THE TRUST REVOLUTION

While conventional wisdom dictates that people's trust – in the government, in corporations, in each other – is at a historic low, the rise of the internet is offering new ways to rehabilitate and strengthen trust. Uber is probably the best example of a new company that, on the surface, allows individuals with smartphones to get rides with strangers, but at a deeper level is in the business of trust. In *The Trust Revolution*, Todd Henderson and Salen Churi trace the history of innovation and trust, linking companies such as Uber with medieval guilds, early corporations, self-regulatory organizations, and New-Deal era administrative agencies. This book should be read by anyone who wants to understand how trust—and its means of creation—has the potential not only to expand opportunities for human cooperation, but also to reduce the size and scope of government and corporate control over our lives.

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The Trust Revolution

HOW THE DIGITIZATION OF TRUST WILL REVOLUTIONIZE BUSINESS AND GOVERNMENT

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Although he is not going to agree with all the arguments in this book, we dedicate it to our teacher, colleague, and friend Richard Epstein, from whom we've learned more than anyone else.

[T]he strength of the Pack is the Wolf,
and the strength of the Wolf is the Pack.

– Rudyard Kipling, *The Jungle Book*

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Preface

This is a book about trust, how it has improved the human condition, and how it evolved alongside technological and societal changes.

The idea came to us several years ago when discussing Uber's[1] clashes with local regulators and incumbent taxi cab companies. It seemed obvious why cab companies fought to preserve the status quo system where government-granted medallions (basically taxi licenses) guaranteed medallion-holders complete insulation from competition. It was less obvious why government would work so hard to thwart a service that so many in the public obviously like.

In trying to unwrap this mystery, we started with a simple question: what does Uber sell? It seems obvious: it sells rides, just like taxis. But that isn't really the case. Uber doesn't own any cars or employ any drivers. It is not really in the taxi business. Instead, it sells a passenger the information she needs to trust a stranger to give her a ride. Specifically, it provides information on all nearby people willing to offer a ride and all nearby people seeking a ride, then efficiently matches passengers and drivers. Perhaps most importantly, it aggregates information on driver and passenger quality on a five-star rating system, which creates incentives for good behavior on both sides of the transaction. This simple system is very similar to the one provided by local taxi commissions, namely regulatory bodies that auctioned off medallions at sky-high prices in exchange for the privilege of painting a car yellow and allowing it to carry riders. We stumbled on a strange insight: Uber's real competition isn't the taxi

[1] Throughout this book, "Uber" is used to mean ridesharing companies, including Lyft, Via, Sidecar, Getaround, and others. We take no position on the relative merits of these companies. When we seem to be singing the praises of a particular company, we are not actually doing that. Companies are human institutions, which means they make mistakes and can occasionally act in terrible ways. When we appear to be advocating Uber, eBay, or the like, we are merely using them as placeholders for the social technology of trust that their kind represents. That some ridesharing companies have made some missteps and public-relations flops recently is not surprising, given the radical conceit behind such companies and their list of enemies in the trust provision business. These companies took on government without permission, which takes chutzpah; however, this might have some negative implications for these companies as well. In addition, because such companies pose a threat to many who are strongly vested in the status quo, it would not surprise us if a lot of news stories are exaggerated for political advantage.

companies, it's the taxi commission. Through our prism, the taxi commission and Uber provide competing visions of how best to supply the trust necessary for you to get into a stranger's car.

This book is about how technology companies such as Uber are revolutionizing the supply of trust – that is, coming up with better ways to deliver it – and how this will transform our society. We examine the providers of trust on a level playing field, from business (where brand serves to create trust in a product), to the interpersonal realm (where tribal identifiers allow you to rely on a counterparty), to government (where regulation lets you feel safe drinking a glass of milk). These providers work together in an overall trust stack. They coexist, compete, and evolve over time. In many areas of life, technology will reshape centralized trust mechanisms, such as government, and provide new opportunities for more distributed trust mechanisms, leveraging better information in ways that will dramatically alter the political landscape of the United States and the world.

