V20

SHARING

Editorial Board

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Introduction

by Dr. Marco Tavanti and Tor Eneroth,Task Force Co-Leads

Sharing Values for Human-Centric Policy Solutions

Sharing is a value fundamental to creating human-centric communities and policies. The urgent need for access to and sharing of scientific information was revealed in the initial and ongoing response to COVID-19. The joint use of tangible resources and intangible assets is challenging in globally competitive markets, as is agreeing on resolutions to limit unnecessary and unsustainable consumption. Technology has accelerated the emergence of new solutions to economic, social, and planetary problems based on sharing and collaboration. But the value of sharing has implications beyond peer-to-peer activities in the sharing economy. Sharing is a values-based approach to overcoming nationalistic and economic competition that impedes making agreements and commitments toward a shared prosperity, shared responsibility, and a shared sustainability agenda (UN 2015).

Our international, global, and planetary challenges require a new responsibility for sharing. The prosperous future we want for people and the planet needs integrated solutions to bring about peace and partnership. It also requires commitments in which the values of integrity, solidarity, and sharing are embedded. Responding to the socio-economic impacts of the COVID-19 pandemic, for example, demands shared global solidarity and responsibility (UNSDG 2020).

The G20, along with other leadership groups, international organizations, international financial institutions, civil society, and business sector actors, share the responsibility for promoting innovative and impactful solutions that will bring about more human-centered, sustainable, resilient, coordinated best practices and lessons learned. Sharing is not just a matter of modernizing multilateralism. It is more significant and thoroughgoing than that. It is a matter on which the survival of humanity in this interconnected, global, and planetary existence depends. An effective response to COVID-19 demands policies that guarantee access and equity in distribution, as well as the sharing of knowledge and best practices to advance scientific knowledge and national strategies for future preparedness capacity.

The creation of shared value solutions is needed across sectors, as is a call for global leadership on behalf of our common future, the future we want. We teach our children the values and practice of sharing and consider it a social skill essential to building healthy, strong relationships and contributing to the well-being and happiness of our families, communities, and societies. We adults and leaders of countries and organizations across sectors should lead the way and model sharing values that recognize our common good and overcome our short-sighted competitive games. Sharing increases our impact. If sharing is centered on our common human values, it can also provide collective impact and opportunities for sustainable, resilient, and regenerative solutions.

Beyond the logic of the unsustainable exploitation of our finite common pool resources, leaders such as Dr. Elinor Ostrom have demonstrated that sharing is a positive interdisciplinary, community-based solution to the narrow and pessimistic view of the tragedy of the common (Harford 2013). The value of sharing social and economic activities offers new opportunities but only becomes a shared prosperity when designed with policies that promote the common good and solutions that are human-centered and integrated with environmental, social, and governance values (Leon 2020).

Sharing is a value for promoting partnership solutions for people, planet, and prosperity. Sharing can also serve as a useful paradigm for promoting policies that foster well-being, where the post–COVID-19 recovery process advances the integration of sustainable, just, inclusive, and resilient solutions.

Introduction

by Dr. Marco Tavanti and Tor Eneroth,Task Force Co-Leads

Chapter 1: Empowering Education for Sustainable, Global, and Ethical Values That Achieve the G20 Priorities for People, Planet, and Prosperity by Dr. Neil Hawkes and Dr. Marco Tavanti proposes values-driven educational policies that integrate ethical mindsets, global sustainability, and lifelong learning to impact current and future generations of leaders. Sharing is a value that promotes environmental and participatory policy solutions for the planet.

Chapter 2: Preventing a Planetary Collapse: Values-Based Governance Now! by Dr. Alfredo Sfeir-Younis and Dr. Marco Tavanti presents values-based governance solutions for our common future in our common planet. More specifically, they advocate for advancing more values-based and people-driven forms of multilateralism with inclusive forms of global governance that engages all stakeholders. Sharing is also a value that advances prosperity. The proper integration of Artificial Intelligence (AI) with behavioral insights (BI) can make public policies more effective.

Chapter 3: Aligned Values, Artificial Intelligence (AI), and Policymaking by Mashael Alzaid and Dr. Manuel Schuber maintains that, with more responsible, fairer, and values-centric use of AI technologies in public policy, sharing can improve public service.

This is also what is argued in **Chapter 4: Behavioral Insights to Accelerate Digital Sharing in the Public Sector: A Case Study from Tunisia by Imen Ghedhioui and Dr. Manuel Schubert.** They make the case that BI in public policy has demonstrated the need for more human-centered policymaking to improve policy effectiveness and accelerate digital sharing in the public sector.

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1 EMPOWERING EDUCATION FOR SUSTAINABLE, GLOBAL, AND ETHICAL VALUES THAT ACHIEVE THE G20 PRIORITIES FOR PEOPLE, PLANET, AND PROSPERITY

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Education is key to assuring a future of human coexistence, environmental interconnectedness, and sustainable prosperity for all. The resolution of today's global challenges is inextricably linked to providing quality education that embraces sustainability at its core and espouses ethical values such as integrity, solidarity, and sharing. The G20 urgently needs to ensure the adoption of values-centered curricula that align with Sustainable Development Goal 4 (SDG 4), which seeks to cultivate global citizenship through a human-centered, ethical, inclusive, and equitable quality education that promotes lifelong learning opportunities for all (UN, 2021).

Global challenge

The COVID-19 pandemic has brought unprecedented educational disruption. Ninety-one percent (1.2 billion) of students have been affected by school closures across the planet (UN 2021). These closures have particularly affected students in low-income households, reversing years of progress toward equitable quality education (SDG, 4). Simultaneously, owing to climate change, 2020 was the hottest year on record. The pandemic has also manifested systemic social and racial injustices, along with dramatic escalations in economic inequities. If we are to achieve the G20 priorities for People, Planet, and Prosperity, we need to recognize that education is the bedrock of a just society in the post-COVID world.

Education is the key to enabling upward socioeconomic mobility, reducing inequalities, and reaching gender equality, thus moving toward a more peaceful world (OECD 2018a). Currently, sustainable, ethical, and human core values, investments in education are fragmented, sporadic, and often disjointed (OECD 2018b).

Unfortunately, modern education often reflects the societal obsession with financial performance and material success and discounts the sustainable, global, ethical, and human qualities central to physical and mental well-being and to living a meaningful life (UNESCO-MGIEP 2020). Despite the many advancements toward sustainability and socially responsible global education (UNESCO 2018), most countries' educational policies have not yet recognized or integrated environmental and other pillars of sustainability, for example, environmental sustainability, as core component programs, curricula, and learning outcomes (UNESCO 2021).

As the Fourth Industrial Revolution is rapidly advancing, it is imperative to equip future generations not only with the necessary technical skills but also with human-centered sensitivity (ethical-empathy), concern for the environment (sustainability-regeneration), people-human skills (social-relational), and mindsets (consciousness-responsibility) essential to reducing and reversing harm (Wals 2015).

How do we equip our young people with both the analytical skills to solve society's problems and the essential skills needed to approach these problems and solve them with moral, sustainable, and humanistic results? The G20 Joint Education and Labour and Employment Ministers' Declaration (2021) has identified blending skills with values-based competencies as a priority:

> We acknowledge the importance of promoting acquisition by young people of all forms of basic skills, including digital and green skills, technical and professional and transversal skills. This should also include the development of competencies in relation to global citizenship and sustainable development that allow us to respond to the

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> complexity of our societies (G20 Joint Education, Labour and Employment Ministers 2021 para. 6).

Effectively integrating a teaching and learning approach to Ethics Across the Curricula (EAC) is both a crucial challenge and an opportunity to educate future generations of world leaders and global citizens. Education in ethics and sustainability for people, planet, prosperity, peace, and partnership can no longer just be based on contents and skills. This education must integrate mindsets that support global coexistence, interdependence, social environmental justice, resilience, mental health, and general well-being. It must enable students to be explicitly and systematically educated to respect, empathize with, and be compassionate to others. In other words, we need policies that enable national education systems to give students the educational and pro-social values to sustain themselves, others, and the natural world.

The urgent challenge is ensuring access to a quality education that nourishes both the head and the heart of humanity, thereby enabling individuals, organizations, and countries to develop sustainably.

