

The Blind Spot

A Study on the Ethical Dilemmas that Senior Leaders and Experts Face in Collaborations Designed to Address Grand Challenges

Dr Efrosyni Konstantinou, Associate Professor in Strategic Management of Projects, Bartlett School of Sustainable Construction, UCL

Because when projects succeed, society benefits

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Executive summary

Interviewer: Do you have an example of an ethical dilemma that you have faced in your work and can share with me?

Participant: Where do we start...?

In 2018, this study asked whether the profession of project management was ready to address Grand Challenges, because the political legitimacy of a newly chartered profession in society depends on the extent to which it contributes to addressing challenges, such as climate change, poverty, lack of sanitation, healthcare, human space exploration and blockchain to name but a few. To answer this question, 62 trailblazers of Grand Challenges Collaborations (GCCs) in medicine, engineering, IT, academia and government were interviewed on the ethical dilemmas they face in GCCs and what they do about them.

The findings suggest that the answer is both yes and no. Yes, because 62 out of 62 GCC trailblazers are fundamentally preoccupied with ethics on a day-to-day basis. And, no, because ethics is the blind spot of GCCs. There is no institutional – professional, educational or other – infrastructure that adequately prepares GCC trailblazers to understand and work with ethics in interdisciplinary, international, cross-sectoral collaborations designed to address Grand Challenges.

To illustrate the main findings, the study uses the analogy of the blind spot. Like driving your car at great speed on the motorway where the course of travel can't change except at specific, far-in-between junctions, GCCs reflect high-value, high-profile projects where the stakes are high, with little, if any, leeway for changing the purpose of the project. In the same way that upcoming traffic will hide in the blind spot in your rear-view mirrors and can cause a fatal accident when you are changing lanes at high speed, ethics remain in the blind spot of GCCs, and when violated can cause uncontrollable, material damage. In the driving seat are GCC trailblazers, who this study defines as senior leaders and experts whose power and influence are formidably channelled in strategically managing GCCs.

The study found conclusively that GCC trailblazers are personally invested in and live by their ethics. A GCC trailblazer embodies a personal code of ethics, i.e. their own personal values and ethical principles, to make strategic decisions and define the boundaries of the GCC and the project. A personal code of ethics determines and distinguishes between acceptable and unacceptable intentions, motivations, beliefs, behaviours and actions for oneself, but also for collaborators. It defines the obligations that the GCC trailblazer believes they and others ought to, and must, fulfil, and the red lines they and others ought not to, and must not, cross, and it gives rise to ethical dilemmas. This makes ethics in GCCs a matter that is principally personal and private, and subjective even in the presence of established professional codes of ethics, as is the case in the medical profession.

But this is not all.

In business studies and Executive Education, we learn that difficult, strategic decisions and complex tasks and projects can be managed via 'collaboration', 'coordination', 'negotiation', 'consultation', 'reconciliation', 'mediation' or what can be broadly defined as a collaborative or even political approach to management. However, in this study, 62 out of 62 GCC trailblazers vividly recalled instances where, when faced with what they subjectively perceived to be point-blank unethical and offensive behaviours, a collaborative, political or any other approach to management had not been considered. When personal codes of ethics were violated, intense episodes of violent rupture - a decisive rift - were experienced in the collaboration. In the best case, such incidents involved a fierce 'discussion' between collaborators, and in the worst, they extended to physical violence and visceral reactions to the violation of one's personal code of ethics. Such incidents caused uncontrollable, material damage and were detrimental for those involved or the GCC, or both. The study shows conclusively that when personal codes of ethics are violated, GCC trailblazers resolve ethical disputes or dilemmas in – what this study defines as - one's ethics shelter: a personal, notional space in one's mind or one's ethical 'comfort zone' where the GCC trailblazer debates alternative courses of action, decides what they are prepared to do and not do in the GCC, and makes key, strategic decisions for the collaboration – all based on their personal code of ethics. GCC trailblazers rely almost exclusively on their personal codes of ethics to resolve ethical disputes or dilemmas, keep the GCC project within what they consider to be ethically acceptable boundaries, sleep a bit better at night¹ and carry on making strategic decisions the next day.

Most importantly, the study shows conclusively that – as symbolic systems of meaning – the personal codes of ethics of GCC trailblazers are concealed. They remain in the blind spot of high-stakes GCCs and lie dormant until they are challenged and become the force that explicitly (re)defines the boundaries of the project – the who, when, why, how, and what will and will not happen in the project. One participant captured the prominence of ethics in the following quotation:

"If it's between the collaboration and the ethics, we will choose the ethics."

The study concludes there is an urgent need for the project management profession, but also for the academics, funders, investors, policymakers and others who are involved in GCCs to acknowledge and build awareness of the central role and impact of personal codes of ethics in GCCs and to act so that (personal codes of) ethics appear in the mirrors of GCC trailblazers. This is important so that GCC trailblazers who address Grand Challenges can be prepared and supported in working with ethics, and GCCs are relieved of the intense episodes of violent rupture that GCC trailblazers are experiencing.

The following pages go into detail about how ethics play out in GCCs – how GCC trailblazers deal with ethical disputes and dilemmas – and show that ethics is the greatest risk in addressing Grand Challenges. Hopefully, it also conveys the urgency, intensity and high-wire nature of GCCs, which GCC trailblazers revealed in narratives of confessional richness and depth.

l In the City of London there is an in-joke among CEOs. Once, a journalist asked a CEO of a huge, multinational company, "With all of this pressure, and long hours, etc., how do you sleep at night?" The CEO smiled and casually replied, "Well, just like a baby." The journalist was caught by surprise: "Like a baby?! But that's amazing." The CEO carried on: "Yes, I wake up every two hours and cry." John McCain was of the same view after losing the US presidential election in 2008.

In 2021, a presentation on part of the findings of this study on *Research and Innovation Projects Geared for Addressing Grand Challenges* received first prize for Excellent Research at the 2021 Online University-Industry Interaction Conference organised by the University Industry Innovation Network (UIIN).

An important word of caution

Before moving further, it is important to note that this study is not and does not intend to be by any means a critique of individual effort, people or their ethics. From the standpoint of the researcher, the participants in this study are remarkable for their efforts, for the level of responsibility that they have taken upon themselves to address Grand Challenges, and for the accountability and sincerity that characterises their work narratives and the accounts they shared.

It does, however, raise very significant considerations and a thousand and one questions about a) the legitimacy of personal codes of ethics in professional work, and b) the *concealed* personal code of ethics, especially in GCCs, which are frequently funded by the public purse. This study condemns a) criticising, vilifying, characterising or denying anyone's personal code of ethics, and b) boundless, uncritical disclosure of personal codes of ethics that may impinge on people's privacy, including that of GCC trailblazers.

The pages you will read below and more importantly, the implications of the study, do shine a light on a generalised lack of understanding and attention to the politics of the self. The politics of the self refers to the permanent political relationship that we all have with ourselves and is born out of the inner conversation with oneself, where the individual debates, negotiates, selectively decides and legitimises who and what they are prepared to be and do, i.e., their identity, at work and in life. The lack of understanding and attention to the politics of self reflects a form of political, professional, irresponsibility (please see Konstantinou, 2017; Locatelli et al., 2022), which cuts across established, more recently established and the youngest of professions. In practice, it obfuscates the decision-making framework guiding those who address Grand Challenges, thereby denying transparency to a wider set of rightful stakeholders who can and should be involved in GCCs. In society, a generalised lack of understanding of the politics of the self can lessen, but also perpetuate, the social inequalities that restrict access to the resources needed to address Grand Challenges. The aim of this report is to highlight the central role and impact of the personal code of ethics in GCCs and start a discussion towards alleviating the otherwise detrimental impacts that arise from misaligned personal codes of ethics in GCCs.