Not everyone will be in favor of changing the way trust is supplied. Politicians will lose some power and leverage over citizens. Now-obsolete bureaucrats, such as taxi regulators, stand to lose their jobs. Interest groups and incumbent firms that have organized themselves to exploit the current system will be made worse off. Like toll takers in booths, however, these jobs are not likely to be missed and society will be better off. We will get what we need to prosper, and at lower cost.

Pardon our optimism, but we think these technologies can accelerate our progress toward a better tomorrow. Rather than being forced to follow centralized, static regulations provided by government, or relying on the information crudely signaled by brand, humans will shop for dynamic, voluntary "microregulations" provided by technology platforms. This term signals not just a change in the amount of regulation or the source of regulation, but a different type of trust that is inherently more modest and narrowly tailored to particular transactions and preferences than the blunt tools that preceded it. We define microregulators as technologies and tools that enable people to cooperate in more efficient ways. Microregulators, as we will show, are just the latest evolution in a long line of trust technologies.

If society were a computer, the level of trust would be its processing power. Where trust is plentiful, it's easy to get things done. But trust, unlike processing power, doesn't increase according to predictable rules.[2] Instead, old trust mechanisms tend only to shrink in importance as new ones grow to replace them. Sometimes this is peaceful, but often great shifts in trust are accompanied by turbulence. Uber's clashes with local regulators can be seen as the opening salvo in a much larger dislocation, where some functions of the nation-state will be supplied by centralized digital platforms.

[2] The prediction that has largely come true is that processing speeds have doubled every eighteen months, a rule known as Moore's Law.

We do not claim that microregulators will supplant the nation-state altogether. The social contract isn't dead. (At least not yet!) Instead, we envision many more voluntary social contracts between individuals and microregulators such as Uber, Amazon, or eBay. Rather than having one group of full-time employee experts (such as Chicago city council or US Congress) pass judgment and find the wisdom for all the residents of a given place, those residents will be able to buy such judgment and wisdom in a marketplace. As we enter the information age and more issues lose their local flavor, we will be free to untether ourselves from location in many important ways. Regulation will increasingly be made to order and will transcend national boundaries or the reach of national governments. World government of a sort may be possible, but in ways unimaginable to the utopian visionaries who brought us the United Nations or World Bank. The world government we imagine is all of us.

City councils regulate lots of things. They regulate rides and food and sexual mores. And they regulate them for every person within their territory. If you don't like them, tough luck. Consider Khulood, a model in Saudi Arabia who was punished by government for posting photos on Instagram wearing a t-shirt and skirt.[3] For those with preferences outside what is considered acceptable by the regulator, the best solution is often to leave, if that solution is available at all – for most of history, it hasn't been. And while it is noble to stay and push for change, this can be dangerous and change often comes slowly, if at all. Sometimes, pushes for political change backfire. The revolutions in Iran, Cuba, and, more recently, Venezuela and the Arab world have all resulted in material degradation of those societies. Even short of revolution, repressive governments understand our natural (and often irrational) attachment to a particular geography, and therefore can extract wealth from us equal to the total costs of moving our lives.

Microregulators work differently. They regulate one or a narrow range of things based on a global perspective. While Uber uses some localization to solve location-specific problems (e.g. special tollways in different cities), it builds and improves its data globally. And because one opts in to a microregulator, there's true competition. If you don't like Uber, you'll try Lyft or Via. You can vote out a microregulator in real time by deleting its app. Decamping with your family from Chicago to Indiana or from the United States to India is much more difficult. The amount of bad behavior that regulators can get away with scales accordingly.