Global solution

The world's commitment to promoting high-quality, inclusive, equitable education and lifelong learning opportunities was expressed in the 2015 Incheon Declaration and Framework for Action (UNESCO 2015a). Education 2030 makes a case for a values-based commitment to implementing SDG 4, recognized as the main driver for sustainable development and peaceful coexistence. Achieving inclusive, equitable, quality education requires investing in educational opportunities and programs that promote sustainability values and global attitudes along with other high-level cognitive, interpersonal and social skills. This approach elevates education as a key method for sustainable development, global citizenship, human and ethical relations. These essential pedagogical priorities integrate skills with values and attitudes that enable healthy, fulfilled and engaged citizens to respond to local and global challenges.

In line with the Education 2030 agenda, we acknowledge that education overcomes gender and other inequities, eliminates extreme poverty, promotes sustainable economic activity, builds human capital, and leads to economic growth. We therefore propose recentering values education and lifelong learning. But this requires more than general agreements. It demands commitments to expanding, transforming, and re-envisioning education in support of sustainable development, global responsibility, human values, and ethical behaviors (Sachs et al 2021). These priorities reflect SDG target 4.7 for sustainable development and global citizenship education: "by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development."

More than any other targets, SDG 4.7 touches on social, moral, and humanistic (people), sustainability and lifestyle (planet), sustainable development (prosperity), rights, equity, and culture (peace), and global citizenship responsibility (partnerships). These four priorities need to be integrated into national educational policies and the resources, curricula guidelines, and methods systemically used to assess and revise current programs.

1. Empowering Education for Sustainable Development: Sustainable development has substantially advanced in the last twenty-five years and has become central in education thanks to the UN Decade of Education for Sustainable Development (UNESCO 2005–2014). Today the Education for Sustainable Development (ESD) is a recognized interdisciplinary learning methodology for integrating the social (people), environmental

(planet), and economic (prosperity) aspects of formal and informal curricula (UNESCO 2014). ESD is internationally recognized as a key enabler of sustainable development and as the essential element in achieving all the Sustainable Development Goals and its own dedicated Goal 4. The international commitment to a more sustainable world requires different educational paradigms with corresponding approaches, methods, and contents. To educate sustainability changemakers requires changing the old paradigms of education: for example, changing the focus from economic growth alone to integrating knowledge, skills, values, and attitudes that empower learners to contribute to sustainable development. The now well-established ESD approach "empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present for future generations" (UNESCO 2017a). ESD, together with Global Citizenship Education (GCE), is explicitly recognized in SDG Target 4.7 as a complementary approach to developing crosscutting sustainability competencies and specific cognitive, socio-emotional, and behavioral learning outcomes to understand sustainability challenges and engage sustainability solutions (SDSN 2020).

2. Empowering Education for Global Citizenship: Global citizenship education (GCE) is UNESCO's well-established form of civic learning that addresses the world's social, political, economic, and environmental problems through learners' participation in well-rounded cognitive, socio-emotional, and behavioral learning projects and experiences. GCE and ESD both place importance on acquiring values and cultivating attitudes relevant to addressing global challenges. They also share the same vision: to educate for a more just, peaceful, tolerant, inclusive, and sustainable world (UNESCO 2017b). This approach to education is a concrete response to global challenges, such as climate change, human rights violations, forced migrations, inequalities, and poverty, that threaten peace and sustainability. It provides a framework for recognizing that our localities are connected to global systems and shared planetary resources. It empowers learners of all ages to become conscious, competent, and active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies. SDG Target 4.7 and the evidence demonstrating the close connection between GCE and ESD is a strong call for ensuring that education goes beyond literacy and numeracy and integrates these skills with building peace and sustainability through greater consciousness of social–environmental justice and global-planetary interconnectedness (UNESCO 2019a).

3. Empowering Human-Centered Education: To invest in values-based education policies we need to embrace the human-centered values of sustainable development, particularly those that nurture in people their innate capacity to espouse and act on behalf of our common humanity and common future. The current outdated industrial model of education creates a standards-based, outcome-focused culture that is often narrow and fragmented into isolated academic subjects and disconnected from a human-centered approach. Instead, the purpose of education should be revised to focus on people, planet, and prosperity and on enhancing the dignity, capacity, and welfare of the human person in relation to other people and to nature (UNESCO 2015b). With the advancements of science and technology, it is imperative to promote a value-centered, interdisciplinary approach to education that integrates universal values and principles, such as global solidarity, social inclusion, gender equality, and accountability, in the implementation of the SDGs. Education provides meaning that, at its best, supports human flourishing through knowledge and awareness, and being in a positive relationship with other humans, non-humans, and the environment (UNESCO–MGIEP 2021). Hence, the aim of such education is to promote inclusive, equitable, quality education that promotes lifelong learning and opportunities for all. It empowers people to speak from a common universal values narrative, to be wise, ethically intelligent, and in tune with themselves, others, and our planet (UNESCO 2015b). Innovative models of education such as Values-based Education (VbE) originating at West Kidlington School in Oxfordshire, UK, has placed

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human ethical values such as respect, trust, empathy, compassion, peace, and care in its core curricular activities (Hawkes and Hawkes 2018). Focusing on a human-centered education and relational-values experiential learning empowers students to develop a higher level of consciousness. Other innovative educational models, such as the Humanity Awareness Initiative (HAI), have proposed a higher purpose for leadership. In these models, leadership is in service to society, humanity, and the planet and focused on social responsibility toward future generations and integrating wisdom, compassion, and humility in the promotion of sustainability practices (Barrett 2007 2020). Empowering a human-centered approach in education recognizes the powerful transformative force of education in promoting human flourishing, rights, and dignity centered around universal values of social equity and cultural diversity, environmental justice, and shared global responsibility for our common humanity (UNESCO 2015b).

4. Empowering Education for Ethical Leadership: For sustainable development, people need access to quality education that nurtures their capacity to espouse and act on ethical values, education that fosters ethical leadership to achieve the flourishing of our planet. We propose not only providing access to basic quality education, but also nurturing in people their innate capacity to espouse and act on ethical values. Such a transformative addition will empower people and systems to achieve the SDGs by promoting ethical leadership. It will encourage social cohesion, thereby ensuring the flourishing and sustainability of our planet and all its citizens. The outcome of such ethics-integral education is that young people will develop ethical intelligence and the ability to ethically self-regulate their behavior. These ethical priorities center around discovering and embedding community-driven, universally positive human values such as respect, trust, empathy, and compassion.

Besides learning about values and how to internalize them, students are given opportunities, as UNESCO refers to in its Ethics Education Programme (EEP), to live the values, putting them into action in their own lives, their community, and society at large. The evidence (Hawkes 2005 and Lovat et al 2009) demonstrates that learning about and actioning values help students grow in awareness, develop greater academic diligence, and enjoy increased relational trust. In a word, they flourish. We also suggest tackling world problems by investing in integrity and sector-specific, ethical lifelong learning education. Business ethics and ethical decision making no longer can be relegated to a few elective courses and optional training but must be integrated into every level of education. As science and technology advance solutions to global challenges, integrating the ethics of machine learning and AI, data sharing, appropriation, and privacy is one of the most fundamental and essential pillars of sustainable human development. Governments have the responsibility to integrate ethical education and principles in science education for technological advancements (UNESCO 2019b).

Policy recommendations

In order for leaders of the G20 to promote international, national, and sector-specific policies with these priorities, the following recommendations are made.

1. Integrate sustainable values-based education: Partner with UNESCO to integrate and promote SDG 4, specifically Target 4.7, by 2030. Education for sustainable development will ensure that all learners acquire the knowledge and skills needed to promote sustainable development and sustainable lifestyles, human rights, gender equality, a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. Initiatives such as Mission 4.7 (https://www.mission4point7.org) could be expanded to include and integrate sustainable development education (UNESCO 2020).

2. Integrate digital transformation with values-based education: Advance learning outcomes in a post-pandemic education that promote digital integration and combine STEM education with people-centered and humanistic values. Promote national and institutional processes to review and promote educational programs embedded with integrity, solidarity, and sharing, along with other ethical, humanistic, and global sustainability values. Revise and reinvest in teacher training programs and provide support to ensure appropriate methods and mindsets to prepare young generations to address climate solutions and peaceful global coexistence.

3. Convene a strategic education task force: Build on the recommendations of the G20 Education Ministers Meeting (2021) to promote a strategic education taskforce with representative experts who can advance values-based education to offer solutions to post-pandemic challenges, like blended teaching and learning, educational poverty, global cooperation and commitments, and sustainable development. The taskforce could also become and/or promote a clearinghouse for contents, strategies, and effective practices for values-based education.

