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Analysis

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Each issue of *Innovations* consists of four sections:

1. Lead essay. An authoritative figure addresses an issue relating to innovation, emphasizing interactions between technology and governance in a global context.

2. Cases authored by innovators. Case narratives of innovations are authored either by, or in collaboration with, the innovators themselves. Each includes discussion of motivations, challenges, strategies, outcomes, and unintended consequences. Following each case narrative, we present commentary by an academic discussant. The discussant highlights the aspects of the innovation that are analytically most interesting, have the most significant implications for policy, and/or best illustrate reciprocal relationships between technology and governance.

3. Analysis. Accessible, policy-relevant research articles emphasize links between practice and policy—alternately, micro and macro scales of analysis. The development of meaningful indicators of the impact of innovations is an area of editorial emphasis.

4. Perspectives on policy. Analyses of innovations by large-scale public actors—national governments and transnational organizations—address both success and failure of policy, informed by both empirical evidence and the experience of policy innovators. The development of improved modes of governance to facilitate and support innovations is an area of editorial focus.

Sean Martin McDonald

The Case for mLegal

Innovations Case Narrative:
mLegal

The law touches everything we do. Whether it's getting married, buying a house, or starting a business, chances are the law has something to say about it. And yet, the majority of the world never gets to hear it. According to a 2008 United Nations report, four billion people worldwide lack meaningful access to the rule of law, and almost 60 percent of the world's population is excluded from the institutions and services that govern them.[1] When legal systems fail to reach the majority of the world's population, it leaves a gaping hole in fundamental governance.

This legal divide marginalizes people, communities, and institutions that are unable to engage with even the most basic government services. As a result, billions of businesses, homes, and crimes exist outside the purview of government protections.[2] The UN estimates that in some places, these informal or "shadow" transactions represent as much as 90 percent of business.[3]

Perhaps more concerning is that this is most prevalent among those who need legal safeguards the most. Remote and poor communities, traditionally the people most vulnerable to abuse and exclusion, face additional obstacles to justice. Distance, education, and cost present often insurmountable challenges to accessing institutions or basic services. The increasing cost of legal services has forced these people to rely on overwhelmed publicly supported legal aid, public defense, or administrative service providers. These legal services, where they exist, are increasingly being cut or drastically altered due to budget reforms. Even in comparatively effective legal systems, a shortage of resources within publicly supported legal services results in the functional exclusion of large swaths of most populations. The international community is candid about the fact that after decades of programming and billions of dollars, the rule of law has yet to reach the bottom of the pyramid.[4] As a result, the poor remain unable to defend their rights, livelihoods, homes, and families.

These populations, however, also present the greatest opportunities for growth, empowerment, and inclusion. Mobile phones are empowering rural and

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poor communities to enter economic markets, protect their rights, and engage with their governments. There are currently an estimated 5.3 billion active mobile phone connections in the world, 73 percent of them in developing countries.[5] In addition to basic phone services, every mobile phone in the world is able to transmit text messages (SMS). In 2010 alone, people around the world sent 6.1 trillion text messages, tripling the 1.8 trillion messages sent in 2007.[6] Industry analysts predict that more than 10 trillion SMS messages will be sent in 2013.[7] Service providers in a wide range of fields, including healthcare, banking, education, and humanitarian response, are beginning to integrate mobile technologies into the way they communicate. These industries are using mobile technologies to reduce costs, while also extending the reach and quality of services to previously inaccessible populations.

While there are a number of obstacles to accessing legal systems, many of them are the result of barriers to communication. SMS is the world's cheapest, most ubiquitous data communications channel, in large part because it overcomes many of these barriers.[8] By using simple pieces of open-source software, legal service providers could use SMS to maintain digital records, conduct basic remote intake, and improve client management, all while reducing costs at a time when every cent counts. This article is an exploration of the potential role of mobile technologies in the extension and improvement of access to the rule of law.

THE CALL FOR A MARKET-BASED APPROACH TO ACCESSIBLE AND APPROPRIATE RULE OF LAW

The rule of law is a notoriously elusive idea to define.[9] It is popularly described as a "cluster of values" that "protect people from unpredictable or arbitrary interference with their vital interests," which varies by context.[10] In practice, however, the rule of law is achieved through the efficient and satisfactory functioning of a wide range of institutions. According to the UN secretary general, the rule of law

> refers to a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated . . . It requires, as well, measures to ensure adherence to the principles of supremacy of law, equality before the law, accountability to the law, fairness in the application of the law, separation of powers, participation in decision-making, legal certainty, avoidance of arbitrariness and procedural and legal transparency.[11]

Governments often approach these principles through formal institutions, typically those established by a country's constitution. The legal system, as the check on these institutions, usually carries the mandate of maintaining the rule of law.[12] Yet, in order to protect the full spectrum of a population's vital interests, governments rely on a range of administrative, enforcement, and social service agencies. Regardless of practical implementation, many governments take a monopolistic approach to the rule of law, explicitly asserting that formal institutions are the only

legitimate way of supporting and protecting the principles that underpin the rule of law.

In a number of countries, however, people rely on quasi- or extrajudicial mechanisms, such as municipal governments, religious institutions, or tribal councils, to protect their vital interests. These mechanisms, often referred to as "customary" or "informal," fill a wide range of governance and service gaps in remote and underserved communities. But these mechanisms typically exist outside the purview of standardized procedure and oversight, leading to a wide range of outcomes. Government reaction to these mechanisms also varies dramatically, from support to open condemnation.

This legal divide marginalizes people, communities, and institutions that are unable to engage with even the most basic government services. As a result, billions of businesses, homes, and crimes exist outside the purview of government protections.