If this study is used by others to claim and argue for or against one's personal code of ethics, whether in private, public or professional discourse, this would be an ill-informed and unjustified use of the study. None of the findings and implications of this study can substantiate such claims and arguments.

If in doubt about how you can use the findings of this study, please do not hesitate to get in touch with Dr Efrosyni Konstantinou: efrosyni.konstantinou@ucl.ac.uk.

What is a Grand Challenge?

Grand Challenges are global problems that cannot be solved by one individual, organisation or nation alone (Kuhlmann and Rip, 2014), and they are used interchangeably with the United Nations Sustainable Development Goals (UNSDGs). What is unique about GCCs is that the sourcing of innovation cuts across institutional, national and sectoral boundaries to speed up impact on a global scale. As such, extensive, international, interdisciplinary and cross-sector collaborations are key in addressing Grand Challenges. GCCs involve teams of senior leaders and experts such as law professionals, academics, engineers, doctors, technologists, activists, technocrats, politicians, government officials and management consultants. To spearhead and/or gain participation in a GCC, they will bring highly specialised experience, professional expertise, and access to scarce, unique resources, networks and lobbies, which are frequently held on online platforms and accelerated by digitalisation. Such projects are frequently highprofile, high-value, and endorsed and funded by prestigious funders, governments, private-sector initiatives, multilateral aid agencies and private investors who pledge commitment to addressing Grand Challenges. They are also heavily scrutinised by media, social media, the public and the regulator, locally and internationally. But, most importantly, they promise to address Grand Challenges, which include, but are not limited to, climate change, food and water shortages, social injustices (e.g. restricted access to education, voting, fair labour conditions, human rights and political participation), global health and international aid development investments, cyberspace security, crypto asset integration, digitalisation and artificial intelligence (AI), and space technology. Please see the award-winning paper by Konstantinou and Müller (2020), where the authors define the Grand Challenges Approach (GCA).

Additional materials

To find out how you can use your personal code of ethics in your collaborations to address Grand Challenges please visit the Personal Codes of Ethics Toolkit which accompanies this report. The Personal Codes of Ethics Toolkit can be found at ethics-toolkit.com

To attend the Continual Professional Development Course accompanying this report, please contact Dr Efrosyni Konstantinou efrosyni.konstantinou@ucl.ac.uk

Introduction

In society, there is always change. Our communities never reach a point of ultimate perfection, and we – as human beings – have it within us to seek out, inspire, develop and deliver change. Every single moment in our lives is a possible instance of change when we can create a new reality, or a new way of thinking and working (Konstantinou, 2023). In imagining and delivering a new state of affairs, ethics help us distinguish right from wrong, and to indicate what we ought to do in framing the need for change and its purpose; politics and political action are the mechanisms that help us enact such change and transformation in society. Smith (2007) notes that, through politics and political action, values and ethical principles create change in society. He warns us that just talking about ethics is honourable but does not itself lead to or bring social change.

Ethics without political action cannot lead to social change.

From a philosophical perspective, we have the *freedom* to define the values and ethical principles we will hold true and apply in life and work, and the political action we will take (Foucault, 2000). We also have the *ability* to define the values and ethical principles that will guide our choices in life (Nietzsche, Sartre, 2007), and our political actions (Arendt, 1958).

But, in society, i.e. in organised human affairs, access to the freedom and the opportunity to act, especially in relation to Grand Challenges, is not always granted. In fact, most of the time it is restricted due to persistent social inequalities. For example, an adult living in a war zone, or in a village without clean running water, with intermittent electricity, and no access to education or basic healthcare, is likely to prioritise individual basic rights, such as living free from fear and want (please see Shah, 2021), over – say – an equal concern about addressing climate change. Similarly, in advanced societies and economies, certain social groups (e.g. women, minority groups and vulnerable communities) frequently do not have the same opportunities to bring forward their values and ethical principles - what they stand for - and ultimately act, compared with other, more dominant, groups. Here, basic human rights and modern living conditions may be in place. But once again, silent, yet persistent, social inequalities around, for example, gender and ableness, can and do restrict access to contributing to social change broadly defined, and to Grand Challenges more specifically. Equally, access to political capital, i.e. the political skill that is needed to effect change in professional networks and society (please see Silvester et al., 2013; Doldor, 2017), is vulnerable to social inequalities that persist via social systems and institutions.

Due to social inequalities, access to participation in designing solutions that address Grand Challenges is restricted and – for some – out of reach.

Likewise, writers in professionalism (in this example, law) have euphemistically noted, "In theory entry to the Bar, like the Ritz Hotel, is open to everyone" (Dingwall, 2014: 24) to highlight issues of restricted access to, in this case, the legal profession. Access to and membership of a profession can be as much ascribed as they are achieved. Surely personal commitment and efforts count. But access to private professional connections and networks, and elite education, can act as amplifiers of personal efforts, and thus ease access to and membership of a profession.

In principle, professionalism is a social institution that is as fair as all other social institutions.

Beyond these considerations, however, professionalism also involves a professional community of expert labour, which defines the ethics of a particular practice through negotiation with the state, and awards to its members the freedom and power to act with confidence within the jurisdiction of the profession (Johnson, 1972; Abbott, 1988). More specifically, professionalism awards its members the freedom to sensibly judge and choose the ends of the work (Friedson, 2001). As such, professionalism legitimises a path to positions of power and influence to act and negotiate with the state in ways that would be almost impossible by an individual alone. In 2017, Snyder wrote:

"A profession can afford significant levels of power to an individual professional who would otherwise be removed from any position to negotiate with the state. (p.88)"

In exchange for significant professional freedoms, powers and privileges, professionals are expected to be the moral custodians of the specialised body of knowledge of the profession and to apply that knowledge, acting politically, intellectually and morally², within the ethical framework of the profession (Freidson, 1986). For example, under the Hippocratic Oath, which clearly and singularly defines the health of the patient³ as the end goal and purpose of all medical work, doctors are awarded the freedom to judge and choose – research, diagnose and treat – the symptoms of the patient (please see Mieg, 2009). As such, and as registered practitioners of the General Medical Council in the UK, doctors take care of the notion, the ideal, of health in society and can impact change in the global community by joining GCCs aiming to address global healthcare problems.

In principle, professionalism is a social institution where professional ethics and political action are institutionally legitimised as means of impact for social change and transformation.

But why talk about ethics and political action today? The answer is simple.

Due to a turn to ethics, the social legitimacy of ethics in society is on the rise and the source of contemporary political action.

Today, more than ever before, our identity in life and at work is defined by our ethics – what we believe is and ought to be right. Perhaps the view that "man is nothing other than what he makes of himself" (Sartre, 1947, p. 22) masks to an extent the social inequalities underlying Grand Challenges and access to their solutions. Yet, in a globalised world, we are no longer limited to one, dominant identity that is handed down to us by religion, a local community, family, our place of birth or our profession. In a globalised world, we are exposed to and have access to multiple identities, which reflect an increasingly complex set of ethical reference points that can and frequently do reflect a landscape of opposites in conflict. Today, traditional sources of identity, such as nationality, religion, education, gender, politics, and marital and

² Please see Konstantinou (2017) for an analysis of political, intellectual and moral irresponsibility for project managers.