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Our global future urgently needs a more inclusive form of multilateralism and a global governance that engages all stakeholders. The G20 is the most effective institution to ensure greater inclusiveness, representativeness, and legitimacy to move towards re-balancing political, economic, and social transformations with justice, security, equity, and community. The time is now for a Values-Based-Planetary-Governance (VBPG) co-created by and based on the power of citizenry, the planetary nature of human life, and the foundations for a rights-based society. Raising the collective consciousness enables the VBPG to address those challenges no country, or community, can resolve on its own.

Global challenge

In the Era of Citizenry (e.g., civil society and NGOs, corporate sector, and community organizations), a state-only-centered multilateralism is not sufficient to address our planetary challenges. The COVID-19 pandemic added urgency to addressing other underlying threats to humanity, including climate change, global inequalities, and regional conflicts (The Elders 2020a). We need innovative solutions rooted in ethical-value leadership and shared global responsibility. Today, multilateral institutions face tremendous challenges in implementing their missions, be it in public health, financing for development, food security, schooling, or governance at all levels (The Lancet 2020). Most institutions, social media, and global forums struggle to provide effective mechanisms for voicing concerns, promoting dialogues, and informing stakeholders at all levels of decision-making.

Global Citizens. We are witnessing the growing importance of global citizens who seek self-empowerment solutions to social, economic, political, and environmental challenges. The management of the global commons, and the institutional and social integration needed from global to local and from local to global, should not depend just on countries' voluntary contributions. Thus, the multilateral solutions emerging from the framework dictated by the nation-state relation of the 1648 Treaty of Westphalia (Chikvaidze 2020) may not embrace the holistic mechanism needed to respond adequately to complex transnational realities and planetary challenges and build a common human future (Partzsch 2020). It is vital to raise collective awareness through the adoption and realization of shared collective values in which civil society plays a fundamental role. We need governance mechanisms that will bond nation-states' institutions to all other relevant actors. Multilateralism must establish the grounds for a Values-Based Planetary Governance based on a set of shared collective values, on powerful and sustainable alliances, and on new notions of progress, welfare, transformation, right livelihood, and development. These collective values are essential for a new multilateralism to develop that reflects our universal, global, and planetary citizenship.

Reclaiming Multilateralism. The challenge is to reclaim multilateralism with new forms of people's planetary wide participation, universal rights, and sustainable development (Adams and Luchsinger 2012). Seventy-six years after the creation of the United Nations (UN), multilateralism must reflect a new set of core shared collective values that will secure a world where everyone can thrive in peace, dignity, and equality on a healthy planet (UN 2020a). The

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inclusive and global consultations that emerged in 2020 for the United Nations 75th anniversary was a good attempt to give voice to diverse actors and initiate dialogues within and across national borders, sectors, and generations. However, the process needs to be institutionalized and people empowered by the establishment of a permanent forum and representative council to listen to their hopes and fears while advancing local, regional, global, and planetary solutions. Its absence has created a complex situation: a mix of multilateral and multi-polar systems of dispersed coalitions of interest, resulting often in stalled negotiations and inadequate solutions.

The time is now for the G20 to support a credible process of inter-governance innovation at the global and planetary level, an innovation that embraces the values of citizenry and promotes effective reforms of multilateral organizations (e.g., the IMF, IBRD, WTO, WHO, ILO).

True Global Cooperation. We need to rediscover the essence of true cooperation. A Values-Based Planetary Governance will greatly strengthen rather than weaken individual country sovereignty. With the rapid surge of citizens' involvement in global governance (the climate change movement, the parliament of world religions, and so many more), new community values (opportunity, empowerment) and global values (security, stability, peace) are emerging. These collective values will shape different forms of systemic engagement. These values will bring to bear a different set of organizational norms (sharing access to innovation), rights (human rights and migration), regulations (access to ocean fisheries), policies (combating climate change), principles (shared responsibilities), goals (UN Sustainable Development Goals), methods (establishing new global convention on climate change), procedures (new multilateralism) and actions (protection of natural forests) at all levels.

Global solution

Effective Planetary Governance. Values-Based Planetary Governance is a framework emerging from a shared planetary vision and shared collective values and leading to a planetary consensus for an effective program of action. Values-Based Planetary Governance, and its values-based foundation, requires a growing collective awareness and commitment to become an empowering form of governance rather than a disempowering process of decision-making. Values-Based Planetary Governance embraces the values of inclusion, interdependence, mutual support, citizen involvement, global destiny, and shared responsibilities, and establishes institutions which materialize those values. It is not just a practice, but a crucial set of mutual values: consultation, inclusion, peace, participation, partnerships, solidarity, justice, compassion, love, equity, and equal rights. A meaningful post-COVID-19 strategy must build a better world in which people, economy, nature, and institutions are in sync with sustainable and inclusive human development and transformation. A planetary vision finds its legitimacy within the commitment of people and their communities.

Relevant Global Solutions. Many global solutions exemplify the idea of global citizenry for a VBGP. They are rooted in past processes, which resulted in the creation of the United Nations in 1945, the adoption of the Universal Declaration of Human Rights in 1948, and the international commitments for the Sustainable Development Goals and the Paris Agreement in 2015 (The Elders 2020b; Brundtland 2020). During the 1945 San Francisco United Nations Conference for International Organization, the finalized charter constituted the Economic and Social Council (ECOSOC) and the UN General Assembly as official channels and concrete mechanisms for listening to the voices and expertise of civil society and multiple actors. The UN Permanent Forum on Indigenous Issues (PFII), created in 2000, is another example of shared governance on matters related to native, original, aboriginal,

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and first people. In its advisory capacity, the PFII reports to the body within the framework of the United Nations System that reports to the ECOSOC. The formulation of the SDGs and its targets were also the result of a global public consultation and engagement with civil society and other stakeholders around the world, especially with the voices of the poorest, most vulnerable people (UN 2015). More recently, another example emerged in the 2020 United Nations Global Consultations, launched on its 75th anniversary (UN 2020c).

Stakeholders Participation. Numerous other examples of multi-stakeholder, participatory, and people-centered approaches to multiculturalism inspire systemic integration solutions beyond borders and beyond nation-state. We need the promotion of more effective multi-stakeholder coalitions. We need actors beyond the central state and the government, and we need to include the voices of civil society, the private sector, and local governments. While the shortcomings of traditional multilateral solutions hinder commitment to multilateral agreements such as the 2015 UNFCCC Paris Agreement, we have seen how city mayors, private sector leaders, and NGOs carry on with these important commitments. This is reflected in other multi-stakeholder responses: the Civil 40 (C40) network of the world's megacities committed to addressing climate change; in Gavi, the Vaccine Alliance; the International Campaign to Ban Landmines (ICBL), the Global Fund to Fight AIDS, Tuberculosis, and Malaria; and the Extractive Industries Transparency Initiative (EITI), among others (Pantulian 2020).

The Value of Inclusiveness. We need an inclusive, networked, and effective multilateral system based on the proposed Values-Based Planetary Governance. To meet new commitments, we need (1) a new planetary vision, which is the aim, (2) a new planetary governance, which is the instrument, and (3) a new planetary consensus on an action program, which is the desired outcome. The Organisation for Economic Co-operation and Development's (OECD) work on the Happiness Index, the effectiveness of governance, and the equity index are examples of how to construct such a proposal. Multilateral global solutions to planetary challenges must be rooted in the values integral to global citizenship (Brown 2016; report of the Global Citizenship Commission). The following global solutions are essential priorities for realizing a new and needed multilateralism.

Promote Direct Citizen Participation: Participation must be made meaningful by having an approach to restoring our human aspirations where mutual respect and mutual accountability is woven into its very fabric. Therefore, the G20 should focus on a bottom-up approach that validates, through consensus, a new set of values. This will change the core elements guiding many international institutions (e.g., the UN, WBG, WTO, ILO) whose claims are so dispersed and erratic. Our planetary challenges must determine the path and the collective ethics of this new VBPG for planetary citizenship. It is particularly necessary to establish, with a sense of urgency, a systemic values-based approach that will prevent the collapse of the existing multilateral system and will establish trust, legitimacy, and effectiveness. Any step in this direction must be based on clear strategic priorities with respect to those challenges no country can face by itself. Finally, it is important to maintain and strengthen positive change. This implies the end-result of any process and provides a meaningful post-implementation governance structure for measuring impacts (Chowdhury 2021).