The interrelation between formal legal systems, international institutions, domestic governance institutions, quasi-legal bodies, and other mechanisms that support some form of the rule of law is broadly called legal pluralism.[13] Legal pluralism controversially acknowledges that, in many contexts, populations face a multiplicity of governance norms and systems, all of which play a role in people's access to the rule of law. The debate surrounding legal pluralism typically comes from two perspectives: (1) that state law is the single meaningful series of norms; or (2) that other legal systems are equally or more legitimate than state law. This article does not attempt to resolve this tension but to illustrate Gerhard Casper's assertion that the "the quest for the rule of law is relatively open-ended and neither needs to be nor should be acontextual."[14]

In context, then, government institutions are responsible for implementing the legal services and processes that practically comprise the principles of rule of law. The effectiveness of these institutions, and thus of the principles on which they are founded, are often determined by their ability to meet the needs of the people they aim to serve.[15] The concept that a legal institution's validity relies even in part on its ability to address local needs, rather than on state sovereignty, challenges a number of theories about the sources of governmental legitimacy. Less controversial is that by being accessible and appropriate to local needs, functioning and fair legal systems engender public participation in, and thus legitimacy for, the institutions constitutionally charged with upholding the rule of law.

Recognizing this, a number of governments are taking an increasingly market-based approach to providing access to justice.[16] The market-based approach recog-

nizes that economic realities are significant determinants of a government's or institution's ability to provide even basic legal services. The economic difficulties of providing legal services have become increasingly apparent, as both the number of laws and the cost of legal services have grown substantially in the last 20 years. Even governments that are comparatively able to provide the legal protections embodied in their constitutions are experiencing resource shortages, especially in the wake of the recent global recession.

The foundations of the market-based approach, especially markets aimed at the bottom of the pyramid, prioritize designing or altering services to be locally affordable and useful. As governments are recognizing, dogma is not enough to compel market growth. To that end, the legal industry is undergoing a renaissance of exploration in how to make legal services cost-effective. Examples of this include unbundling traditional conceptions of representation, providing resources that support the "do-it-yourself" approach, and consensus-driven approaches to civil disputes. Although governments are gradually incorporating them into administrative and adjudicative processes, these solutions have yet to meaningfully bridge the growing divide between those with and those without access, which leaves many without access to basic social and economic protections.

In the absence of accessible or appropriate legal institutions, populations turn to other mechanisms, from traditional to religious service providers. In a global environment where more than half of the world's population lacks meaningful access to formal legal institutions, issues of access and local appropriateness are playing an operative role in the evolution of the rule of law.

DIRECT EXAMINATION: BARRIERS TO LAST-MILE LEGAL SERVICES

There are a number of barriers to providing legal services, and how they are prioritized varies substantially, depending on the perspective of those addressing them. Governments, for example, often focus on the high cost of running courthouses, limited physical and utilities infrastructure, and the difficulty of maintaining a high quality of service. Private legal service providers concentrate on the skyrocketing costs of complex litigation, the difficulty of accessing legal information, unresponsive and noncompliant clients, and how to remain competitive in an inflated market. Clients often focus on the increasing cost of representation, the practical burdens of iterative legal processes, and the inefficiency of multi-institutional processes.

The people who generally are not included in these conversations are those for whom all of these obstacles are the most prohibitive: last-mile populations. The term "last mile" refers to areas or populations beyond the reach of basic government infrastructure or services. Populations who live in the last mile often lack utility infrastructure, access to most basic services, and even government influence. Populations in these areas are often self-governing, relying on locally available dispute resolution structures to protect their vital interests. Estrangement from state services makes last-mile populations some of the most vulnerable to a range of

threats, including poverty, disease, recruitment by extremists, and violence. The inability of institutions to protect last-mile populations from a range of dangers, from lawlessness to insurrection, represents some of the greatest threats to national governments and is the basis of failed-state theory.[17]

In order to protect these populations, a growing number of governments recognize the need to understand the unique challenges last-mile populations face in accessing essential basic services. Fundamental among these services is the legal system, which is the front line of small-scale conflict management. Addressing the issue of providing last-mile legal services will not automatically fix systems that are not otherwise able to meet the needs of those they currently serve. That said, the disproportionate vulnerability of last-mile populations means that even minor systemic improvements typically result in significant gains in access to and the efficiency of service delivery.

The unique problems that face last-mile populations are typically driven by communications and distance, which express themselves both through cost and other resource inefficiencies. Most legal systems require a person to appear multiple times throughout the course of a process, from engaging legal representation to final disposition. For people living beyond the reach of basic infrastructure, something as simple as physically appearing before state and government bodies can be an enormous problem. This requirement, in and of itself, is responsible for a range of systemic and procedural inefficiencies. Furthermore, communicating about these appearances, which may include scheduling appointments and court hearings and gathering information, can pose difficulties in a variety of contexts.

In addition to access, a majority of last-mile populations are either unaware of their rights or lack faith in the governing institutions meant to protect them. For governments, these issues of education and trust are further complicated by distance. Engaging with remote populations, especially in areas where a government may not have an office or representative, poses a range of challenges. Legal systems, and the enforcement of legal outcomes, are often perceived as a projection of authority, which politicizes their extension into areas that already have informal or customary mechanisms for resolving disputes. To some extent, educational and trust issues are deepened by institutions' inability to spread basic information, efficiently enforce their dispositions, and influence the perceptions of remote communities. These basic educational and perception barriers often prevent last-mile populations from even attempting to seek legal protections.

These inefficiencies are exacerbated by the need to travel long distances, wait for service providers to be available, and engage with complex, iterative processes. For people who are unable to take time off work or leave a family in order to travel long distances, often more than once, these seemingly simple inefficiencies determine whether they are able to report a crime, register a business, or keep their home.

In recognizing these difficulties and seeking innovative ways to resolve them, a number of legal systems are beginning to bridge the communications divide that complicates and prevents the provision of last-mile legal services.