³ The Hippocratic Oath in Ancient Greek states "ἐπ' ὡφελείῃ καμνόντων", which is translated into "for the benefit of the sick".

professional status, are standing next to food identities (vegans, pescatarians, vegetarians), climate identities (climate activists, sceptics, deniers), gender/nonbinary identities (agender, cisgender, genderfluid, gendergueer, intersex, gender non-conforming, transgender), health identities (vaxxers, anti-vaxxers, illnessdeniers) and others. Similarly, traditional social institutions, such as family, religion, work and economy, education, healthcare and indeed professionalism are being challenged due to new and emerging priorities and social trends. These include, but are not limited to, intergenerational equity, once again climate change, artificial intelligence, life outside Earth, the Great Resignation, blockchain, possibly serial pandemics and global health, growing geopolitical tensions, prospects of a divided world, an ageing population and digital disorder. Even though there is concern over social media constantly pervading and perverting ethical codes (Zuboff, 2018), overall digitalisation makes different social identities readily accessible to us (Konstantinou, 2017). Equally forcefully, geopolitical events and developments, such as world poverty and climate change, heighten the urgency with which the global society is (re)organising around ethics (Inglehart, 2016). As such, we see people from all walks of life organising and taking political action around matters such as the climate crisis, same-sex marriage, poverty and other key social issues and, indeed, Grand Challenges.

In the absence of a dominant identity, the ways in which we define ethics at the individual level become the source of political action and social transformation, and of our identity in life and at work. Today, more than ever before, we are called to decide what is right and wrong, i.e. our ethics, to disentangle the overabundance of identities that are available to us, and to articulate who we will be, i.e. our identity (Thomas and Davies, 2005; Konstantinou, 2008, 2015, 2019). It is these choices at the individual level that are, and frequently become, the inspiration for social and political change and transformation, and that professional bodies and organisations need to keep ahead of to remain relevant to an evolving, globalised society.

As such, the legitimacy of social institutions, such as professionalism, that fail to act on the turn to ethics will be threatened. Ethics is here to stay.

In practice, this means that ethics is increasingly a) becoming even more prominent in private, public and professional dialogue and human affairs, and b) used as a benchmark or tool for validating or asserting the credibility, authenticity and significance of the decisions of senior leaders and experts in everyday work and in work addressing Grand Challenges.

The challenge of contemporary ethics in GCCs

In the space of Grand Challenges, the senior leaders and experts who strategically design, articulate and/or manage GCCs - and who this study calls "GCC trailblazers" - do not fall under one profession. Indeed, bringing together leaders and experts from across professions, industries and geographical locations is the very appeal of a GCC. A Grand Challenge in healthcare – say, the effect and impact of an ageing population on the healthcare system - may be led by a doctor, by an engineer in IT or – for example – a senior manager or academic who is not a doctor but has access to social, human and political resources to bring together a consortium of bespoke talent, expertise and deep experience in the challenges of ageing populations, healthcare systems and infrastructure, social transformation, etc. Depending on their profession, each member will be expected to embody certain professional values and ethical principles. Doctors will be expected to embody the Hippocratic Oath, lawyers their duty to justice under their national legal code and principles, engineers their duty to public welfare and interest. Academics will need to observe their codes of principles, such as, in the UK, the Haldane principle of independence, and government officials their own codes, such as, in the UK, the Nolan principles. What is common among them is that, across professions, professional ethical codes aim to institute a focus on serving people in society, e.g. patients, clients, students and investors, and contribute to society in relation to an ideal, a transcendent value or a public good, such as health, justice or peace (Konstantinou, 2019).

This means that, firstly, in a GCC, there will be different sets of ethics at play. These can include professional codes of ethics (i.e. the ethical principles that define the purpose of the profession and govern the decisions and behaviour of the professional); existing, new and emergent social norms (i.e. shared understandings and standards that govern the behaviours of members of a social group); and personal codes of ethics (i.e. one's own, personal values and ethical principles that define the purpose of one's actions and govern one's decisions and behaviour). Personal values specifically are known to be important in decision making for project leaders, especially in mega-projects (please see Müller et al., 20214). Secondly, GCCs are spaces where potentially wildly divergent value systems may nurture dilemmas of an ethical nature, which will have significant impact on a) the leadership and strategic management, b) the success and c) the impact and legacy of the project. Thirdly, the ethics of the management of GCCs have not been defined or vetted by a (project) management professional community with professional powers similar to those of, say, the General Medical Council or the Law Society (Konstantinou, 2019). Academically, the lack of attention to ethics in interprofessional teams has also been observed and documented (Parrot, 2010; Hannah and Jindal-Snape, 2014)

⁴ https://weberdisputeresolution.com/2020/02/hippocratic-oath-lawyers/

This study

In light of the above observations and the urgent need for the development of the legitimacy of the profession of project management, this study identified 62 senior leaders and experts who hold positions of authority, power and influence in their organisations, networks, industries and sectors.

GCC trailblazers are senior leaders and experts whose power and influence are formidably channelled in strategically managing GCCs and related interdisciplinary, cross-sectoral, international work. GCC trailblazers are involved in the early stages of the project life cycle, where the scoping of a GCC is public, is explicit, and requires buy-in from various stakeholders, as well as throughout the project life cycle, which takes place more 'behind closed doors' – within the project team and with the contribution of external stakeholders, but at specific points in time.

Acknowledging that the professionalisation of an occupation is a dynamic and ongoing process (Johnson, 1972; Abbott, 1988), the study included senior leaders and experts in medicine (highly professionalised), engineering and IT (professionalised), and academia and government (extensively professionally socialised). The study focused on ethics in GCCs. More specifically, GCC trailblazers were asked what their values and ethical principles are, what the origins of those values and ethical principles are, and whether they face ethical dilemmas in GCCs and how they go about tackling them. It was acknowledged, a priori, that the participants command a mastery of political skill that is second to none. There was no reason to question this assumption at any stage of this study.

The report now turns to the research findings before discussing the implications of the study for the practitioner, the profession of project management, policymakers and investors, educators, and collaborative platforms. Lastly, the methodology is outlined, focusing on the extensive ethical approval process guiding this study, which ultimately produced insights of confessional richness and depth.

Study findings

While listening to GCC trailblazers talk about their work, there was a distinctive sense that there was little that could be allowed to go wrong in a GCC. The idea of 'too big to fail' frequently came to mind. Regulatory frameworks with teeth, and never actually knowing whether a prospective project or deal is an opportunity or a risk, raised the stakes of GCCs. The work of GCC trailblazers was challenging – primarily described as an act of constant negotiation between work, team, political, stakeholder, social, institutional and other priorities. Similarly, GCC trailblazers said they have no visibility over the actual impact of decisions on people's lives and the public, which was discussed as a heavy burden to carry. This was especially frequent among GCC trailblazers in key government positions, where policies arising from GCCs had (inter)national reach, and feedback on policy decisions frequently came through the press and social media. As such:

GCCs are better characterised as a high-stakes game in unforgiving terrain.

In these conditions, GCC trailblazers – all of them – were profoundly and unwaveringly preoccupied with ethics. In response to the question "What are your values and ethical principles?", answers were grounded and conclusive. There was no surprise – perhaps a moment of silence to reflect and collect one's thoughts to provide a thoughtful answer – but little in terms of doubt or discomfort with the notion of ethics in relation to work or oneself. The concept of ethics was one that GCC trailblazers knew all too well.