Adopt People-Centered Values: The goal must also be to balance the aims and values of multilateralism with the important surge of citizen empowerment. This is consistent with the G20s' pillars of People, Planet, Prosperity (PPP), the 5P approach of the UN's SDGs that adds Peace and Partnerships, and the Values20 (V20) vision of creating human-centered policy solutions with values such as integrity, solidarity, and sharing. This demands an equitable response to and a collective awareness of the global character of the challenges we face. The objective must also embrace these collective

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values, guide the path towards sustained prosperity, and attain equality, inclusion, protection of the vulnerable, promotion of women's empowerment, and universal access to education. These are all people-centered values essential to the future of a multilateralism that promotes responsible globalization, empowers citizens, and leaves no one behind (Kharas, Snower, and Strauss 2020).

Embrace a Planetary Decision-Making Path (Awareness): The path proposed here will need to consolidate and enlarge the concentric circles of actors who are to exercise the power of planetary governance, thus, to have strength, diversity, and inclusiveness in planetary governance. This is not just a matter of modernization, but also a matter of co-creating a new vision for planetary decision-making based on cooperation and embracing new values and principles to match our true reality and aspirations (sustainability, equity, rights, and responsibilities). The world is at a tipping point where new forms of governing the commons through stakeholder participation are no longer optional (Bosselmann 2015; Boston 2016).

Construct New Narratives for Planetary Values (Self-Realization): Invariably, the rules governing decision-making in the multilateral system are greatly influenced by such values as freedom, democracy, caring, sharing, and cooperation. In turn, these values take form depending on the state of play, the level of collective consciousness, and the preferences expressed by various actors. Thus, different rules and values will construct alternative narratives of what humanity is trying to accomplish among competing claims (e.g., the narrative of sharing, the narrative of solidarity, the narrative of compassion, the narrative of collective existence). The VBPG represents the foundation for a new narrative which responds to the realization that we are a planetary collective and not the arithmetic sum of individual countries or communities. In this narrative, nobody will lose sovereignty because all actors will identify with and gain from its co-creation and implementation. Co-creation will expand and deepen national sovereignty. This will be a sovereignty that emerges from a notion of right livelihood on our planet. This is the true meaning of the term planetary governance suggested here, which expands on previously suggested value-based policy recommendations (Schubert and Alsharif 2020; Biermann 2014).

Commit to Global Sustainable Development (Transformation): Cooperation is not optional for the G20 and the world. Responsibility for global equity is universal, especially after the COVID-19 pandemic (United Nations 2020b). Thus, bringing to the fore new forms of leadership, intelligent alliances, and effective instruments to attain the expected results is in our hands. We cannot allow the debate on values and social norms to be swept under the carpet. Now is the time to govern by empowering planetary citizens and to enliven new forms of human prosperity (material and spiritual) by embracing the values of equity, justice, legitimacy, participation, representation, deliberation, inclusion, systemic coherence, accountability, ethics, morals, and more.

The New Path

The Horizon: Expansion of the G20's Convening Powers. Consider convening a special session of the G20 devoted to identifying and designing a selected number of value-based policies and adding specific task forces to the existing ones.

The Foundation: The G20's Shared Planetary Responsibilities. Require strong country-level community engagement and support for effective implementation of the SDGs. It is fundamental to embrace sustainability, interdependence, and interconnectedness. G20 proposals will gain more traction at local and regional levels by adopting a value system that includes participation and deliberation. These value-attributes are the key ingredients needed to overcome, for example, the challenges of today's health pandemic, climate change, extreme poverty, and social inequality.

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The Critical Path: G20 Enhanced Planetary Governance of the Global Commons. Realize the G20 commitment to the People, Planet and Prosperity (PPP) based on human-centered social, economic, gender, and political values. Foster cooperation among G20 members through new forms of interaction based on collective reciprocity and shared empowerment. Provide an institutional framework to organize, strengthen relationships among nation-states, and shape the character of a common PPP vision, policies, and programs, leading to new outcomes.

The Solutions: G20 Aspirations for Multilateral Governance. Pursue aspirations of multilateral governance beyond the leading powers, beyond the G20's original economic-and-finance–only focus, and beyond the competing north–south vs. south–south approaches. Multilateralism is in crisis and requires new formulations to adequately respond to current and future crises (Donati 2020; Eggel and Galvin 2020). The G20 is instrumental in promoting effective multilateralism in its orientation toward resolving global challenges such as pandemics, global poverty, and climate change (Jokela 2011). Therefore, the G20 should reflect specific values in carrying out its responsibility for our common future and global shared responsibility.

The Values-Based Framework: G20 Transitioning to Rights-Values-Based Societies. Support a transition to rights-based societies in which human rights and natural rights play a fundamental role. This demands enhanced collective awareness of the G20 member nations' rapid transition away from those values and institutional mechanisms offered by the market to societies governed by all forms of rights (e.g., right to education, water, housing, clean environment). This is a key ingredient in finding economic, social, and environmental solutions to global challenges. Today's international mobilization to address climate change, women's empowerment, and poverty alleviation are important examples.

Policy recommendations

Putting Values into Action

A participatory form of multilateralism and multi-stakeholder mechanisms for consultation are vital in facing the challenges of our interconnected world. A planetary vision is essential to developing an identity that extends beyond national boundaries, strengthening human and ecological integrity, and empowering all stakeholders to pursue better policies.

Action 1: A G20 Values Caucus. National and specialized caucuses could serve as preparatory content for V20 as an ongoing focus integrated to the G20. This supports the participation of civil society in G20 decision making, embedded into collective values.

Action 2: The League of Citizens (LOC). The G20 should consider the creation of a new planetary, citizen-based organization, the League of Citizens (LOC), a Citizens Council would ensure development effectiveness and may take a form similar to a UN Council. A seed exists in the United Nations Permanent Forum on Indigenous Issues (UNPFII) for indigenous peoples.

Action 3: A World Council of Values (WCV). Solutions to planetary challenges are shaped by existing value systems. The G20 should take the lead in strengthening the World Economic Forum (WEF) and World Social Forum (WSF) by establishing the World Council of Values (WCV). This would bring to the fore the importance of new values for multilateralism and planetary governance. The V20 and Action 4 (below) may become the seed for the proposed organization.

Action 4: A Planetary Citizens' Network for Climate Change. Through technology-integrated mechanisms and local chapters, this network will provide an open and free citizen dialogue across critical

contents, local actions, community development, and shared governance.

Action 5: An Immediate Action Plan for Planetary Sustainability. The G-20 should pursue attainment of the SDGs, promoting policy priorities to clean all rivers, groundwater, and oceans; protecting natural forests; greening cities; and intervening in environmental hot spots. A "super green fund" must be considered. Its design and implementation must include consultation and participation with civil society.

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3 ALIGNED VALUES, ARTIFICIAL INTELLIGENCE (AI), AND POLICYMAKING

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Artificial Intelligence (AI) systems present significant opportunities and serious threats to the future of societal well-being. The G20 seeks to harness the benefits of AI for the good of all public services. This document discusses three major challenges with respect to the use of AI in public policy and presents a structured process that can contribute to a more fair and responsible values-centric use of AI technologies in public policy.

Global challenge

The Fourth Industrial Revolution is affecting societies around the globe. While it represents historic opportunities to improve quality of life and access to equal opportunities, it has also been the driver of inequality and the carrier of public harm (Larson et al 2016; Hannen 2020; Guo & Hao 2020). The increased use of Artificial Intelligence (AI) is both one the biggest opportunities and challenges for society. In response, the G20 have released the G20 AI Principles, stressing the need for responsible stewardship of trustworthy AI that reflects "human-centered values" (G20 2019). In continuation of these efforts, the G20 Digital Economy Task Force (DETF) is tasked this year with exploring opportunities to harness AI technologies for delivering more efficient and effective public services (G20 2021).

While we welcome the emphasis that the Italian Presidency places on using AI for public services, we see an urgent need to revamp policy principles and frameworks for the future use of AI in public policy. The more policymakers rely on AI as an enabler and accelerator of public services, the more likely we are to observe errors and flawed decision making. Three future challenges are identified with respect to the use of AI in policymaking: Biases, Responsibility, and Values.

1) Biases

One of the most notable examples of biased AI algorithms is the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) system, used in USA courts to predict the probability that a defendant will become a recidivist. COMPAS has discriminated against black people, categorizing them too often as future offenders (Kozyreva et al 2021). Racial discrimination was also found in AI used in USA hospitals to predict which patients would need extra medical care (Shin 2020). These and other cases have sparked controversy, prompting authorities to disclose more information on data collection processes. Current practices, however, raise serious doubts about the validity of forecasts, possibly undermining the effectiveness and societal acceptance of AI-enhanced public services.