APPROACHING THE BENCH: APPROACH, SERVICE EXTENSION, AND TECHNOLOGY INNOVATIONS

The rule of law, perhaps more than any other element of basic governance, is based on structured communications. Whether they are common or civil law, adversarial or consensus driven, formal or informal, almost all rule-of-law systems are based on presenting information to a range of actors. This is not to downplay the significance of the distinctions between different, overlapping, or pluralistic legal cultures, each of which is subject to highly contextual obstacles to access, but to highlight the fact that although process, format, and purpose vary widely across systems, communications play a major role in their execution.[18]

Legal communications, like the institutions that implement them, are not monolithic, in that they are comprised of a number of different elements. Each of these mechanisms can be disaggregated to the structural approach taken to resolve a dispute, the service providers that engage clientele, and the actual format of each interaction. In this case, "structural approach" refers to a type of legal culture or system, such as adversarial or representational. Legal service providers are the agents who act on behalf of clients, such as lawyers or community mediators. The format of legal communications, which is highly influenced by regulatory and technological context, is the way information is conveyed in legal proceedings, such as paper pleadings or in-person testimony. Each of these elements of a legal system is, at its core, a practical exchange of information between parties with different interests. The efficiency of each element, then, ultimately influences the overall function of that system. To that end, innovations in approach, service provision, and communications technology, as they relate to overcoming the barriers faced by last-mile populations, can have a disproportionate impact on last-mile populations' ability to access justice.

Approach Innovation

State-administered legal institutions have struggled to meet the needs of the populations they serve. The widespread adoption of civil and common law systems, largely a legacy of colonization, has resulted in a level of institutional and procedural formalization that often requires legal representation. In many places, neither the institution nor the population has the resources to effectively engage in formal adversarial processes. Moreover, with increasingly dense bodies of law and growing populations, the costs of legal representation have risen globally.

Recognizing this, governments all over the world are exploring new approaches to administering the rule of law.[19] In a number of contexts, legal systems are moving toward consensus-driven models as an alternative to litigation. A number of other systems are shifting toward transactional and self-representational models. The move away from formalized legal processes represents the prevalence of market-based challenges overcoming traditional cultural norms, such as the need for adversarial dispute resolution and formal legal representation.

The most prevalent of these approaches is the widespread adoption of alterna-

tive dispute resolution (ADR). ADR is a blanket term that refers to a range of processes that offer alternatives to traditional litigation, such as arbitration, mediation, and negotiation. Most ADR processes involve a neutral third party who facilitates dialogue between disputants, enabling them to participate meaningfully in the ultimate settlement of their claims. Although these processes often involve a service provider, they typically require significantly less institutional involvement than litigation. Also, because the involved parties are more able to influence the final disposition, they usually require less state involvement to enforce the outcome. While consensus-driven approaches are not new, their recognition and adoption by governments is.

Alternative dispute resolution mechanisms are most common in complex civil and commercial disputes, and they have been adopted in some form at almost every level of governance. At the international level, the World Trade Organization, the International Court of Justice, and most regional trade unions use ADR processes to settle disputes.[20] At the national and local levels, a number of court systems require some form of ADR before allowing litigation. For example, the UK, after recognizing that 75 percent of its civil cases were settled before litigation, now mandates that small-claim civil disputants go to mediation before they are allowed to go to court.[21]

In addition to moving away from formal litigation, the very concept of legal representation is changing. In adversarial systems, clients traditionally retain the services of a lawyer, who acts as their general counsel and addresses all their needs. In the retainer system, a client pays a flat fee, which acts as a credit against which the lawyer is able to bill during the term of the agreement. This model, however, functions on anticipatory costs, which requires people to have a disposable income in the absence of actual need. This cost barrier is preventative for a number of people, who have neither the resources nor the need for the constant attention of a lawyer.

To that end, a number of jurisdictions, particularly in the U.S., are moving toward unbundled and do-it-yourself legal services. The term "unbundled legal services" recognizes that for most people, the need for legal services is transactional. For example, a person may want to draft a will or sell a piece of property, which typically only requires a finite amount of unspecialized legal attention. To that end, a growing number of legal service providers are marketing their services as transactional and providing cost structures that correspond to the work, as opposed to long-term retention. Similarly, a number of institutions are moving toward standardizing processes and creating publicly accessible template forms, which can be used to engage directly with administrative service providers.

Although these innovations are not complete solutions, they reflect the changing culture of formal legal systems and the growing adoption of a market-driven approach. The growing institutional recognition, especially among traditional and formalistic legal systems, of the importance of cost-effective services represents a significant step toward improving access for marginalized and last-mile populations.

Service Extension Innovation

As a number of legal cultures move away from rigid formalism, other governments and nonprofit organizations are looking for ways to extend legal services into last-mile communities. Legal service providers face significant barriers to extending their services into rural areas, including limited human resources, a lack of physical infrastructure, and unsustainable market models. Most formal legal systems do not have a sufficient number of service providers to meet the increasing requirements of the population. For example, approximately 350 lawyers provide representation to Malawi's population of 12 million (that's approximately 34,258:1).[22] With a shortage of legal service providers, most last-mile populations lack the economic resources to compel market creation. Similarly, because last-mile communities are typically geographically diffuse, governments do not prioritize investing in building the infrastructure necessary to foster service industries in remote areas. Recognizing that this legal divide creates substantial case backlogs and undermines the rule of law, governments and nonprofit organizations are increasingly exploring innovative ways to extend a range of service models into last-mile communities.

The most commonly cited barrier to extending legal services into last-mile areas is cost. Although the effects of rising legal costs are heavily documented in Western systems, they are perhaps experienced most commonly in developing and underserved systems.[23] In places where significant percentages of the population live at the bottom of the pyramid, or in poverty, cost-driven exclusion is less the exception than the rule. In almost all places, however, the prohibitive costs of private representation leave low-resource communities either seeking alternative mechanisms, publicly supported legal services, or ignoring the system altogether.