Microregulators specialize in regulating the one activity they know well. Uber doesn't regulate your food or sexual mores, so you're free to mix and match the combination of microregulators that suits your preferences. You might trust Uber (instead of the cab commission) with your rides, Airbnb (instead of the range of regulators of hotels) with your lodging, Bitcoin to exchange value (instead of the Federal Reserve or the Securities Exchange Commission [SEC]), and so on. Unlike

[3] Kelly McLaughlin, "Social media star sparks furious calls for her arrest in Saudi Arabia after filming herself walking around in a T-shirt and short skirt," Mail Online, July 17, 2017, available at: www.dailymail.co.uk/news/article-4704052/Model-sparks-calls-arrest-Saudi-Arabia.html

microregulators, which allow you to vote with your feet, there's no opting out of traditional regulatory systems. Microregulators are a more flexible solution for a more demanding contemporary customer. Amazon consumers have a hard time with the Department of Motor Vehicles (DMV).

Microregulation doesn't work for everything. We all have to agree on some things, and some of these things are inherently tied to place. In transportation, you can't have multiple systems of stoplights or you'll have chaos. Economists call these situations natural monopolies. They are situations in which competition doesn't make sense. There is no reasonable alternative (yet) for much of what government does to improve our lives. This is true too of microregulators: they don't belong everywhere. However, as technology improves, they have the potential to better regulate more and more services in areas currently controlled by government.

Our grand vision is of a more robust basket of trust providers than you have today, many of which you'll have chosen voluntarily and which you'll be able to kick out and replace at your leisure. When you had your first disappointing experience with a brand or found yourself frustrated when a candidate you supported took a disappointing stance once in office, you experienced a failing of our current crop of trust providers. We think that smaller, ground-up trust providers can solve this problem by making very narrow, very clear promises based on ever-improving information.

The world we imagine is one of decentralized planning. The New Deal innovation was designed to harness the knowledge and skills of experts to make one-size-fits-all decisions from a marble perch in Washington. This new form of government – that is, various forms of centralized planning – was deployed in its most benign form by US expert agencies, especially when compared with analogues in Russia and elsewhere. The virtues of the US approach, found in administrative agencies, have always been tarnished by the familiar problems of capture by interest groups, the inability to satisfy local preferences, and a host of other concerns. Centralized planning has a bad name.

In contrast, the platforms we describe in this book decentralize regulatory planning. They organize disparate and deep information, but without the need for bureaucrats and experts in a marble building in Washington or the state capital. The platforms thus resist the problems of politics corrupting the regulatory process. They do this by structuring digital marketplace methodologies into previously unconnected systems. If traditional regulations are trust products, the contemporary consumer demands a more customized and varied offering. As with everything else in the market, microregulators will come to satisfy this impulse.

There are reasons beyond convenience that point to the idea that technology will reshape the nature of regulation and the state, because the state is poorly placed to control it. The state is slow moving and is limited primarily to physical force – all law is premised on the threat of physical violence. This is a blunt instrument having trouble adapting to the twenty-first century.

Government will have a harder time preventing new technological shifts. These technologies are genies who cannot be stuffed back into their bottles. Technologies such as gene editing (also known as "clustered regularly interspaced short palindromic repeats" or CRISPR), Bitcoin, and additive manufacturing (3D printing) are much harder to restrict and control than the operation of a factory. This is because they have the characteristics of software: unlimited parallelism and the ability to quickly transfer information. If a factory isn't compliant with a Food and Drug Administration (FDA) regulation, you can march a sheriff in and shut it down. But what should government do with a child born with edited genes? You can send DNA on a piece of paper.[4] Therefore, gene editing can be done much more surreptitiously than typical medical evasion of law. Similarly, think of weapons manufacturing. It's easy to regulate a factory that manufactures guns, but what about plans that can be distributed online and printed in a 3D printer anywhere?

The faster things can move and proliferate, the harder they are to regulate – software is harder to regulate than hardware. Today, everything is in the cloud, that is to say, everywhere and nowhere at the same time. The centralized mechanism for production has become decentralized and, as a result, is harder for centralized regulators to control.

The vital types of power in the coming century are digital, transmittable, and not easily controllable. CRISPR gives biological factors the characteristics of software; 3D printing gives physical objects the characteristics of software. This will naturally decentralize power, because these things aren't expensive or geographically guardable. In the past, elites could gate things to keep people out. They could lock them up, regulate them, tax them, confiscate them. The recourse was force. But force can't break software (short of catapulting us back into the Stone Age). This is true of software for information, Bitcoin for money, CRISPR for biology, and 3D printing for construction.