2) Responsibility

Another key challenge is related to the use of AI systems in specific policy contexts. First, AI algorithms are not yet able to "think" beyond data boundaries, and thus may overlook important linkages and interactions with other policy areas. Second, policymakers and citizens usually face difficulties in understanding the rationale of AI systems. For example, who will take responsibility for AI-enhanced services that are short-sighted, ill-designed, or discriminatory—the policymakers, the data scientists, or the AI itself? AI standards for public policy need to address these questions and prevent a diffusion of responsibility in these multi-stakeholder contexts.

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3) Values
AI systems are known to offer effective decision support based on historical evidence. The question is whether historical data is always the best predictor for future behavior. Societal values are not necessarily constant, as witnessed during the COVID-19 pandemic and in the Fukushima nuclear disaster. Rapid shifts are problematic for AI algorithms and might even affect public attitudes towards AI-enhanced policies. Research finds that people tend to distrust AI algorithms after witnessing mistakes, even if the AI proves generally useful (Dietvorst et al 2015).

Global solution

Given the problems described above, we see the urgent need for collective efforts to address these challenges and lay the right foundations for an unbiased, responsible, and values-centric use of AI technologies in policymaking. However, most reports on the use of algorithmic systems in the public sector are still either descriptive or theoretical (Ada Lovelace Institute, AI Now Institute, and Open Government Partnership 2021). Thus far, only a few empirical studies have examined the impact and effectiveness of policy measures aimed at achieving "accountability" in specific contexts. Therefore, the following selection presents the most prominent approaches and frameworks, seeking to elicit the key elements of an AI policy design process that can help G20 policymakers operationalize the G20 AI Principles.

1. Citizen participation
Citizen participation is a widely used policy approach in traditional policy areas, such as: community development, urban planning, and public procurement. It incorporates a public dialogue in which citizens get involved at various stages of the policy cycle with the opportunity to influence assessments and decisions. In these areas, citizen participation is known to garner public support for planning decisions; enhance societal acceptance and trust towards policy measures; and nurture citizen engagement or community well-being (University of Oregon n.d.; Beck 2012; Behavia 2020). Likewise, in the context of AI technologies, citizens should take an active part in the policy-making process as representatives of the target group, for example, by monitoring and overseeing the evaluation and decision processes before an AI solution can be applied for public services.

2. Responsible Design Framework
A process which can complement the previously mentioned citizen participation approaches is the Responsible Design Framework (RDF,

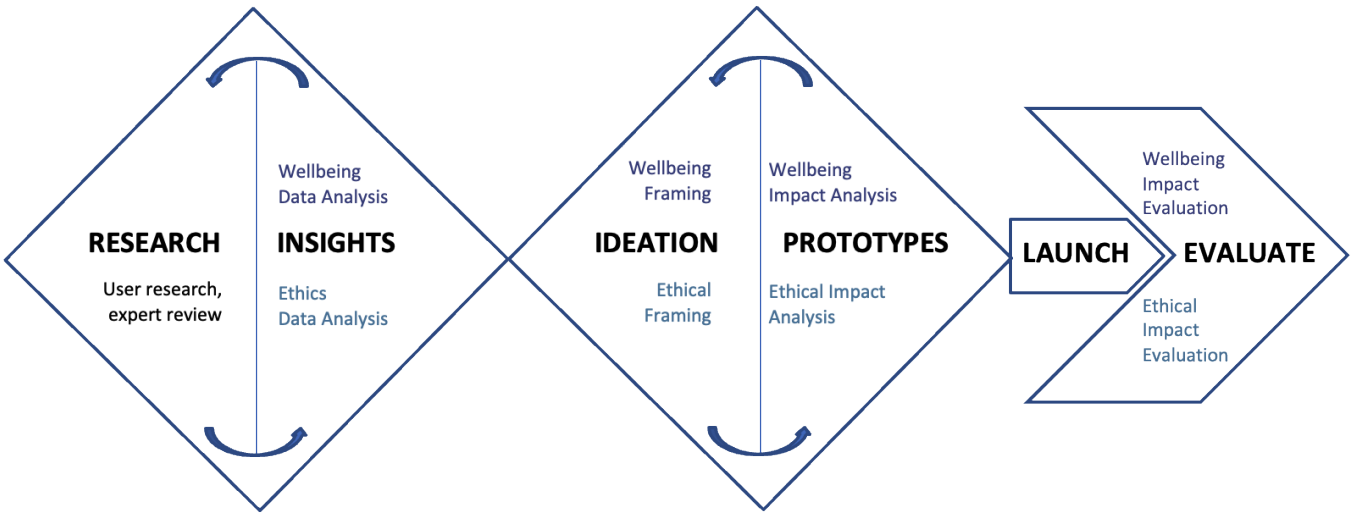

Fig 1: Responsible Design Framework (Source: Peters et al 2020: 37)

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Peters et al 2020). The RDF is a process which focuses on ethical and well-being considerations in technology development by incorporating dedicated impact assessments at each stage of the engineering process.

3. Trustworthy Governance Structures
Enhanced governance structures for human-centered AI present another practical way to design reliable, safe, and trustworthy AI systems. Shneiderman (2020) identifies three core levels which address the key challenges discussed above from various angles:

1. Reliable Systems :This level suggests applying technical practices to software engineering teams that clarify human responsibility through audit trails and analysis tools. It also suggests adjusting software engineering workflows and supporting explainable user interfaces and verification and validation testing to enhance fairness and avoid harmful outcomes.

2. Safety Culture: The second layer encourages leadership commitment to safety through explicit statements about values, vision, and mission, and by making these visible to employees through frequent meetings. These meetings will be used to review and report failures and near misses, alignment with standards and best practices, and will provide safety training.

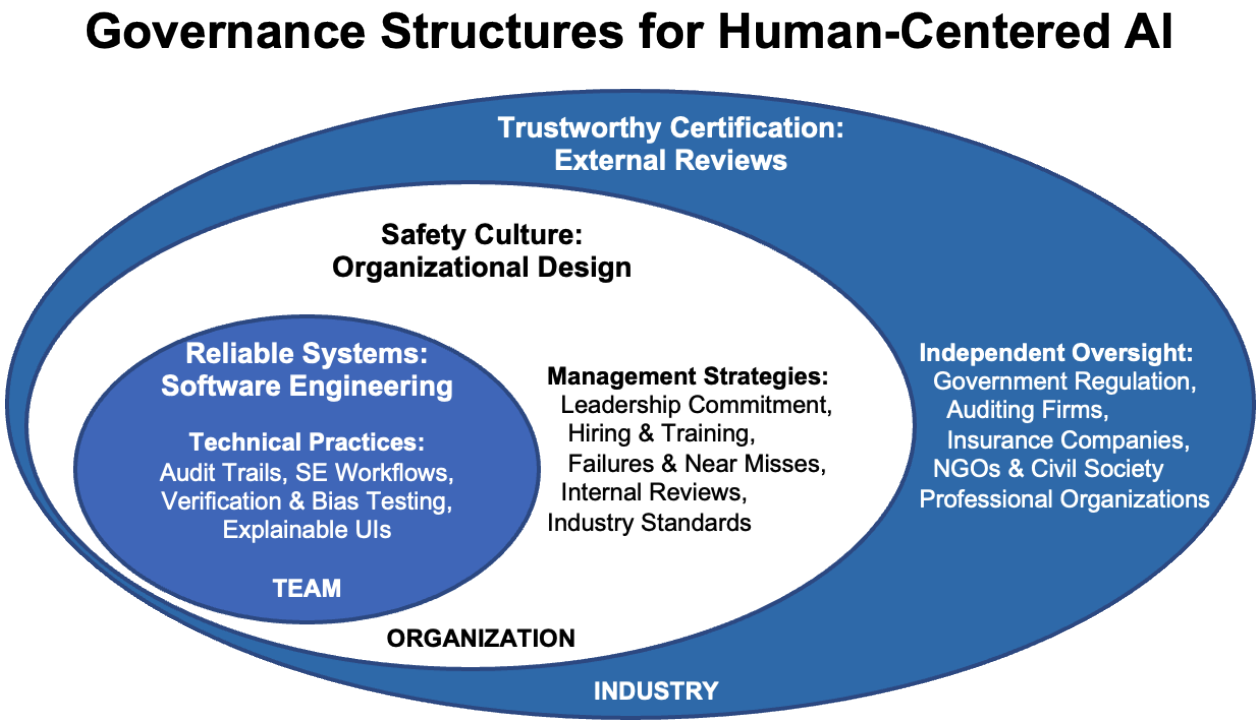

Fig 2: Governance structures for human-centered AI (Source: Shneiderman 2020: 3)

3. Trustworthy Certification: The final layer highlights the importance of independent oversight by external review organizations that increases the liability of the products and services.