Legal aid programs, bar associations, and law schools are the most common sources of free or subsidized legal services.[24] These groups are able to provide legal services by either relying on public funds or organizing volunteer labor. These organizations are often the only providers of affordable legal services in a particular area, resulting in great demand. Unfortunately, these programs rarely have the resources to meet that demand. This problem is worsening, as legal aid and international development programs are increasingly being cut as part of budget reforms. Complementing these programs are a growing number of private legal service providers who maintain substantial pro bono practices, which enables their attorneys to volunteer for or select cases that they find particularly interesting. These groups facilitate access to justice for poor communities, although they face the same capacity constraints as legal aid programs.

These mechanisms to extend service are all direct, albeit questionably successful, attempts to obviate cost as a prohibitive barrier to accessing legal services.[25] By working through traditional service models, legal aid and pro bono services address the issue of cost, but in ways that lack sustainability and scalability. Although there is no question that legal aid programs have a huge impact on the

lives of those they are able to help, it is equally clear that subsidized legal services are no substitute for a self-sustaining, market-driven services industry.

While legal aid programs and pro bono practices reduce barriers to access for urban populations, they rarely address the needs of last-mile populations. Most public and private legal service providers are based in urban areas and have limited reach into rural areas.[26] Although there are a number of reasons for this, there simply are not significant market incentives for already overworked lawyers to confront the challenges posed by distance for populations that can't afford, or are not interested in, their services. In the absence of a sustainable legal services market, however, last-mile populations continue to generate case backlogs for legal systems, resulting in wrongful imprisonment, unnecessary detention costs, and a lack of faith in the government.

In an effort to address these needs, several governments and nonprofits are creating innovative service extension models. India, for example, faces a backlog of 31.3 million cases, which it is estimated will take 320 years to adjudicate under the current system—provided no new cases are filed in the meantime.[27] It is difficult to conceptualize a backlog of this scale, let alone the disastrous effects it has on the lives of the people who wait years for their day in court. One of the ways the Indian government is attempting to address this problem is a system of mobile courts, which bring free legal services to rural areas on buses.[28] These mobile courts hear predominantly civil and minor criminal cases for last-mile populations. When compared to formalized processes, India's mobile courts have demonstrated significant enough savings in cost and process efficiency that the program has expanded to more than 7,000 buses.[29]

Colombia's justice system distributes the authority to adjudicate civil law disputes similarly across a range of actors, including the human rights ombudsman, the Ministry of Interior and Justice, the local mayor's office, and others. This complex array of actors can be overwhelming to last-mile populations who are unfamiliar with formal legal processes. In order to simplify the processes, the Colombian government, with the help of international donors, established 65 *casas de justicia* (justice houses). Justice houses are located in underserved areas and they house group service providers from multiple agencies under one roof, enabling disputants to address complex legal needs in a single location. The justice house program helps last-mile populations overcome the complexity of multi-institutional processes with one common interface.

Another way that a range of service providers, including legal aid programs, can reach out to last-mile populations is to send trained mediators, paralegals, and legal advisors into communities. Colombia's Ministry of Interior and Justice trains and certifies *conciliadores en equidad* (community mediators), who act as first-response mediators and referral agents. Together these programs have responded to hundreds of thousands of requests for assistance, and they are incredibly popular in the communities they serve.

In Liberia, the Carter Center supports a network of community legal advisors who act as extension and referral agents. Community legal advisors "offer free

advice on how to navigate the formal and informal legal systems and also offer mediation services and advocacy assistance," and they have collectively closed more than 1,200 cases since the 32-person program began.[30] A number of other African countries, including South Africa, Sierra Leone, Benin, Kenya, and Malawi, support systems that employ paralegal-type agents in order to provide ADR services for small claims and civil disputes, and to act as referral agents for more serious criminal complaints.[31] For many last-mile populations, non-lawyers are the people who play the most important role in providing rule of law services.

When looking at the ways various legal service extension systems work, the mechanisms that appear to have the greatest impact are those that do the most to engage last-mile populations where they are. Formalized systems, and the lawyers who facilitate them, are absolutely essential for criminal and complex commercial transactions. However, alternatives to litigation, such as ADR, delivered through agents in last-mile communities show substantial promise as comparatively cost-effective ways to resolve civil, family, and land disputes.

Technological Innovation

Formal legal systems are increasingly recognizing the potential of innovations in communications technology to improve the quality, accessibility, and efficiency of rule-of-law structures. The impact of the Internet and computing technologies, specifically as they improve the availability and accessibility of information, are well documented through the open government and e-government communities.[32]

A smaller but growing legal technology community is designing and developing tools that address fundamental challenges in administering rule-of-law institutions. At their core, the challenges new communications technologies address are issues of access for legal service providers and the public. For example, many governments struggle to communicate existing laws and new legislation to lawyers and legal service providers. Similarly, most legal and administrative interactions have historically been managed through paper records systems, which creates significant inefficiencies and access issues. Even stages within litigation processes, such as evidence gathering and testimony, suffer from communications-driven challenges. As new technologies and tools emerge, an increasing variety of legal stakeholders is adopting innovative tools that address each of these challenges in different ways.

Communicating the depth and breadth of laws as they evolve to legal service providers is a major challenge in any legal system. Governments that are interested in publicizing the legislative record face enormous challenges in terms of what medium to use. Paper records require expensive printing processes and significant transportation costs. To that end, a number of private organizations, and in some cases governments have designed prolific Web-based resources that enable users to access and search for applicable court decisions, legal frameworks, and related scholarship. These tools were initially designed as subscription services for private attorneys to improve the efficiency and depth of legal research, but an increasing number of legal information systems are being sponsored by governments.

Countries as diverse as Colombia, India, Brazil, and Malaysia have developed Web-hosted platforms that report and distribute laws as they are passed.

