PUTTING DATA, SCIENCE, AND TECHNOLOGY IN THE SERVICE OF HUMAN AGENCY

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Summary. Access to facts and guidance can be useful to people who design social and development programs – but also to people for whom such programs are intended: across a wide range of settings, support in the navigation of life choices has proven highly impactful. Such support appears particularly effective when it is customized and interactive, so data and technology can play an important role on the path to scale. The Agency Fund embarks on an effort to put mass customization capabilities in the service of human agency, partnering with innovators who are already pioneering this approach to advance a range of social and development outcomes.

The Building Blocks of Human Agency. When we are confronted with important life decisions (for example, which education, job, or business to pursue), we do not navigate the world as it is in reality, but as it is represented in our minds.[1–4] Our minds hold a stock of mental models (beliefs, concepts, constructs, schemas, etc.) that help us make sense of the world and predict the consequences of our actions.[5] They are the cognitive basis of our agency – our capacity to exert deliberate control over our own lives.[6,7]

Mental models are (by definition) imperfect and incomplete. It is hard to deliberately update them because we don't know what we don't know. We can try to be intentional about exposing ourselves to human knowledge, but many of life's most pressing questions – often some variant of "*what should I do?*" – have localized and fleeting answers that no encyclopedia could answer anyway. We have little choice but to build on our life experiences and social environment.[8]

But these can be disempowering, especially for people who were born into adverse circumstances. For example, the experience of poverty can erode a sense of hope, control, and dignity; and exclusionary social structures can lower people's confidence in their own capabilities.[9–12] The more widely a given narrative is encountered in one's network, the harder it becomes to justify a divergent view.[13,14] We may be free to make our own choices, but we cannot freely choose the mental tools to navigate these choices. Agency does not emerge in a vacuum.

Within this framework, it is unsurprising that sometimes profitable inputs do not get adopted, life-saving health products not used, high-interest loans not refinanced, or social programs not taken advantage of.[15–18] The mere existence of some opportunities does not guarantee their realization: people also need realistic means of identifying, assessing, and acting upon them.[12,13,19,20]

This paints a hopeful picture: even if we take objective world conditions as given, nobody is at the frontier of their potential and anybody could use a capable mentor to give them tailwind. This includes people who are born into structurally disadvantaged conditions and have few opportunities to begin with. In fact, it appears *especially* useful for them – perhaps as they are frequently exposed to marginalizing experiences and not well served by existing support structures.

The Potential of Customized Support. We have established that experiences and environments can be disempowering. But on the flipside, others can be empowering: when people encounter insights that change their perceived opportunities, capabilities, or future, then they might modify how they go about their lives, and remarkable impacts can follow. Several studies have demonstrated this experimentally by randomizing exposure to different kinds of insights.

Some of the strategies can be described as "information" interventions that provided relevant facts to assist people in the navigation of concrete choices. For example, people were given access to hotlines to help them solve specific doubts; to data points illuminating context-specific risks and returns of available options; or to advice highlighting hidden opportunities.[17,21–23]

Other strategies are better described as "psychosocial" interventions, aimed at helping people revisit assumptions about themselves and their environments that guide them over time and across a wide range of choices.[24] These included inducements to affirm a sense of adequacy and belonging in the face of stigma and stereotype; encouragements to re-examine hopeless or fatalistic inferences; exposure to inspiring narratives or role models; or assistance in the definition of goals and plans.[12,13,25–32]

"Information" strategies tended to draw more on economic and decision science (e.g., insights about probabilistic updating) while "psychosocial" strategies draw more on psychology and sociology (e.g., insights about the formation of core beliefs). But the operationalization appears quite similar: whether the idea was to inform, guide, advise, counsel, consult, mentor, inspire, or therapize – successful demonstrations developed situational awareness, coupled with a well-tailored interaction.[33,34]

Of course, information and psychosocial interventions are not silver bullets. For example, a series of experimental evaluations testing the impact of providing voters with information about politicians' performance did not detect impacts on voting choices – most likely, because the interventions did not actually persuade voters to change their beliefs about politicians' integrity and effort.[35] In another study, raising the financial aspirations of poor entrepreneurs led to frustration and worse outcomes down the road – most likely, because unrealistic goals had been set.[36] Continued research is needed to assure that that innovations continue to be tested, and to better understand the factors that make them succeed.