GCC trailblazers are profoundly and unwaveringly preoccupied with ethics.

At the same time, values and ethical principles between GCC trailblazers did not overlap. They were deeply personal to each GCC trailblazer.

GCC trailblazers pronounced their own set of values and ethical principles and/ or ethical framework. A GCC trailblazer lives by their own personal code of ethics.

Apart from GCC trailblazers in medicine, who kept repeating "It's all for the patient" and then went on to outline their own personal code of ethics, GCC trailblazers in engineering, IT, academia and government outlined value systems that originated from personal reflection on the values and ethical principles arising from a combination of one's own family, religion, upbringing, client relationships, work experiences, professional codes of ethics, organisational codes of conduct, social norms, personal formative experiences (e.g. travelling, professional mistakes, life challenges and misfortunes) and personal study and relationships, such as friendships. GCC trailblazers recounted how a parent or other significant family member, a work incident, a role model, a book, an inherent curiosity in one's practice, or the experience of working in a completely different culture had exposed them to values and ethical principles that helped shape their personal code of ethics. Most importantly, however, GCC trailblazers alluded to an inner conversation at the personal level where they debated with themselves the values and ethical principles they will choose to live by, before meeting colleagues, collaborators and strategic partners in GCCs. GCC trailblazers are involved in the politics of the self, the inner conversation where the GCC trailblazer debates privately, with oneself, how important different values and ethical principles are to them personally and develops their own personal code of ethics in work and life.

GCC trailblazers are involved in the politics of the self and bring their own personal code of ethics to their work.

A personal code of ethics reflects one's consciousness and defines the boundaries of oneself at work, i.e. one's professional identity, what one believes is, and is not, ethical and what one is prepared to do and not do at work.

GCC trailblazers went on to explain how their personal code of ethics led to ethical dilemmas in GCCs. Ethical dilemmas involve a forced choice. An ethical dilemma arises when an individual *must* make a choice between two or more courses of action that reflect values and ethical principles that are equally important to them personally and – at the same time – mutually exclusive. In all cases, either decision will lead to a value or ethical principle being compromised. For example, one participant in the medical profession noted an ethical dilemma arising from the relentless pace of technological breakthroughs and innovations. He was questioning how he should proceed in relation to the regulation of technological developments that can save lives. The parameters he was considering are shown in Figure 1.



Figure 1: Example of an ethical dilemma on the timeliness of regulating technological breakthroughs and innovations in GCCs in the medical profession

He was questioning whether he should carry on allowing life-saving technology to progress at an unforgivingly fast pace, or regulate technological breakthroughs and innovations, while knowing full well that industry legislation and regulation stifles innovation. He explained further that addressing ethical matters at the earliest possible stage of innovation is the right thing to do, while experience dictated that technological breakthroughs and innovations "generally require big, bad things to happen".

Among 62 GCC trailblazers, the data analysis captured more than 135 ethical dilemmas.

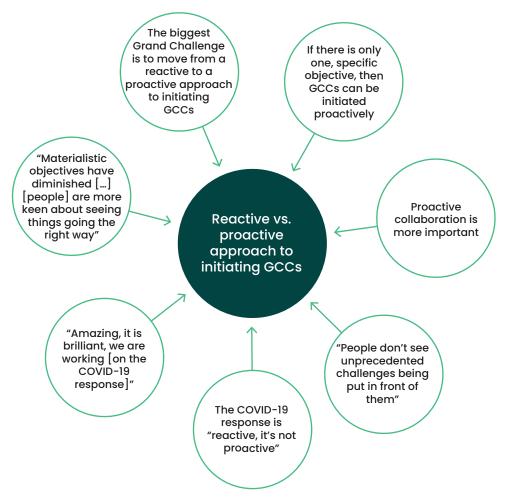


Figure 2: Example of an ethical dilemma on reactive vs. proactive approaches to initiating GCCs in the engineering profession

Another participant shared an example of an ethical dilemmas on reactive vs. proactive approaches to initiating GCCs in the engineering profession (Figure 2). He worked on the response to the COVID-19 pandemic and was contemplating how human nature is averse to addressing global challenges proactively when knowing full well that these are upon us already, and that inactivity and no action are nothing less than self-destructive. He could not help but emphasise the benefits of a proactive approach to initiating collaborations, which can help address Grand Challenges, and was increasingly becoming aware of changing political and social trends favouring a more proactive approach. Yet he was equally convinced that it is human nature to avoid thinking about disasters and that a pandemic needs to strike for people to work together.

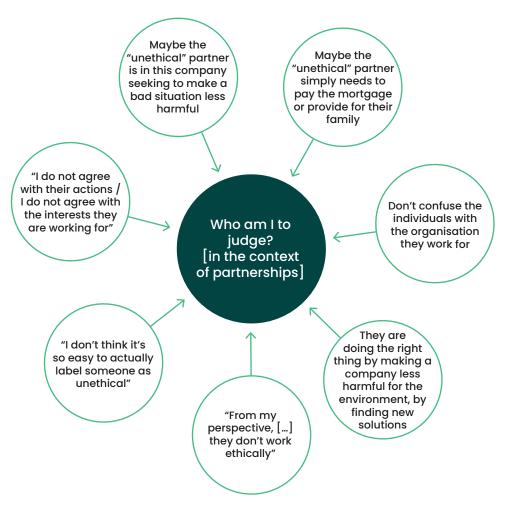


Figure 3: Example of an ethical dilemma experienced by a senior researcher in academia

Similarly, a senior researcher shared an example of an ethical dilemma experienced she had experienced (Figure 3). She debated whether anyone can judge a fellow human being. She was very clear about actions she considered unethical, but was reluctant to become judgemental towards colleagues who took these actions and think of them as unethical. She was deeply concerned about working with these

colleagues, and equally was not prepared to compromise her sense of integrity. But she debated whether she should limit her ethics to herself, choosing a more modest stance towards others, when she was in outright disagreement with their behaviours. In her response she alluded to the risk of being perceived as unethical when working with these colleagues or indirectly encouraging unethical practices in her collaborations.

The plethora of ethical dilemmas and considerations demonstrated further that GCC trailblazers are deeply preoccupied with ethics, and that ethical dilemmas are not objective or the same for all in similar jobs, sectors/professions or geographical locations. Ethical dilemmas arise from personal codes of ethics, and they are subjective.

Different personal codes of ethics will produce different ethical dilemmas.

In addition to their personal code of ethics, GCC trailblazers were aware of and masters of a multitude of decision-making frameworks. These frameworks were used intuitively as and when needed to operationalise solutions and critical, strategic decisions in relation to various aspects of the GCC, including the finances, innovation, technology, resourcing, talent management, politics, ethics, legal matters, etc. of the GCC.

GCC trailblazers are masters of a multitude of diverse frameworks that they hold like arrows in a quiver, ready to launch instinctively to target, i.e. to catalyse, innovation and progress in the GCC.

In this way, organisational, operational and stakeholder challenges that could adversely affect the GCC were resolved; and talent, expertise and innovation were enabled and relieved from bottlenecks in project processes and relationships.

Mastery over a multitude of diverse frameworks reflected exceptionally high levels of political skill, which was all guided by the GCC trailblazer's personal code of ethics. In this study, such exceptional political skills mobilised political lobbies and networks, financial investments and funding, institutional processes (often leading to organisational reform) and hard-sought-after expertise, skills and talent across fields and national boundaries.

GCC trailblazers identified solutions either by themselves or with their teams. Such solutions are testaments to the mastery of political skill, which is second to none.