Logistically, building legislative and legal information systems is driven by context.[33] Designing legal information systems to be universally available is even more difficult, and meeting service providers on the platforms they already use to interact often requires a range of technology, from the Internet to CD-ROMs. For many, especially those who serve last-mile populations, Web-based platforms are inaccessible, and so they are either unable to use legal information systems or must do so through more limited means. Furthermore, because legislative information and systems are typically designed for lawyers, they do more to improve the quality of legal services than the ability of populations to access them.

Some governments, particularly those supporting the do-it-yourself approach described above, support Web-hosted interfaces for administrative services and template legal forms. Both public and private organizations administer online platforms that distribute template legal documents designed for public use. A growing number of institutions have integrated the forms they use to administer basic services into Internet interfaces. As a result, populations with access to the Internet can use government services, regardless of distance and time, and without the need to engage lawyers. In the United States, government services ranging from tax departments to motor vehicle administrations and adjudication use Web interfaces that greatly expedite simple, transactional interactions. However, there are large populations within the United States that are prevented from using these platforms due to educational, financial, and infrastructural barriers.

Formal legal processes, like administrative processes, also stand to benefit from the improved efficiency of using digital and information communications technologies. Legal processes in particular require the presence not just of clients but of a variety of people related to a case for both pretrial investigation and courtroom testimony. This tends to multiply or compound the barriers to access in last-mile communities, whose residents must not only travel to seek counsel but also convince neighboring witnesses to travel with them. Managing the logistics of cost and witness testimony are issues in every legal context, which private and public service providers spend millions of dollars addressing every year.

In answer to this, a number of legal systems have adopted videoconferencing to enable disabled, infirm, or physically unavailable witnesses to testify.[34] The implications of using videoconferencing to reduce the costs of litigation have grown substantially since the advent of two-way video streaming. Two-way video streaming enables real-time witness testimony and examination, by both lawyers and judges, anywhere there is a broadband connection and a webcam. The use of this technology is controversial, raising questions about constitutional confrontation clauses and the impact on the quality of hearings for disadvantaged populations.[35] In Kenya, for example, appellate judges have begun to hear applications from parties who "videoconference" their testimony in from other courthouses, saving hundreds of miles of traveling for the parties and their representation.[36] Similarly, court systems from South Africa to Arizona have explored the possibili-

ty of videoconferencing and have produced detailed reports about both the rules and practicalities of implementing virtual courtrooms. Videoconferencing represents another exciting way that court systems and legal processes are able to use new technologies to reduce both barriers to access and operational costs.

Private attorneys and firms have probably done the most to develop and adapt new technologies to improve their internal management, and thus service delivery. Most major firms use either networked or cloud-hosted case management and time-tracking tools, which enables their attorneys to access firm records, files, and templates remotely. Similarly, attorneys are now virtually synonymous with the use of certain types of smart phones, largely because of their obsessive attention to the e-mail programs that such phones support. There is a growing number of legal support websites and tools in development, ranging from smart phone applications to research services, yet there is still very little information on whether the cost savings from the adoption of new technologies are being passed on to customers. Moreover, most of the firms that have the resources to invest in these technologies are not focused on marginalized populations, making it unlikely that these intra-firm tools are having a significant impact on last-mile communities' access to legal services.

The effectiveness of government services is largely based on an institution's ability to communicate with other institutions and their target populations in a way that is both accessible to the masses and understandable to the common citizen. These interactions, historically based on paper records systems, are changing dramatically with the advent of new communications technologies. A number of institutions, typically those with the means and the political will to adopt technological innovations, are already seeing significant efficiency gains in processes, ranging from motor vehicle administration to multi-billion-dollar contract procurement. The institutional migration to digital and Web-based services, often referred to as e-government, represents an exciting and uncharted opportunity to both improve institutional efficiency and reach new populations, thereby improving the capacity and reach of government services.

Overall, these innovations can be reduced to two thematic trends: a reduction in the procedural requirements for resolving small claim and civil disputes, and a proliferation of ways to minimize the costs and burdens of formal legal processes. While these trends represent an evolution away from prevalent conceptions of the state-administered rule of law, the innovations that have the greatest effect on last-mile populations are those that meet them where they are. With the exception of rural service extension, almost all of the major innovations in legal systems either focus on lawyers or on populations that are comfortable using complex Web-based services. The ubiquity of mobile phones, however, offers a number of people and service providers an unprecedented opportunity to reach last-mile communities.[37]

CROSS-EXAMINATION: MOBILE FOR DEVELOPMENT IN THE LAST MILE

With more than 5.3 billion active mobile phone connections around the world, it is difficult to overstate the impact that this simple piece of communications technology has had on last-mile populations. For the first time, remote and poor populations have the ability to connect with each other and with essential service providers. A growing number of industries and governing institutions realize the value of using mobile phones to interact with the populations they serve. The use of mobile phones to engage clients, broadly called mobiles for development, or m4d, has been applied in fields as diverse as medicine, banking, and education, to name just a few.

As mobile phones become more sophisticated, the field of m4d has grown. The proliferation of smart phones, particularly in wealthier countries, and mobile Internet connections enables a wide range of interfaces, from phone-optimized websites to customized applications. As the mobile market has become more complex, the number of mobile operating systems has grown, creating fragmentation according to regional market share.[38] The smart phone market, while growing explosively, is still significantly smaller than that of simpler, or feature, phones.[39] What is common to almost all mobile phones is SMS, which operates in a standardized format. SMS are text-based messages that operate over a basic cell signal, meaning that they also have more geographic coverage than mobile Internet. According to some analysts, 90 percent of the world's population and 80 percent of the rural communities live in areas with access to a mobile network.[40] As of the end of 2010, there were 3.8 billion mobile subscriptions in the developing world, accounting for 73 percent of the world's mobile market.[41] By comparison, approximately 500 million people used their mobile phones to access the Internet worldwide, including 277 million in China.[42] Put simply, SMS is the most widely available text-based technology in human history.