Although the above structure (see Fig 2) was published recently, early evidence demonstrates the value of using flight data recorders, for instance, in making civil aviation safe—avoiding

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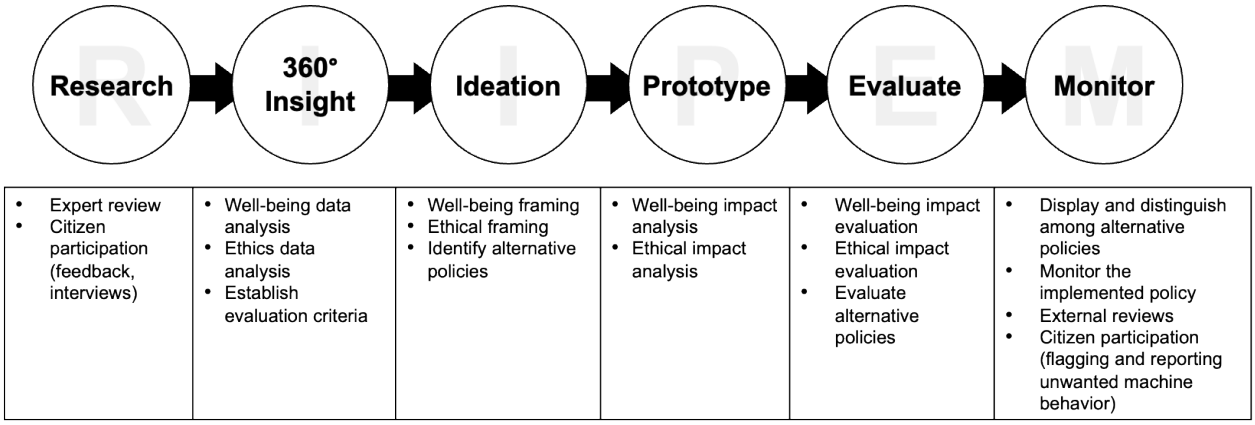

Fig 3: Policymakers' framework: People-oriented smart systems (Source: Authors' illustration)

accidents and improving training and equipment design (Grossi 1999).**4. An AI policy design process**

To operationalize the above frameworks and combine best practices from both a technical and a policy-making perspective, the following modified process is suggested to design policy in the context of trustworthy AI.

Research: The goal of this phase is to explore the specific needs of and possible barriers to the citizens who will be affected by the new technology, i.e., the actual target group. A key pillar of this phase is an in-depth assessment of specific service contexts. Typical approaches at this stage are not only reviews of relevant (grey) literature and qualitative assessments, but also collection of quantitative data through tracking systems, surveys, or user journey analysis.

360° Insights: This phase aims to identify the range and magnitude of risks, especially related to potential biases, ethical and accountability risks, as well as effects on perceived transparency and societal acceptance. This phase goes well beyond traditional risk assessments, as the harm inflicted on citizens needs to be forecasted based on (new) empirical evidence gathered during the previous stage.
Ideation: This phase comprises standard policy ideation and design-thinking formats to develop new policy solutions, explicitly considering the 360° insights derived during the previous phase. The ideation stage should be supported by a simulation tool that flags risks at an early stage.

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Prototypes: The ideated policy solutions are checked for feasibility by technical expert committees. Feasible solutions are operationalized as minimum viable products (MVP), e.g., policy prototypes. The prototypes are prioritized according to expected impact and costs, given budget and ethical considerations. At least two prototypes need to be selected to proceed to the next stage.

Evaluate: This phase involves experimentation or A/B testing on a random sample of the target group to evaluate the impact, costs, and possible harm caused by the prototypes. Preference should be given to real-world environments. Tracking systems should encompass the larger ecosystem to validate expected side effects identified during the 360° insights phase and to improve model fit.

Monitor: Upon completion of the evaluation phase, the most effective AI-enhanced service is scaled and continuously monitored to capture the long-term impact and side effects. The

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ISSUE	LEAD QUESTIONS
RELIABILITY	What were the assumptions (i.e., will the system be used in a certain city, for a certain group/class of people) when the problem was defined? How was the data collected? What were the circumstances under which the data was collected? What are the backgrounds of the team members who collected the data? Does the data scientist team come from similar or different backgrounds? Is the data representative of the groups who will be using or impacted by the system?
OPENNESS	Was the system reproduced by an external team? And did they achieve the same results? Is society exposed to a portion of the data? Or was the public surveyed to support the results of the data? Can individuals in the target group get access to their data sets and analysis?
VALUE-ORIENTATION	What values are important to the society in the matter under study? Are these values reflected in the data according to blind review by a third party? Are the values reflected in the data in line with the G20 AI Principles?

Table 1: Smart Systems Assessment Checklist for policymakers (Source: Authors' illustration)

monitoring cadence might be altered over time due to biases that emerge from changing the use context (Friedman and Nissenbaum 1996), and close scrutiny is required if additional (AI-enhanced) services are launched that could interact with the existing one. This phase should also include external reviews and regular third-party auditing.

To complete the description of the AI policy design framework, we present a brief checklist below (see Table 1) that can help policymakers assess risks of AI systems and provide guidance during policy development stages outlined above.

The proposed approach can help policymakers ensure that the systems supporting their decisions are safe and human friendly. Nonetheless, policymakers may be limited in their access to data and unable to answer questions asked of them (i.e., owing to legal constraints). However, with greater awareness and more success stories of AI-enabled policymaking, these laws could be changed to support the involvement of policymakers.

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Policy recommendations

Artificial Intelligence (AI) technologies offer a vast potential to foster well-being by improving equal access to opportunities and higher living standards. In recognition of these opportunities and in alignment with their objective to stimulate a transformative recovery through technological innovation, the G20 seeks to systematically harness digital technologies for more efficient and effective public services.

We welcome the strong emphasis the Italian Presidency places on supporting AI use in public services and more agile regulation by compiling the G20 Menu of Policy Options on productivity-enhancing digital transformation. However, due to the wide range of potential risks and damages that can be inflicted by AI-enhanced public services upon citizens, in particular minority groups, we also see an urgent need to provide detailed guidance and best practices to ensure a responsible, unbiased, and values-centric utilization of AI technologies in policymaking. We therefore call on the G20 to support international efforts to unify and integrate AI standards in the policy cycle.

In pursuing this goal, the G20 should take the following actions:

1. Task the G20 Digital Economy Task Force (DETF) with developing a policy toolkit with case studies on the responsible, unbiased, and human-centric use of AI technologies in policymaking.

2. Encourage technology partnerships between public and private sector organizations and research facilities to identify globally accepted AI standards.

3. In cooperation with the OECD, task the G20 Framework Working Group (FWG) with exploring new AI-compatible policy design processes and conducting regulatory impact assessments to get a clear understanding of the underlying assumptions and the effectiveness of new AI policy processes.

4. Expand the mandate of the G20 Behavioral Insights Knowledge Exchange Network (BIKEN) to consult and support the DETF and FWG in designing policy processes which incorporate mandatory checkpoints for ethical reviews in accordance with the ethics standards of behaviorally informed policy interventions.

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4 BEHAVIORAL INSIGHTS TO ACCELERATE DIGITAL SHARING IN THE PUBLIC SECTOR: A CASE STUDY FROM TUNISIA

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Governments around the globe face enormous difficulties in undertaking digital transformation. What are the root causes of these problems, and how can we accelerate digitalization culture in the public sector? We present a case study on how Behavioral Insights (BI) can help enhance cooperation, data sharing, and technology uptake in public organizations.

Global challenge

The COVID-19 pandemic has accelerated the pace of digital transformation and dramatically increased the demand for digital solutions around the world. The G20, in accordance with the G20 Digital Agenda, have repeatedly highlighted the urgent need for a transformative recovery that is built on trust through "sharing common values and principles including equality, justice, transparency and accountability taking into account the global economy and interoperability" (G20 2019; G20 2021a). In addition, the G20 countries have recognized the necessity of applying a human-centered, evidence-based policy approach to harness the full potential of digital technologies and mitigate the associated risks (G20 2019). In 2021, the Digital Economy Task Force (DETF) has given priority to "Digital Government," focusing on the interplay between government actors to harness digital technologies for more efficient and effective public services (G20 2021b).

