned to address GCs toward a more socially inclusive society by tackling fundamental individual, behavioral, organizational, and institutional challenges that are omnipresent in the formulation, articulation, coordination, and implementation of these GCs.

### **There is No Plan B because there is No Planet B**

When proposing the UN's SDGs, the Secretary General H. E. Ban Ki-Moon reiterated in his speech at what was thought to be the largest ever gathering in the United States (People's Climate March in New York City, September 2014) his often-quoted remark that "There is no Plan B for action, as there is no Planet B." As scholars and educators, there is a moral imperative that we act to guide business leaders, employees, and stakeholders with systematic, unbiased, and empirically robust evidence on mechanisms with which to tackle the persistent, but tractable, global problems confounding us. This Special Research Forum is a step in that direction.

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