Text messaging reduces a number of the barriers to communication that last-mile populations face, including distance, cost, education, and synchronicity. Given their coverage, mobile phones enable people to interact across previously insurmountable distances. SMS is usually one of the cheapest forms of communication in a mobile market, reducing the cost of interaction over services like mobile Internet and voice. Mobile phones are also a bridge technology, in that they exist in many places where there isn't a power grid, fixed-line telephone connection, or computers. To that end, many mobile phone users are completely new to electronic tools, digital communication, and/or complex interfaces. By being customized to local contexts, mobile phones and SMS help acclimate last-mile populations to using technology for both social and professional interactions. In addition, SMS doesn't require that the other party be present and able to talk to convey a message, removing the need for synchronous availability.

Recognizing these advantages, organizations across a wide range of industries have begun integrating text-based interfaces into their daily operations. Although

these efforts vary widely, a large number of m4d projects focus on adapting typical communications into structured formats that are conducive to SMS input. There are an enormous number of industrial examples of this, from large-scale mobile banking to language-education services. Perhaps more impressively, there are also a number of nonprofit and grassroots examples, ranging from medical supply inventory lists to election monitoring reports to late notices for library books. In order to facilitate mobile integration, there are a number of free and open-source tools that enable users to translate this information into more complex formats, such as maps, records systems, and surveys.

By integrating mobile interfaces into their work, service providers are reaching new populations and encouraging the adoption of mobile devices, both capitalizing on and driving the market incentive to expand infrastructure. Mobile phones are the most useful when people are able to use them to achieve practical, local outcomes. As more local service providers develop mobile interfaces, last-mile populations are able to use their phones to accomplish their goals. Both service providers and mobile phone companies, then, stand to gain from integrating SMS into their operations. M4d, and specifically SMS integration, creates market-driven incentives in the form of efficiency gains and business expansion to reach last-mile populations using locally available technologies.

MLEGAL: A MARKET-DRIVEN APPROACH TO EXTENDING ACCESS TO LEGAL SERVICES

Conceptualizing legal services as a market-driven service industry based on communications is a paradigm shift from traditional conceptions.[43] Yet legal processes are subject to many of the same communications challenges that plague other industries. By learning from the mobile integration experiences of other industries, such as healthcare and banking, the legal services industry may be able to reap similar benefits in access, cost efficiency, and data usability. Using the naming convention applied in healthcare and banking, the term mLegal refers to the application of mobile technologies to improve or extend legal processes and services.

At present, mLegal is an exceptionally small and experimental field. Although there are a number of organizations building legal technologies, including mobile tools, FrontlineSMS:Legal is the only nonprofit organization developing free and open-source tools that facilitate using SMS interfaces in legal processes. As with any new system, business model, or approach, the ultimate effectiveness of the process will depend on project design, local adoption, and a range of other factors. The idea of integrating SMS into legal services is relatively new and untested, so the expected benefits are based on the efficiencies observed in analogous communication structures. mHealth, or the application of mobile technologies to health processes, is one of the more advanced branches of m4d, and so it is used here to illustrate the ways SMS can be integrated into remote service delivery.

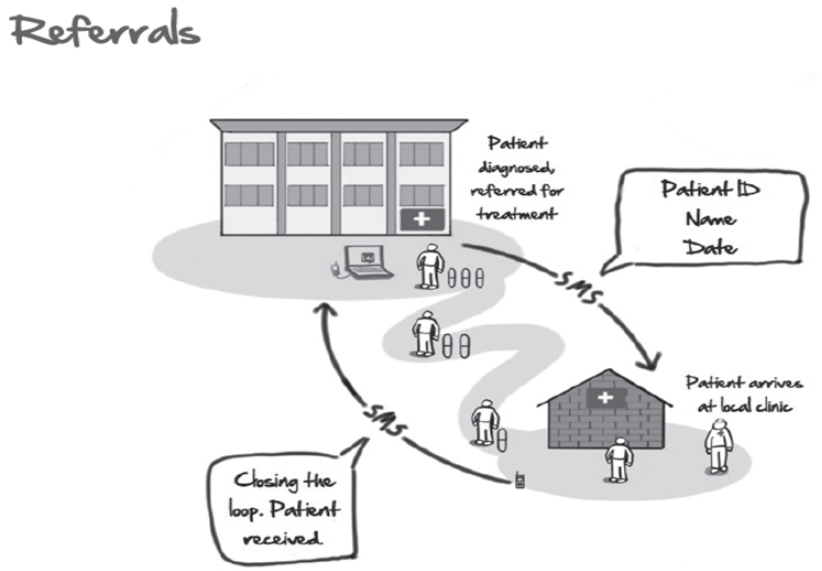

Figure 1. Referrals

Intake and Referral

The process of remote intake and referral takes a number of forms, depending on the organization, procedural context, and infrastructure. Perhaps the greatest distinction is whether the initial interaction is conducted by a trained agent or through a remote interface. Within legal processes, the initial interview between a service provider and a client is an exceptionally important and complex interaction. There are, however, often a number of simpler communications that precede and coordinate the initial interview, such as very basic information collection and appointment scheduling, which could be conducted remotely.

Given the complexity of legal institutions, providing remote intake and referral can significantly reduce the inefficiencies that last-mile populations face in seeking access to services. The issue of complexity is often compounded by the centralization of legal service providers in urban areas, which requires potential clients to travel just to begin these processes. Furthermore, most rural or extension services operate with paper records, which are physically transported to central locations at fixed intervals. These records are not particularly practical from a workflow management perspective and often are left unexamined in unwieldy filing systems. MLegal can reduce these barriers by creating mobile interfaces for digital intake and referral systems, which enables clients to undertake simple interactions, such as identifying the appropriate service provider and scheduling an appointment.