However, despite these commitments on the G20 level, many national, regional, and local governments still face enormous difficulties in formulating and implementing effective digital responses. A striking example is the pace at which COVID-19 contact tracing apps have been deployed, revealing significant differences in government response patterns and e-policy cycles across countries (Statista 2020). Governments at all levels must not only strengthen their capacities to react promptly in the event of future crises, but also deliver public services much faster, more simply, and more inclusively (Greenway et al. 2018; OECD 2020).

One major root cause for the slow progress in the digital transformation of the public sector is that governments and public administrations are focusing excessively on the technological and infrastructural barriers to digitalization. Empirical research shows that these "facilitating conditions" only modestly contribute to the uptake of new technologies (Venkatesh et al. 2003). Other factors, such as behavioral, social, and psychological barriers, appear to be equally important in determining technology acceptance and use. For instance, building trust and confidence in technologies, instilling a culture of information exchange and data sharing, and complying with ethical and privacy standards are crucial prerequisites to increasing acceptance and uptake of new systems (OECD 2020). These human factors often receive little attention by policymakers. To the contrary, many government agencies facing a lack of supportive culture for undertaking e-government integration efforts (Lam 2005) try to treat the symptoms rather than address the root causes.

At the same time, the global rise of behavioral insights (BI) in public policy has demonstrated the need for more human-centered policymaking to improve policy effectiveness (Schubert 2020; Baggio et al 2021). Building on evidence from behavioral economics, psychology, sociology, and other behavioral sciences, behavioral insights have the potential to accelerate the pace of digital transformation programs and deliver on citizens' demands for more advanced digital solutions by focusing on the social and

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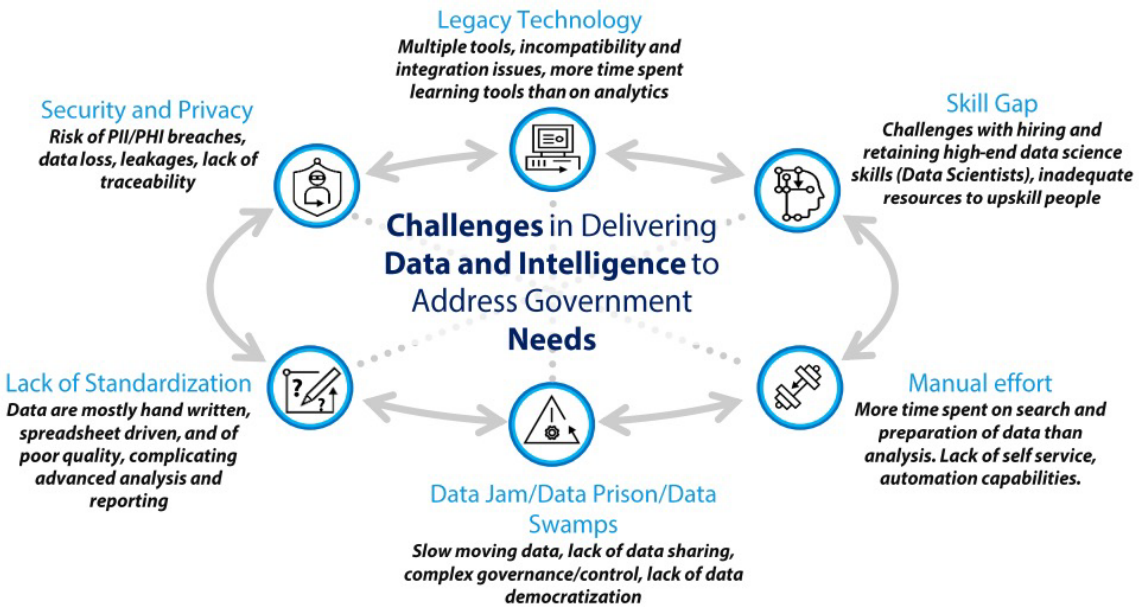

Figure 1: Stylized selection of symptoms (Infosys 2021)

psychological factors which may impede technology acceptance and uptake.

In the following section, we present a case study on how to apply the BI methodology to enhance cooperation and data sharing within a public organization with the aim of providing better social services to citizens.

Global solution

This case study relates to a project implemented at the Ministry of Communication Technologies and Digital Transformation of Tunisia. As the project is still ongoing, we focus on reporting objectives and key challenges, as well as possible policy solutions. On its completion, we hope that the project can serve as inspiration for other government entities and stakeholders to accelerate the deployment of effective e-services and support the realization of cross-governmental cooperation on digital transformation projects between countries.

Background of the case study

Building on previous efforts to alleviate poverty and in response to the challenges arising from the COVID-19 crisis, the Tunisian government seeks to improve the provision of social support and protection services. Public services should be better tailored to citizens' needs and capabilities, especially those of vulnerable groups, and regulated to reduce the risk of systematic misuse of social benefits and protection systems. In this regard, ten existing platforms which currently provide a total of 20 public services to people in need will be unified, integrated, and re-assembled.

The Tunisian National Center for Computing (NCC) is tasked to lead these efforts, guarantee interoperability, and mobilize uptake of the new data-sharing platform. As this assignment requires six Tunisian ministries to collaborate on various levels, two major challenges were identified at the beginning of the project:

1. Lack of capability: stark variation in digital readiness and preparedness among ministries and platform owners.

2. Change resistance: low willingness of stakeholders to adopt interoperability processes and voluntarily exchange essential data owing to a combination of psychological and social barriers.

Selected approaches

The first challenge, lack of capability, was addressed through a variety of capacity building and upskilling activities. Special attention was

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given to conducting in-depth needs assessments to understand the procedural and data-specific requirements of each ministry and to facilitate an effective process improvement approach for service providers and beneficiaries.

In the second challenge of change resistance, the main area of concern was tackled by applying the behavioral insights framework endorsed by the OECD (2019). The framework provides a strategic process for human-centric policy development.

Diagnosing the root causes of non-cooperative behavior

The NCC team made intensive use of the behavioral insights framework's diagnostic tool, called ABCD, which suggests that behavioral problems, e.g., change resistance or low technology uptake rates, can be analyzed in terms of four aspects: Attention, Belief formation, Choice, and Determination.

Figure 2: The BASIC framework (OECD 2019, 46)

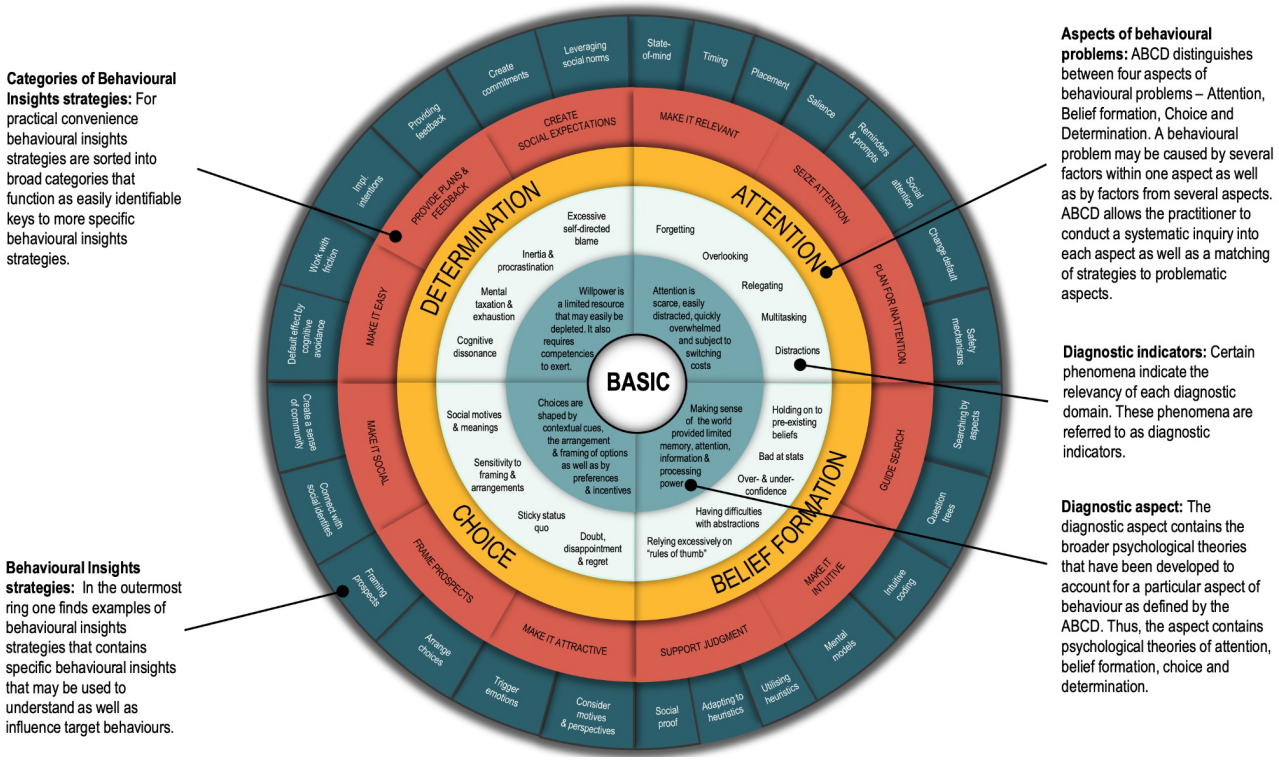

Figure 3: The ABCD diagnostics tool (OECD 2019, 70)