That said, information and psychosocial interventions already clearly feature among the most cost-effective innovations ever encountered by applied development science. They can have impacts not only on people's sense of control and subjective well-being, but also on their financial, health, and educational outcomes. When all the success factors are in place, a single touch point can cut teenage pregnancy by a quarter, reduce exam failure rates by a third, or make a detectable dent in extreme poverty.[22,27,29] Even less transformational approaches can be highly cost-effective, as average costs tend to fall with scale.[37]

The Role of Technology. Customized support has already reached meaningful scale in some areas of development practice. One example is the graduation approach, which provides extremely poor households with personalized coaching alongside transfers and other interventions. Building on strong evidence of its effectiveness, millions of transfer recipients have received life coaching – for example, through the integration of social workers in national cash transfer programs.[25,31,38,39] As rates of mobile adoption have exploded even in remote and low-income settings, some nonprofit graduation implementers (such as *BRAC*, *Village Enterprise, Trickle Up,* and *BOMA*) are now working on technological solutions to reach even more people with more precisely tailored coaching services, at greater frequency and lower cost.

A few pioneering organizations use similar approaches to advance other social and development outcomes.[37] For example, *Precision Development* collects and synthesizes agronomic data to deliver agricultural extension services that are better tailored to the growing conditions of individual farmers. *Praekelt.org* has developed mobile apps that support people with targeted advice and recommendations (such as *MomConnect*, a service that offers antenatal guidance to pregnant women). In Botswana, *Young1ove* provides youth with personalized education and reproductive health advice. *ConsiliumBots* synthesizes national-level data in several Latin American countries to help students make

more informed educational and career choices. *CareerVillage* has built a network of people who seek and share career counseling, and *College Bound* provides virtual mentorship to low-income students in the US to support them on the path to high school graduation and college. S*hujaaz*, a social enterprise, is piloting platforms that digitally connect young Kenyan entrepreneurs who advise each other on the management of informal microenterprises. *Viamo*, *Arifu* and *turn.io* develop software to help development practitioners establish digitized 2-way interactions with clients in low-income settings.

Each of these organizations has made a heavy lift in terms of research and technological innovation. If they coalesce into a more unified and vibrant field of practice, synergies may emerge. For intuition: once the social and technological innovations are in place to advise a million farmers on plot-specific planting choices, it becomes easier to help a million farmers identify and steer clear of counterfeit agricultural inputs or predatory financial products.

There is also a shared need to find organizational models that can resource customized empowerment at large scale. Many technological solutions are already available to help high-income users navigate their investment and consumption choices, but the revenue models do not appear easily transferrable. User fees are an unlikely source of revenue in low-income settings, and targeted advertising can come into tension with the objective of expanding human agency.[7,40] There is ample room for innovation in the monetization of mass customization capabilities – including in the governance and ownership of individuals' personal data.

Funding Agenda. We are advancing an R&D agenda to accelerate the design and understanding of scalable tools that help people navigate their lives with greater agency. The effort is housed at a philanthropic initiative – *The Agency Fund*. It offers three kinds of support to operators in the nascent field of customized empowerment:

- ***Research & Innovation Investments*** fund the design, testing, iterative improvement, and scale-up of specific solutions that support people in making their own choices and charting their own paths. → *Objectives: a wider set of demonstrations; evidence on success factors and social returns*
- ***Organizational Investments*** strengthen the backbones of organizations that are exploring respectful and sustainable ways to resource their work at growing scale. → *Objectives: a broader and more resilient set of implementers; revenue models that can be adapted by others*
- ***Field Investments*** accelerate the diffusion of data, technology, knowledge, and other intangibles among partners and help build shared infrastructure where needed. → *Objective: a field of research and practice that advances agency across sectors and silos.*

The Agency Fund also plans an accelerator program that supports pioneers and portfolio organizations on the path to impact and sustainability. We ultimately envision a vibrant ecosystem of diverse organizations that communicate, collaborate, and contribute public goods – creating a flywheel for continued growth of the field.

Structure and Governance. As a multi-donor partnership, *The Agency Fund* collaborates with funders in three ways:

1. ***Pooled Funding.*** Funders can contribute to a pooled fund that is housed at and administered by the Agency Fund. Funding decisions are made by an investment committee with representation from participating funders as well as a diverse set of advisors and peer reviewers with expertise in development practice, policy, science, and technology.
2. ***Co-Funding*****.** Funders can share projects that they support with the Agency Fund for potential co-investment and acceleration, or vice versa.

3. ***Affiliate Funding.*** Funders can collaborate with the Agency Fund on calls for concept notes in specific sectors or areas of interest. In this case, the Agency Fund provides a platform and audience to disseminate calls and assists in the assessment of submissions. However, the investment decision is ultimately left to the funder. While funds are moved outside of the Agency Fund's fiduciary structures, funded projects can participate in the Agency Fund's acceleration programs and ecosystem.

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