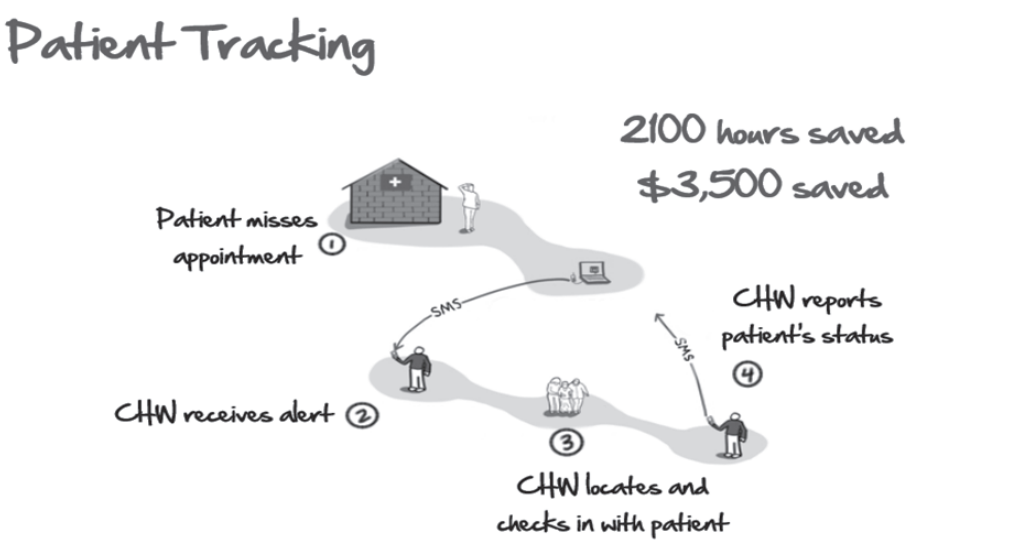

Figure 2. Patient Tracking

From a communications perspective, the biggest differentiator in program design is whether the intake system works through service extension agents, such as community legal advisors, or is designed to interact with the entire population. There are benefits and drawbacks to both approaches. For example, in systems where there are service extension agents, last-mile populations have the benefit of local support and the initial interactions are more in depth. Public-facing intake methods, however, are able to be automated and asynchronous, which significantly reduces the amount of human resources necessary to coordinate services and enables populations without exposure to a service extension agent to access providers.

Regardless of the method used, however, mobile interfaces have improved the efficiency of intake and referral mobile health systems, which are similar to legal service extension work. A number of last-mile health systems rely on community health workers (CHWs), who provide remote diagnostic, referral, and triage services. As illustrated in figure 2, by installing an SMS gateway, hospital healthcare workers are able to use SMS to communicate with remote agents, facilities, and even patients. In models that use CHWs, extension workers can use prefabricated forms to create basic, standardized digital records that can be analyzed in real time. Public-facing interfaces similarly enable people to use a series of keywords and automated questions to create digital intake and referral records. In both models, mobile intake and referral systems enable last-mile populations to access appropri-

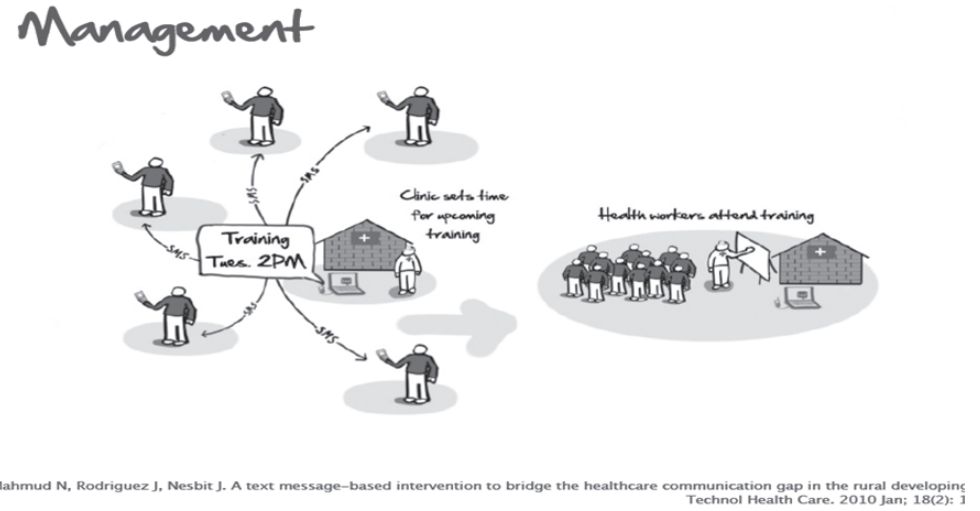

Figure 3. Management

ate service providers while reducing the cost and improving the usability of the information gathered through initial interactions.

The processes of intake and referral are, at their core, about accessing services. By creating mobile interfaces based on available technologies, communications infrastructure, and service providers, mLegal will lower the barriers to communication that prevent many last-mile populations from accessing legal protections.

Client and Case Management

After intake, most legal processes require service providers to interact with their clients on multiple occasions in order to gather follow-up information, prepare the case, and manage successive court hearings. Recognizing that each such meeting requires people from last-mile communities to travel significant distances, the iterative nature of these processes often causes a disproportionate burden for the desired outcome. In addition, many countries struggle to provide sufficient postal or fixed-line telephone services, meaning that organizing follow-up appointments with clients can be a significant challenge. These challenges become considerably more complicated in cases that have multiple elements requiring coordination with both clients and institutions.