Very importantly, and as just mentioned, the trailblazer's personal code of ethics guided the use of the multitude of decision-making frameworks that GCC trailblazers mastered.

This created the ethics shelter – a notional, personal space where a GCC trailblazer hosts their personal code of ethics and a multitude of decision—making frameworks. The ethics shelter is the ethical 'comfort zone' of the GCC trailblazer, i.e. a space in the GCC trailblazer's mind, where they debate alternative courses of action and make key, strategic decisions, guided by their personal codes of ethics.

In all cases, all GCC work was firmly bounded and located within the GCC trailblazer's ethics shelter. And in all cases, 62 out of 62, the boundaries of the ethics shelter were defined by the GCC trailblazer's personal code of ethics. This was also the main control mechanism of one's contribution to the project and the GCC. As a control mechanism, the ethics shelter allowed diversity in decision making and the interplay of different, diverse frameworks – which, however, never contradicted or extended outside the boundaries set by the personal ethics of the GCC trailblazer.

In this sense, the boundaries set by the GCC trailblazer's personal code of ethics became the boundaries of the project.



Figure 4: The impact of personal codes of ethics on GCC trailblazer identity, (including consciousness), the ethics shelter, ethical dilemmas and the boundaries of the GCC project

Figure 4 outlines how the GCC trailblazer's personal code of ethics ultimately define the boundaries of the projects.

All ideas, beliefs, actions and collaborators who diverged in principle from the GCC trailblazer's personal code of ethics and fell outside the boundaries of the ethics shelter were deemed completely and irrevocably unacceptable, point-blank unethical and offensive to the GCC trailblazer. When they occurred, in all cases – 62 out of 62 – they led to instances of *violent* rupture in the collaboration. Such instances included visceral reactions (including physical illness), disgust, rage, shouting, 'lessons' taught behind closed doors, overnight firing and physical violence (e.g. breaking furniture). When trespassers of the ethics shelter could not be removed from the GCC, GCC trailblazers confessed that they enforced gruelling 'educating' processes, which would not cease unless trespassers 'fell back in line', i.e. started acting within the boundaries of the ethics shelter and the GCC trailblazer's personal code of ethics.

In all cases, collaborators, or any decision or action that fell outside the otherwise generous space of the ethics shelter, fell outside the project and the GCC as well. Rupture was immediate, highly uncoordinated, uncontrollable and, in all cases, violent.

Perhaps surprisingly, and despite their position of power, influence and authority, and their mastery of political skill, GCC trailblazers confessed personal experiences where they exited the GCC in a similar, uncontrollable and violent manner. These were cases where the GCC trailblazer was weakened to the extent that they could not maintain the boundaries of the ethics shelter, and as such felt that – to stay – they would need to act unethically and would not be able to live with themselves. In this case, they testified that they had no choice but to leave the GCC. When they were in less senior positions, i.e. earlier in their career, there were cases of staying on in collaborations with partners with different ethics. Yet there was no indication of changing one's personal code of ethics to fit in.

All the above remained hidden even from the shrewdest of project and management governance structures. Nobody talked about their personal code of ethics, their identity or their ethics 'comfort zone'. Ethical dilemmas were scarcely discussed in informal networks, with colleagues whose personal code of ethics seemed to overlap. There was very little, if any, indication that the alignment of personal codes of ethics is based on more than one's guess, their sense or an assumption.

As such, ethics is the blind spot of GCCs. Fast in motion, materially detrimental in impact.

This is the pattern that this study identified conclusively.

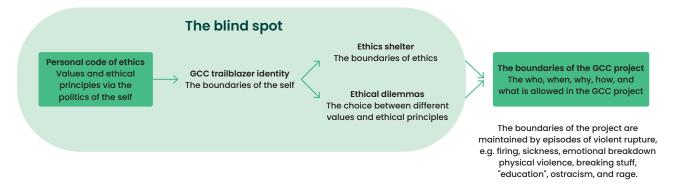


Figure 5: The blind spot of GCCs

Implications

This study shows that GCC trailblazers cannot avoid bringing their personal code of ethics to work. Yet concern arises over the legitimacy of the impact of personal codes of ethics on GCCs, and over the level of transparency and support for decision making in GCCs, as GCC trailblazers' personal codes of ethics remain in the blind spot, unvetted by a profession, professional community, sponsors of GCCs, the state and the public.

There are several important questions arising from the findings.

Question 1: Is the impact of personal codes of ethics on GCCs legitimate? Should personal codes of ethics a) define the boundaries of one's identity at work, b) give rise to ethical dilemmas, c) define the boundaries of one's ethics shelter, and ultimately d) the boundaries of the project and the GCC? By implication, does it matter that we lack institutional ethics for GCCs?

At the personal level, one's personal code of ethics reflects the *obligations* that one holds as true to oneself, and that define who one is in everyday life and at work. Personal codes of ethics define one's professional identity, even when professional education and socialisation is effective in shaping some parts of one's understanding of oneself as a professional, such as in the case of doctors. In this sense, this study suggests that personal codes of ethics are inescapable in work and GCCs, and they ultimately define the boundaries of the GCC.

At the professional level, the central role and impact of personal codes of ethics that this study demonstrates may be legitimate. Firstly, at the time of the turn to ethics, GCC trailblazers are found constructing and maintaining their identities at the intersection of an increasingly complex set of ethical reference points. So, the central role of personal codes of ethics in designing and managing GCCs may be a sign of our times. Secondly, there is no dominant 'GCC trailblazer' identity that is handed down to senior leaders and experts by an established 'GCC profession' that can counterbalance the GCC trailblazer's personal codes of ethics. In the absence of a dominant GCC trailblazer identity, preoccupation with ethics at the personal level may be better than no preoccupation with ethics altogether, or acting in an ethical vacuum. Thirdly, just like remote/hybrid working and other new work practices, GCC work has not been previously professionalised, and therefore professional bodies and communities will not be able to clearly articulate what is the body of specialised knowledge and skillsets, and the professional ethics, guiding the design and management of GCCs. Simply put, we don't know how to design and manage GCCs professionally. Fourthly, in the absence of established, professionalised GCC identities and practices, the endless power and potential of human beings (Konstantinou, 2023), and their capacity to make new beginnings, speak and act politically for or against moral and social reform (Arendt, 1958) become crucial to exploring and performing new, unknown practices, such as designing and managing GCCs. Human power, potential and ingenuity are particularly important given the lack of time to address Grand Challenges, such as climate change, and the inherent urgency in global citizenship and the social responsibility to work towards eliminating all kinds of human suffering, fear and want. So, in the case of GCCs, traditional notions and approaches to professional ethics may need to be revisited.

On the other hand, professionalism rests on the unwavering adherence, devotion and internalisation of a professional code of ethics, which defines the purpose of professional activity and governs the behaviour and actions of the professional.

Traditionally, in professionalism, personal codes of ethics are deprioritised when a practitioner is at work (Bucher and Stelling, 1977). So, the impact of personal codes of ethics on GCCs may not be legitimate.

Question 2: Should personal codes of ethics be concealed and remain in the blind spot of GCCs? Should there be heightened disclosure and increased transparency over the personal code of ethics and the decision-making frameworks guiding those who make key strategic decisions in GCCs?

The study showed that GCCs reflect uncharted waters and that strategic decision making in GCCs lacks transparency, as far as GCC trailblazers' personal codes of ethics are concerned. On one hand, GCCs reflect projects of public interest at the local and global levels. So, there is a strong basis for arguing for heightening the disclosure of personal codes of ethics in GCCs. If personal codes of ethics influence how public money is spent, shouldn't we have access to them, and review and scrutinise them, as we do with – say – budgets and project accounts?