Another way of looking at this is that we can no longer trust regulators to keep up with the pace of change. Their answer to new technology is typically: "Stop until we can figure out what's going on." To make things worse, their incentives and capabilities don't run to actually figuring it out or, if they do, to optimizing regulation to social needs. Too often, regulators err on the side of avoiding politically damaging outcomes or favoring entrenched incumbents over challengers threatening to upend the status quo. Like the old red flag laws in the United Kingdom – where the introduction of a new automobile onto the road required a person to wave a giant red banner in front of the car as it drove – these impede the progress that society demands. We deserve better. Twentieth-century global citizens deserve to feel the full benefit of technology as it develops, not when regulators are able to get up to speed and decide "it's time" or decide what is safe or good for us.

[4] See University of California, Santa Barbara, "Shipping of Plasmids on Filter Paper," October 3, 2011, available at: www.surrey.ac.uk/biomed/blackbournlabmethods/plasmidsonfilterpaper.pdf

A new breed of trust provider is called for. The future, if not the present, will put stress onto corporate brands and government beyond what they can bear. We need algorithmic trust mechanisms that are opt-in, nimble, and microtargeted to particular cutting-edge problems. We need prototype-able microregulations that can keep up in an era of exponential change. The FDA will scoff at this, regarding it as irresponsible, unethical, and scary. It will try to ban it. But the reality is that another more opportunistic country will develop it first, and if you're on your deathbed, you won't care much for the FDA's warning letter when you can download a potential cure. Traditional regulators are now vulnerable to being outmaneuvered by supply and demand in a world where both grow exponentially more empowered by technology. There are real risks in a technology such as gene editing. But there are also tremendous possible gains, such as eradicating disease, extending life, or improving memory and cognitive function. The old ways in which we answered these questions are unlikely to look like the new ways.

New pressure will be put on the state itself, as people become more globally mobile and economic empires are built in the cloud where they cannot be seized, rather than in factories, which can be nationalized. There are many potential responses for states. They can adopt lighter-weight regulatory structures that allow consumers to choose their own basket of microregulators while controlling externalities. They can adopt a sandbox approach to allow innovation to adapt slowly and can attempt to craft safety rules in tandem with technology. Or they can adopt a more aggressive approach that aims to harness technology to tightly control dissent and enshrine centralized control. China's social credit system and digital firewall, coupled with its focus on investing in frontier technology (following the story of the first gene-edited children), is instructive here. We cannot predict the future, but the challenges ahead of us are ill-adapted to our old trust systems and we are confident that dramatic change is ahead.

While we remain optimistic about what technology promises for our future, this book is descriptive, not prescriptive. You don't have to buy into a grand vision to find this book valuable. A more modest takeaway from this project is to establish trust as a lingua franca for discussion of issues that are often thought of as discretely political but actually needn't be. We'd like to offer trust as a mental model for thinking about societal evolution and progress, and a novel way to analyze technology and history. We see this project as a natural evolution of the "public-choice economics" thinking we are trained in, accounting for behavioral economics and a world of rapidly proliferating technologies. We mention behavioral economics, an area of study that takes account of our evolved responses (and the irrational carryovers from our prehistoric ancestors) because we believe digital platforms are enabling us to trust in the most intuitive and inherently human way. This is a book about the social technology of trust, how it has evolved alongside us, and how it has come full circle. This book is about technology, but also about humanity.

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Countless colleagues, friends, and students contributed to the ideas in this book. We'd leave someone out if we tried to name them all and, even if we tried to list them, we'd undoubtedly wear out your patience. So, instead of trying to thank everyone before the band starts to play us off the stage, we thought we'd just get started. The people who helped us know who they are and know how grateful we are for their help. If our ideas are unpersuasive or wrong, that is our fault; but if we are onto something, the credit is not all ours. Everyone from Adam Smith to Milton Friedman and from Richard Epstein to Saul Levmore contributed to us and to this book. Thank you all.