Client and case-management systems suffer from a number of the same distance, education, and cost barriers described earlier. In extended service provision networks, most community agents do not communicate regularly with service

providers, making it difficult to know whether disputants followed through on the intake or referral processes. Similarly, in order for service providers to follow up with clients, when it is possible at all, they have to place person-to-person phone calls, which can take significant chunks of time. Moreover, internal case-management systems originate from paper records, causing large amounts of duplicative data entry and lags in data availability.

In order to address similar problems, Medic Mobile, an mHealth organization that works closely with FrontlineSMS, set up an SMS hub in a community health clinic in Malawi, which enabled the CHWs to update client records and track treatment compliance in last-mile populations. In just six months, this pilot program saved the facility 2,100 hours and $3,500 in transportation costs alone.

In an mLegal context, legal service providers would install an SMS hub in a central location, such as a justice house or public defender's office. During the intake interview, service agents would record the client's mobile number and use SMS as an ongoing communications platform. By creating a sustained communications channel between service providers and clients, mLegal programs could enable the collection and dissemination of simple pieces of information, such as case details and simple court hearing reminders. Additionally, these communications could be automated and sent to entire groups of clients, thereby reducing the amount of time required to manage clients and important case deadlines. This set of tools would reduce the barriers to communication with last-mile clients and create digital records of these interactions, enabling service providers to view all of these exchanges in one easy-to-use interface, reducing duplicative data entry and improving information usability.

Caseload and Service Extension Agent Management

Although this article focuses largely on innovations that improve direct access to legal services for last-mile populations, the same tools also have the effect of improving internal system efficiency by digitizing records and enabling a data-driven approach to measuring outcomes. Both urban and rural service extension programs have a difficult time monitoring their caseloads and agents in the field. The same communications barriers that limit a service provider's ability to connect with last-mile clients also prevent communication with remote agents.

Mobile interfaces have the effect of lowering these barriers, enabling both intake and remote reporting processes to feed digital interfaces that demonstrate each service provider's caseload and the status of those cases. These digital record systems, when used effectively, inform a manager's ability to allocate cases to the most available service provider. Furthermore, where these processes collect information about the types of the cases being addressed, aggregated records can be used to quantify trends.

Medic Mobile has used a similar system to help community clinics manage CHWs and the patients they interact with. In addition to measuring workflow, as

shown in the above figures, these systems allow one-to-many communications to organize events and trainings, which require the presence of remote agents.

Applied to legal processes, supervising attorneys can use the same SMS hubs that administer intake and case-management processes to digitize their internal management structures. One central hub, fed by the intake process that information desks often perform, and remote input where service extension agents exist will allow managers to assign cases to individual service providers, and then to track them through disposition. In doing so, legal service coordinators will be able to track each employee's workload in real time. In addition, system administrators will be able to look at the types and frequency of cases they take on, which will inform their ability to allocate resources effectively. If, for example, one area has a dramatically higher number of cases than another, it may make sense to deploy multiple community legal advisors to adequately address their need.

These user stories are intended to be illustrative of the types of communications dynamics that characterize legal service provision and the potential gains that are possible by using free, open-source mobile technologies. As with every change-management process, the integration of mobile technologies will continue to evolve both conceptually and practically as the legal community continues to experiment with their application. What is clear from the outset, though, is that legal processes depend on communications technologies to convey simple and complex information. As these technologies evolve, legal communities stand to benefit from lowering barriers to communication and the improved efficiencies that new technologies make possible. When focusing on access issues and the last-mile populations who experience them most severely, however, the technologies and approaches that have the most impact are those built on locally available and appropriate solutions. Simple mobile interfaces for both last-mile populations and legal service providers can improve the efficiency and extension of the rule of law by using the technology already in their pockets.

CONCLUSION

The rule of law, as a set of principles and institutions, is evolving to meet the needs of the populations it is designed to serve. Among these groups, last-mile populations are some of the most difficult to engage with, which presents a range of unique challenges both in type and degree. What is clear from initial innovations, however, is that the approaches that have the greatest effect on improving access to legal institutions are those that design their services to meet last-mile populations where they are, whether in their community or on their mobile phones. In countries from India to the United States, Kenya to Colombia, and the Democratic Republic of Congo to the United Kingdom, governments are increasingly supporting a range of solutions intended to deliver legal representation in locally appropriate ways.

The growing prevalence of mobile phones creates an unprecedented opportunity for the extension and digitization of the legal services to last-mile populations.

MLegal, as a field of practice, focuses on actualizing these opportunities by disaggregating complex processes into their component communications and adapting the most relevant elements into formats that improve their efficiency. Recognizing that mobile technologies overcome a number of the barriers that prevent access, such as cost, distance, timing, infrastructure, and education, integrating mobile phones and SMS into legal systems offers the potential to significantly improve their efficiency and reach.

These solutions necessarily build on the progress of a wide range of actors and innovations, all of which will contribute to the ongoing experimentation inherent in systemic evolution. In other m4d fields, the implementation of new technologies has not only improved existing systems but spurred entirely new innovations. In mHealth, several institutions are developing cameras that enable CHWs to use mobile phones to deliver hospital-quality diagnostics for some prevalent diseases, which are delivered through a phone's multimedia message service (MMS). Similarly, the development of mobile financial transaction interfaces is increasingly enabling microfinance institutions to extend microloans into a wide range of contexts. And last year, the creation of a mobile learning curriculum resulted in more than 300,000 Bangladeshis signing up for an SMS-based English-language course. [44] As legal communities and institutions increasingly integrate mobile technologies into their work, new technologies and communities of innovation will develop complementary solutions that address pressing rule-of-law issues. In order for any of these innovations to actually improve the rule of law, however, institutions will first need to build systems that promote access to the rule of law. As mobile phones continue to reach an increasing number of last-mile populations, so do the opportunities to engage them in legal processes and services. For the four billion people who currently lack meaningful access to legal services, the case for mLegal has never been stronger.

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