Further, increased transparency could also help build a professional support infrastructure for GCC trailblazers. If we are to address Grand Challenges, the people who put themselves forward in this space can benefit from work arrangements and educational, funding and professional support infrastructures that help them work with their and others' ethics, resolve the ethical disputes and dilemmas they face, and make the difficult strategic decisions they need to make in sourcing innovation across all boundaries.

On the other hand, the GDPR clearly specifies that political opinions, religious and philosophical beliefs are sensitive personal data. Culturally, in most societies, in a professional context, it would be awkward, possibly even discriminatory, to ask somebody to disclose their personal code of ethics – say – in a job interview or a senior executive recruitment process. And even more broadly, Article 12 of the Universal Declaration of Human Rights institutes the right to privacy for all people, raising serious considerations about mandating or instituting the disclosure of personal codes of ethics in any way.

Question 3: What is the relationship between professionalism and the politics of the self? What is the role of the inner conversation which defines one's consciousness, identity, and personal codes of ethics in professionalism? How can professionalism relate to who the GCC trailblazer decides to be in GCCs?

Professions are powerful social institutions that scale up the efforts of individual practitioners. Through a profession, one's work can have global reach and impact, which would be more difficult to achieve alone. But if professions fail to acknowledge the turn to ethics, they risk losing their legitimacy with their membership and the acceptance of the wider public. As mentioned in the introduction to this report, today ethics is prominent in private, public and professional dialogue, and in human affairs. This study has shown that ethics is also prominent in strategic decision making in GCCs. Still, as an institution of expertise development, professionalism promises that the novice practitioner will almost unequivocally replace their personal identity and personal code of ethics with a professional identity, code of ethics, knowledge, skills, abilities and behaviour if they are to be trusted to perform work professionally. Therefore, as it is understood today, professionalism fails to acknowledge that, even when professional socialisation is strong (such as in the case of doctors who undergo no less than 10 years of professional training and education), personal codes of ethics not only persist, but they are equally, if not

more, prominent than professional codes of ethics in shaping work that has not previously been professionalised, such as shaping the boundaries of the GCC project, or indeed managing a GCC.

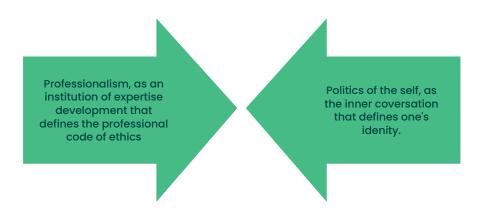


Figure 6: the need for a symbiotic relationship between professionalism and the politics of the self

Given that personal codes of ethics arise from the politics of the self, shape the boundaries of the GCC project and escape professional socialisation, there is an urgent need to establish a symbiotic relationship between professionalism and the politics of the self (Figure 6). Even if the impact of personal codes of ethics on GCCs is not deemed legitimate, the inner conversation that one has with oneself (i.e. the politics of the self) is likely to carry on influencing strategic decision making in GCCs, especially when, today, ethics increasingly define private, public and professional discourse.

Question 4: How long can we afford to not support GCC trailblazers?

GCC trailblazers need to be better supported in working with ethics in GCCs, by professional, educational, funding and other support infrastructures. This study shows that, even if the impact of personal codes of ethics on GCCs is not legitimate, the prospect of violent incidents, visceral reactions and uncontrollable, material damage to the GCC and the parties involved is real enough not to be ignored. It seems that existing work arrangements and educational, funding and professional support infrastructures do not adequately prepare GCC trailblazers – our most experienced and competent leaders and experts – to address such ethical issues.

Is it reasonable to expect that – say – an American GCC trailblazer will know inherently how to manage a GCC with Ukrainian and Russian collaborators? Or, is it reasonable to expect that – say – an atheist will inherently be able to advance a collaboration between devout Muslims and Christians? Shouldn't GCC trailblazers know that their personal codes of ethics will be incredibly important to them in their work and in making key strategic decisions? Are these expectations realistic or relevant to work environments, such as GCCs, that are culturally and politically highly charged and tense, precisely because they source innovation and talent across boundaries? As this study shows, GCCs are a high-stakes game in unforgiving terrain. How long can we afford to let our GCC trailblazers make difficult decisions unsupported?

Question 5: Who is responsible for answering the above questions? What political means are available to those who are responsible and can lead social transformation for Grand Challenges?

Ethics without political action cannot lead to social change, and GCCs are probably the most multi-stakeholder endeavour that modern societies are experiencing. GCC trailblazers, professional bodies, policymakers, investors and funders, and educators are all involved. This study suggests that:

- a The GCC trailblazer can think about how they will manage their and others' ethics in GCCs. They can define their personal codes of ethics (i.e. engage with the politics of the self); develop an awareness of the impact that their personal codes of ethics have on decision making, the GCC project and others; and carve out the space to talk and prepare to manage ethics in GCCs with their team and the profession of project management.
- b Established and newer professional bodies in general, and the profession of project management specifically, can play a leading role in legitimising professional approaches to addressing ethics in Grand Challenges that build on the politics of the self. Professional bodies can adjust professional resources (e.g. their jurisdiction and professional responsibility, specialised knowledge, professional peer review, certification) by acknowledging that, in GCCs, GCC trailblazers will bring their own personal codes of ethics at work.
- c Policymakers, investors and funders need to ensure that material risks in GCCs can be identified and assessed, and relevant mitigation and adaptation mechanisms are promoted in public discourse, and are in place in designing and implementing funding and investment schemes.
- d Business, management, organisation and project studies educators, who teach collaborative approaches to resolving challenging disputes and dilemmas, can build knowledge on the politics of the self and its implications for GCCs and prepare future GCC trailblazers so that they can work with their and others' ethics and manage the uncontrollable, material damage associated with the role of ethics in GCCs.

Specific implications for the project practitioner and GCC trailblazer

At the personal level:

Do political work

- Define your personal codes of ethics consciously.
- Arm yourself with the knowledge and the resources you need to resolve ethical disputes and dilemmas head-on.
- Know your limits and the limits of the work arrangements, educational, funding
 and professional support infrastructures on which you rely. Acknowledge that
 you may have to build your parachute on the way down.
- Develop a habit of journalling and reflecting on experiences to learn from your own practice on an ongoing basis.
- Develop awareness of your potential to become a GCC trailblazer, and work closely with the project management professional community to advance your and others' potential to address Grand Challenges.

- Develop awareness of the general importance of ethics and the challenges it presents at work and in interprofessional teams such as GCCs to a) facilitate the sourcing of innovation beyond institutional, national and sectoral boundaries and structures, and b) speed up impact at the project and global levels.
- Develop awareness of the social inequalities that are at play and perpetuated in your everyday work, in your projects, organisation, industry or sector, and in the networks and communities that you and your work influence. Identify how these social inequalities restrict access to stakeholders who can help you articulate and design solutions to Grand Challenges.
- Develop awareness of the new sources of identity (e.g. food identities, climate identities, gender/non-binary identities) to work intergenerationally and inclusively with your team and collaborators.
- Develop awareness of the freedoms, powers and privileges that have been awarded to you as a project professional and GCC trailblazer. Identify the political, social and economic factors that restrict your access to freedoms, powers and privileges that you need to address Grand Challenges, and work closely with the project management professional community to secure the resources you need to enable yourself and others to contribute to Grand Challenges.
- Develop awareness of a) the central role and impact of your personal code of ethics at work and in life, b) your ethics shelter, its boundaries and the ethical dilemmas you face, and c) how you consciously or unconsciously mobilise your personal code of ethics to influence and define the boundaries of the project. That is, develop an awareness of your personal impact at work. Ask yourself whether this is the impact that you wish to have.