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The team explored the root causes in each of the domains through a series of workshops that helped identify the following key barriers:

Attention
Digital transformation projects are often accompanied by significant changes that require stakeholders' attention to effectively deliver against new scopes, requirements, and mandates. In this regard, the following main barriers were identified:

1. Most ministerial teams have only a limited understanding of the existing information systems and interoperability models; important (sub)processes are unknown.

2. Ministerial project teams have only fragmented knowledge of data cleaning and archiving, templates, and reliability standards.

3. The engagement processes for service provider counterparts—a core component of the interoperability model—are only partially defined.

Belief formation
Stakeholders and project teams constantly form beliefs and make judgments and guesses based on the (limited) information they have. Such beliefs often constitute main reasons for change resistance. The following (mis-)beliefs were identified:

1. The costs of achieving system interoperability are perceived as (too) high.

2. The benefits of interoperability and associated returns for project teams are perceived as (too) low.

3. Some team members appear to be concerned about a loss of control over "their data."

4. Some team members fear that their databases do not meet expected quality levels.

Choice
In data management systems, users need to make a series of choices to provide or retrieve data in the desired quality and granularity. Besides aspects of general usability, the overall choice environment of interoperability systems can become another impeding factor.

1. The existing systems operate on the "on demand" principle, meaning that a user needs to manually initiate a request to get access to the desired data or analysis. A downside is that users lack opportunities to familiarize themselves with the platforms and learn about the available options and operations.

2. Users do not gain access to the full potential of the data due to missing aggregation standards. For instance, income information is not accessible for most of the users, although aggregated income data could provide important insights for policy designers without jeopardizing data privacy rules.

Determination
In the context of data-sharing platforms, determination refers to the ability of a user to follow through with their desired action; the easier and more intuitive the system, the more likely users are to execute their actions as planned.

1. Users' manual requests need to be followed up on, either through meetings, emails, or phone calls. This practice creates latencies of several days to weeks until the requested data is made available.

2. At best, the current process stops with the provision of the requested information. Room for feedback or learning opportunities for both the requesting and the sharing ends are not accounted for.

3. Some organizations initiated (side-) processes of dual data sharing which are not yet fully formalized and partly dysfunctional.

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Designing tailored policy solutions to enhance cooperation

Root cause analysis marked the starting point for the development of suitable human-centered strategies to enhance cooperation among the six ministries through implementation of new policy processes. Following this, the NCC grouped and prioritized the root causes to formulate a set of prototype interventions to overcome the identified barriers and mobilize system uptake and data sharing. Three selected prototypes are presented below:

Demonstration Days

Many barriers identified under the Attention and Belief domains arise because of a "veil of ignorance" and distrust among users and counterparts. Addressing these barriers, requires users to learn more about the benefits, data standards, classification, and especially about the anonymity of data. The NCC therefore devised Demonstration Days during which data users and data providers met offline and were jointly taken on a guided tour through the platform to explore dynamics, readiness, and monitoring features. The content presented was tailored to the identified social and psychological barriers. In addition, the Demonstration Days were set up in a highly interactive way to a) provide sufficient room for Q/A, e.g., to discuss specific concerns or the need for additional features, and b) instill a sense of coupling and co-ownership among data users and providers. As the Demonstration Days were well received by the teams, the NCC continues to act as the intersectoral bus and organizes these meetings as part of the platform's onboarding process.

Data Simulator

Another set of barriers refers to ignorance about the available options for and benefits of data operations and analytics, i.e., the Choice and Belief domains. To address these aspects, the NCC team set up a data simulator to educate users and providers about the benefits of the interoperability platform. The simulator allows users to "surf & play," and thereby discover a range of operations, visualizations, and dashboard analytics. For their part, data providers can choose the modalities by which other parties can work with their data and also observe how their data is used by others. This feature was considered important in allowing a minimum level of control and mobilizing trust among data providers. Moreover, direct observation of users is expected to facilitate learning and improvement among data providers. While the initial tests with the simulator were conducted offline, i.e., outside of the actual system, the next stage is integrating the data simulator as a permanent feature.

Gamification and A/B testing

To counter possible fears among users and providers, the NCC team is developing a series of gamification elements to be integrated in the platform. The idea is to make data sharing as easy and psychologically rewarding as possible. Data providers could, for instance, get personalized guidance and appreciation messages during their first steps, point scores for uploads, checks on how "my data is being viewed" by third users, automated reminders about next steps, social proof messages, and, once they are more advanced, data providers could compete with others on activity-level rankings or data usage. Similar to social media accounts or online community hubs, these elements will be updated over time to offer new incentives and reinforce activity. In the long run, gamification features, and other elements aiming at improving the user experience, will be A/B-tested to learn which features work best.

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Limitations

Finally, we would like to turn to the limitations of our solution. First, the prototypes presented constitute only a narrow range of potential instruments that could be used to mobilize technology uptake and data sharing in the public sector. Second, the prototypes are only behaviorally informed, not behaviorally tested. As a result, we cannot provide data on the effectiveness of the solutions. Third, the prototypes are tailored to the root causes identified during the diagnosis stage and should not be generalized and applied to other contexts.

Evidence from a similar initiative

A similar initiative was launched in 2011 in the United Kingdom. The award-winning Tell Us Once program, run under the SCOOP4C project for legal interoperability, seeks to unify public databases and data-sharing processes to make it possible for citizens to inform the government just once of a birth or death (EC 2021).

The initiative has been proven largely successful. User surveys indicated high rates of citizen satisfaction. As a result, the program is considered one the best practices of the "once-only" principle in e-government strategies. Moreover, the program yielded a positive return on investment. As a result of accessing government services faster and cheaper, the total cost of implementation was £111.0m, with an estimated savings of £172.6m for the government and £83.2m for the public (Rashid 2020; EC 2021).

Policy recommendations

Despite the various G20 commitments to harness digital technologies for more efficient and effective public services, governments around the globe still struggle with devising and implementing digital services. A major root cause is the excessive focus on the infrastructural barriers to digitalization and disregard of human factors behind technology uptake and data sharing.

In light of the urgent need to accelerate digitalization in the public sector and deliver against citizens' demands for digital solutions, we advocate for policy solutions that explicitly target the social and psychological barriers among public servants. We therefore call on the G20 to integrate behavioral insights (BI) into the policy cycle and systematically use the evidence produced in the field of behavioral economics and related disciplines.

In pursuing this goal, the G20 should take the following actions:

1. In cooperation with the OECD and the EU Joint Research Center, the G20 Digital Economy Task Force (DETF) should expand its efforts under the Digital Government initiative to prepare a global digital governance program for public organizations. The program should be dedicated to upskilling public officials' capacities in data governance and interoperability. A second priority should address the human factors behind digital transformation, technology uptake, and data sharing and present validated frameworks to integrate behavioral insights in the policy-making process.

2. To complement the development of the G20 interoperable regulatory framework, the G20 should expand the mandate of the G20 Behavioral Insights Knowledge Exchange Network (BIKEN) to establish a global repository of case studies on e-services and digital transformation projects in the public sector. The case studies should be organized along the key barriers identified during root cause analyses and contain descriptions of the policy prototypes and, if available, outcome data. In addition, the BIKEN should provide technical assistance to public organizations in devising behaviorally informed policy prototypes and validation methods for digital transformation projects and e-services.

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