 Remember. Philosophically, you have the freedom and the ability to define your impact at work. You have the ability to reflect and change your impact (Collinson, 2003).
- Develop awareness of others' codes of ethics. Do not deny anyone else their personal code of ethics. Select your collaborators carefully.
- Develop awareness of the uncontrollable, material damage and harm that you
 might personally experience at work and, at the same time, inflict on others at
 work when addressing Grand Challenges.
- Develop awareness of the lack of mechanisms to identify, manage and scrutinise the impact of your and others' personal codes of ethics in defining the boundaries of projects that address Grand Challenges, and consider how best to contend with such circumstances in your industry.
- Acknowledge your responsibility as a professional to contribute to your
 professional community and play a strategic role in the development of stateof-the-art professional knowledge and review and scrutiny mechanisms,
 which are tailored to addressing ethics in GCCs and the world Grand
 Challenges agenda.
 - Note: Traditionally, academics are the custodians of the specialised knowledge of a profession (Abbott, 1988). But, given the urgency that is inflicted upon us by the Grand Challenges, we all must act towards addressing the world's biggest problems.

Wherever and whenever you can, talk about ethics, because this is the most significant risk you are facing in GCCs.

But don't be naïve! Don't underestimate the sensitive, political and legal implications of talking about ethics!

At work:

Carve out the space you need to prepare for GCCs

- Depending on the culture of your team, organisation, industry, profession, sector and country, critically and carefully evaluate to what extent you can talk openly about ethics, your personal code of ethics and the dilemmas you face in addressing Grand Challenges via projects. For example, in some cultures, talking about ethics can be very risky. Or, the temporality of projects may act against forming long-lasting, trusting relationships that could allow heightened disclosure.
- Remember that GCCs can be, or quickly turn into, ethical minefields.
- Act on ethics and practice ethical attentiveness. There is a lot of value in a broader discussion about ethics in addressing Grand Challenges. However, in practice, identifying a specific case example and working it through with your team is a far more effective way of building awareness and inclusion of diverse views and perspectives in everyday practice. Try to identify what is happening in your example, who is involved and why, and the ethical considerations that arise. Work on identifying ways of addressing ethical disputes and dilemmas that are ethically acceptable to you and your team.
- Feed back your insights and knowledge to the project management professional community, and advocate for the creation of a space where ethics can be discussed, debated and challenged among project management practitioners.
- Decide whether you can introduce or advance the discussion on ethics in your team, project and organisation, in discussions about projects that address Grand Challenges.
- Decide how you will vet decisions in the absence of professional mechanisms for review and scrutiny in GCCs.
- Listen and empathise intensely! Speak and act with moderated confidence! Remember: the profession of project management, the discipline of management more generally, the Grand Challenges and the collaborations designed to address them reflect uncharted waters. This is a space that is early in its development. Deep confidence in one's ways suggests a lack of awareness of the lack of maturity of GCCs practices.
- Decide how you will exit GCCs if you start feeling that your personal code of ethics is being compromised. Early on, plan how you will control damage, as they can be uncontrollable and material. Reach out to others who are involved in GCCs across professions, sectors, industries and geographical boundaries to identify and/or design ways to address strong, violent, visceral reactions in GCCs.

Overall, work towards addressing, and taking ethics out of, the blind spot in GCCs! Urgently join the debate on GCCs ethics in your field with a view to ultimately developing a *Code of Ethics for Grand Challenges Collaborations*.

Strategic implications for the project profession

The profession of project management can play a leading role in legitimising and advocating for a set of approaches to addressing Grand Challenges, and accordingly, develop its contribution and own legitimacy in the global community. Specific strategic implications for the project management profession are outlined below, along with the professionalisation criteria followed by established professions (adapted by Konstantinou, 2019).

Professionalisation criterion: Political responsibility of the profession of project management in society (please see Konstantinou, 2017).

- Advocate and lead the discussion on the role and impact of personal codes of ethics in GCC projects.
- Advocate and lead the discussion on the role of professional ethics in relation to work that has not previously been professionalised.
- Work towards the development of a Code of Ethics for Grand Challenges Collaborations, which acknowledges the role and impact of GCC trailblazers' personal codes of ethics in GCCs.
- Develop guidance on managing multiple, potentially conflicting, ethical reference points in GCCs. (Please see Toolkit and CPD from this study as a starting point.)

Professionalisation criterion: Jurisdiction of the profession of project management.

- Advocate for and extend the jurisdiction of the profession of project management to include a distinctive focus on addressing Grand Challenges.
- Advocate for and extend the focus on efficient and effective project management to include a focus on the political, intellectual and moral responsibilities and obligations of project professionals (including GCC trailblazers) and their relevance to leading GCCs.

Professionalisation criterion: Develop a state-of-the-art specialised body of knowledge.

 Develop state-of-the-art academic research and knowledge in the politics of self and the central role and impact of personal codes of ethics in GCCs. Focus on the development of both the evidence base and the research community needed to address Grand Challenges.

Professionalisation criterion: Advance specialised knowledge and the freedom to judge and choose the end goal of the work.

Socialise the project professional (including GCC trailblazers) in the
profession of project management in ways that enable them to develop their
critical judgement and play a strategic role in developing state-of-the-art
practitioner knowledge that is tailored to addressing Grand Challenges and
can complement academic knowledge in this field.

Professionalisation criterion: Build inclusion and public awareness.

 Recognise the central role and impact of personal codes of ethics in GCCs, and how this impacts recruiting talent in an increasingly ethically aware world, and sourcing innovation within and beyond the project management professional community, to speed up impact on a global scale. Extend access to the project management professional community to new project management stakeholders (e.g. digital collaborative platforms, networks and lobbies, internationalisation, media, research innovation) and build stronger ties and connections with existing stakeholders in project-based business and policy.

Professionalisation criterion: Professional review and scrutiny.

Advocate for the development of peer review and scrutiny mechanisms that
can help assess the self-control that project professionals (including GCC
trailblazers) are expected to demonstrate in everyday project management
practice, and the maturity and readiness levels of the profession of project
management to address Grand Challenges as they evolve through time.

Professionalisation criterion: Certification.

- Avoid premature certification of practices. Use state-of-the-art practitioner and academic knowledge to develop an in-depth understanding of the central role and impact of personal codes of ethics before any certification in this area.
- Advocate for the development of work, educational, funding and professional support infrastructures that adequately prepare and enable project professionals (including GCC trailblazers) to work with and manage their own and others' ethics.

Professionalisation criterion: Relationship with the state.

- Advocate for the role of the profession of project management in legitimising responses to Grand Challenges.
- Further develop awareness and active participation in the Grand Challenges debate in policy.

Implications for policymakers (including multilateral organisations), funders and investors of GCCs

Ethics has a massive impact on how things happen, and how decisions are made in GCCs, but there is no transparency about the central role and impact of GCC trailblazers' personal codes of ethics on strategic decision making. There is a need to either create transparency without impinging on privacy rights, or manage the risk embedded in the lack of transparency.

- Develop awareness of the extent, the risks and the specific ways in which
 ethics in GCCs shape policy, funding, investing 'horizons', debate and thinking,
 including international debate, world forums, government and public
 discourse, funding and investment.
- Note that GCC trailblazers bring their personal codes of ethics to work, and, by implication, their personal codes of ethics will influence a) the design of schemes and programmes for policy, funding and investing, b) the implementation of such schemes and programmes, and c) the capabilities that GCC trailblazers will seek to develop for themselves and the collaborators they lead in designing and implementing these schemes and programmes.

- Urgently lead the debate on the ethics of GCCs in your field with a view to
 ultimately developing a Code of Ethics for Grand Challenges Collaborations,
 to inform and better define and risk manage schemes and programmes for
 policy, funding and investing.
- Encourage dialogue and engage in debate about the extent to which GCC trailblazers' personal codes of ethics ought to become public, but do not neglect the impact of the heightened disclosure of personal codes of ethics on privacy. Philosophically, Hannah Arendt writes in *The Human Condition* that citizens, as political agents, need to explain past, present and future intentions and actions "in front of the watchful eye of society" (1958: 125). Assess how relevant and acceptable such views are to the communities you influence.
- Do not hesitate to change your mind in light of new insights and evidence.
 Remember: existing knowledge and ways of thinking have brought the world to Grand Challenges (Zerjav and Konstantinou, 2021), and this is an area that is gaining momentum, so new insights are to be expected.
- Communicate key evidence gaps and what is relevant research evidence in your field to facilitate academic research in GCCs.
- Communicate how GCCs relate to today's political, funding and investing context; and help articulate what may be the role of GCCs in the future.

Implications for undergraduate, postgraduate and Executive Education, and Post-Experience Management Education (including project management education)

Management education has been severely criticised for failing to prepare future managers and leaders to a) deal with ethically challenging situations, b) think critically at work and c) prioritise environmental and social priorities (e.g. sustainability) over economic priorities (Morsing and Rovira, 2011). This study confirms that GCC trailblazers who sit at the helm of GCCs are not adequately prepared or supported in managing their and others' ethics in GCCs, or in developing the political skill that is necessary to address ethical dilemmas and disputes.

- Acknowledge that the emphasis on ethics in management education needs to match the importance of ethics in GCCs.
- Acknowledge that the current educational framework neglects the central role and impact of ethics on GCC trailblazers and GCCs.
- Acknowledge that the legitimacy of management education is threatened every time a GCC trailblazer with a management degree and education suffers, or inflicts on others, uncontrollable, material damage in GCCs.
- Acknowledge that management education centring on 'collaboration',
 'coordination', 'negotiation', 'consultation', 'reconciliation' and 'mediation', or
 what can be broadly defined as a collaborative or even political approach to
 leadership and management, is insufficient.
- Develop management education, including project management education, centring on 'exiting', 'leaving', 'withdrawing' and 'quitting' collaborations so that damage and costs are limited and controlled.

- Urgently develop a translational vision and programme of independent research so that cutting-edge academic knowledge and research in collaborations, and more specifically GCCs, can be embedded in the practice of GCCs.
- Urgently develop an interdisciplinary vision and programme of independent research that further develops insights into the role and impact of ethics on GCCs, including the legitimacy of personal codes of ethics and the politics of the self in GCCs.
- Include ethics in the curriculum across Higher Education (HE) levels, with a
 focus on how future managers and leaders can a) work on the 'politics of
 the self' and understand their impact on work, b) work with ethics in GCCs
 and c) limit and control the uncontrollable and material damage they are
 experiencing now and inflicting on others.
- Urgently lead the debate on the ethics of Grand Challenges in your field with a view on ultimately developing a Code of Ethics for Grand Challenges Collaborations, to inform and better define your educational schemes and programmes.

Implications for collaborative platforms

Similarly to any network or professional community, the sustainability and success of online collaborative platforms depends on the extent to which members experience a trusting environment where they can share knowledge and build relationships *without* uncontrollable, material costs or damage.

- Build awareness of what you define as good collaborative behaviour.
- Develop guidelines that acknowledge the potential for uncontrollable, material damage (e.g. relational, reputational, personal, financial), and outline your approach to addressing these within your platform.
- Urgently lead the debate on the ethics of Grand Challenges in your field with a view to ultimately developing a Code of Ethics for Grand Challenges Collaborations, to inform and better define the boundaries of collaboration on your platform.

Methodology

In the project management literature, an ethical dilemma is defined as "a choice between moral values that are on more or less equal footing" (Kvales, 2019: 145). In broader philosophical debates, one might cite Sophie's Choice, where Sophie has the unavoidable (and unbearable) choice of ordering the killing of either her first or second child, or by default both her children will be killed. In some cases, the study participants talked about barriers to collaboration, poor behaviours and instances of conflict that reflected ethical dilemmas according to them, but not the definitions above. Given that the aim of the study was to capture ethical dilemmas as they are understood by GCC trailblazers, all instances were included in the study. Indeed, such instances contributed to the main finding of this study that the code of ethics that is followed to make decisions is personal and indeed subjective, where an ethical dilemma for one is not an ethical dilemma for another. The method used was active interviewing (Holstein and Gubrium, 1999), and it was used to build a discussion with participants on the lived experiences of work that contribute to addressing Grand Challenges. Accounts lasted from 60 to 130 minutes. In a handful of cases, time pressures brought the interview time to under an hour.

One hundred and thirty-three senior leaders and experts who work on Grand Challenges were invited to participate in the study. Access to the participants and the process of interviewing was strongly affected by the outbreak of the COVID-19 pandemic, especially in relation to recruiting participants in medicine and engineering, who were directly involved in the response to the pandemic. GCC trailblazers were identified in the researcher's own networks, and via a wide search in newspapers for senior leaders and experts who contribute to Grand Challenges. Snowballing was also used. The participants were located primarily in the UK, and thereafter in the USA, Africa, Europe and Australia. There were no participants from Asia, even though all participants worked internationally. Their profiles, careers and backgrounds were so diverse that it was impossible to allocate them into categories, and therefore it is not possible to report on strict numbers of participants in medicine, engineering, IT, academia and government. An owner of a start-up in engineering with key, pivotal positions in government scientific committees and a joint position in a university, could hardly be classified as a respondent in engineering, government or academia.

In June 2019, ethical approval for this study was sought from University College London (UCL), and it was granted in September 2019, when the researcher started contacting possible participants. A two-stage process of ethical consent was strictly adhered to when requesting consent a) to interview and b) to use the data, after heavy anonymisation of each transcript. In-depth, heavy anonymisation included:

a redacting:

- all names, family relationships, accounts of project organisation, and hierarchy
- age, employing and partnering organisations, industry/sector collaborators, and professional associations
- project characteristics (budgets, timescales, number of project members, client profiles and characteristics, industry-specific data, etc.)
- all other information that could be considered sensitive, even if it contributed to the study
- b highlighting in red any text that sounds specific to the participant's way of thinking, speaking or expressing views that could identify them in their professional networks, or could be considered sensitive information, and asking each participant to advise on how such phrases can or cannot be used in the study.

The pandemic, and the need to access senior leaders and experts whose work was disrupted by the pandemic or who were heavily involved in responding to it, meant that an additional six months of full-time research work was required for the second phase of consent in the research ethics process. The study secured permission to use 62 out of 64 interviews, building a highly unique, robust dataset of accounts that – in many instances – were confessional, identity-building, cathartic, reflective and introspective, i.e. deeply personal in nature.

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