

Beyond the impasse of the state-market dichotomy: Social entrepreneurship and new institutional actors for the underserved

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Abstract:

Large sections of the world's population have limited or no access to social and physical infrastructure such as education, healthcare, all-weather roads or power. Empirically, the lack of such access reflects the failure of both states and markets; conceptually, it exposes the limits of the accepted distinctions between these institutions in terms of the division of labour in providing public/private goods. The conceptual limits are exacerbated by the double-edged prospects of globalization and the increasing prominence of global public goods, whose jurisdiction of production and consumption are unclear. To overcome the conceptual and empirical impasse, new institutional actors are needed and it is on two such that this paper focuses: social enterprises and transnational social enterprises (TSEs). What is novel about social enterprises and TSEs is their keenness to overcome the state-market duality by pursuing a dual objective of increasing social value as an outcome of product/service delivery, while remaining sustainable financially. Their ability to do so reflects the concurrent emergence of new forms of financing, particularly venture philanthropy and impact investing which seek not just a financial returns but also social and environmental returns to any investment. The paper then presents two cases that show how a social enterprise in health care, and a transnational enterprise in urban infrastructure attempt to remain financially sustainable while delivering socially value.

1. Introduction

Among the long-term challenges facing the world at present, especially in the Global South,¹ is inequality, including unequal access to education, health and energy. There is also growing recognition that policy responses that posit states against markets produce dismal results. Indeed, both statism and capitalism of the 20th century variety are in crisis. The collapse of the Soviet Union in the late 1980s was the final nail in the coffin to the centrally planned economic model. The limits of the market as a mode of governance have been regularly exposed by economic crises, the most recent of which was the 2008 financial crisis that began in the United States, followed by the European crisis from 2010 and the Greek crisis of 2015. Rising inequality in particular, and the general retreat and failure of the state have placed the role of the state under scrutiny on the one hand, while corporate scandals have increasingly rendered the private sector suspect. As a result, there are shifts in institutional legitimacy and the division of labor in balancing economic and social objectives.

The persistence of inequality demands new institutional approaches to improve the socio-economic conditions of the underprivileged, especially in the Global South. In an attempt to reach those at the bottom-of-the-pyramid (BoP) (Prahalad, 2006), non-government organizations (NGOs), have become prominent in the past three decades as the third sector, as they have taken on the role of service provision in an attempt to overcome the inadequacies of state-led development efforts (Banks and Hulme, 2012). NGOs not only hold the state to account for developmental failures but they have also increasingly targeted the practices of firms. Of course, non-governmental, non-profit organizations have long played a

¹ In this paper, the Global South will be used as a shorthand reference to the less-affluent regions of the world. The Global North is used to refer to affluent regions in general and to North America, Western Europe and Japan in particular.

role in civil society and they have been around for at least four centuries in their role as activists or advocates for various ideals (Spar and La Mure, 2003),

Falling between NGOs and commercial entities are social enterprises which have recently emerged as for-profit organizations with a dual objective of increasing social value as an outcome of product/service delivery, while remaining sustainable financially (Weerawardena et al., 2010). Social enterprises typically combine private sector management practices with social objectives, although a consensus has yet to emerge on a definition.² Transnational social enterprises (TSEs) are another form of entrepreneurial initiative that are being undertaken by skilled immigrants from the Global North, relocating to select locations in the Global South, to achieve social and economic goals by combining transnational resources – human capital, social capital, technology, and knowledge of needs.

Social enterprises and TSEs are emblematic of broader social and technological changes. One is a growing public interest in ethical investments accompanying the shift in corporate priorities from the single- to the triple-bottom-line of social, environmental, and the economic objectives in the Global North (Elkington, 1997). Another is contemporary globalization which Sassen (2006) characterizes as “epochal transformation” with double-edged impacts. On one hand, its reliance on information and communication technologies (ICTs) creates an “informational, global and networked”³ economy capable of applying “its progress in technology, knowledge, and management to technology, knowledge, and management

² Austin, et al. (2006) note the challenges of developing appropriate performance measures for social enterprises, as social value is not only difficult to measure quantitatively, but also involves issues of multi-causality, perception differences, and temporal dimensions.

³ It is informational as the productivity and competitiveness of its units is dependent upon their capacity to “generate, process and apply efficient knowledge based information”. It is global as “its core activities of production, consumption and circulation are organized and generated on a global scale either directly or through a network of linkages between economic agents”. It is networked as “its productivity is generated through and competition is played out in a global network of interaction between business networks” (Castells, 2000:77-78).

themselves. Such a virtuous circle should lead to greater productivity efficiency, given the right conditions of equally dramatic organisational and institutional changes” (Castells, 2000:77-78). However, this virtuous circle cannot be taken for granted as the socio-spatial characteristics of informational capitalism are not different from earlier manifestations of capitalism i.e., it cannot be expected to reduce social inequity as it is highly selective in “connecting localities throughout the planet, according to criteria of valuation and devaluation enforced by social interests that are dominant in these networks”(Castells, 2002:x).

This paper will examine how social entrepreneurship and transnational social entrepreneurship are emerging to overcome the state-market dichotomy to innovate and provide solutions for the underserved. To that end, Section 2 will discuss the traditional division of labour in the state-market dichotomy and highlight the limits to that division by examining the conceptualisation of public goods. Section 3 will describe key features of social enterprises and TSEs while Section 4 will explore the concurrent emergence of venture philanthropy and impact investment as new means of supporting social enterprises and TSEs. Section 5 will discuss two cases drawn from India: one a social enterprise in health care, while the second is a transnational social enterprise working in the area of infrastructure. The choice of India is, in part, because it has a large, socially and culturally diverse population, a big proportion of which lives in poverty and illiteracy amidst inadequate infrastructure.⁴ Although such circumstances, an unpredictable regulatory environment and corruption in public life, can prove chaotic and challenge any enterprise, it only leads Venkatesan (2013) to proclaim “win in India, win everywhere”. What makes “winning” in India more likely than

⁴ According to UNDP (2015), India’s Human Development Index ranked 130 among 188 countries. The number of people earning less than \$1.25 a day (purchasing power parity) was 23.6%, and only 62.8% of adults (15 years and older) were literate as against the world figure of 81.2%.

anywhere else is the availability of technical skills to design and deploy ICTs to address the needs of the underserved. Thus, it is the availability of skilled engineers that enabled India to take advantage of digitization and offshoring from the Global North to become the world's largest exporter of software services (Parthasarathy, 2010). Section 6 will revisit the arguments of this paper and provide concluding thoughts.

2. The state-market dichotomy

Traditionally, the state has been the principal actor in the public domain, acting in the public interest. The logic of the state is dichotomously contrasted with that of the market, which is understood in terms of various state “interventions”, on an allegedly ‘pure’ form that is stripped of any socio-political and cultural relations. Yet, the two-sector bargaining model that pits the states against markets is increasingly obsolete (Sending and Neumann, 2006; Teegen et al., 2004) for at least two reasons.

First, the distinction between the public and private is not only contextual, but also temporal (Hirschman, 1982; Weintraub and Kumar, 1997). As Sassen (2006:188) argues, “the distinction between a private and a public sphere in the modern state is one historically constructed under specific condition and alignments.” Second, while the legitimacy of the capitalist state depends on safeguarding the public interest, it also derives from the smooth functioning of markets and the prosperity of the private sector (Friedmann, 1987). Markets, in turn, cannot function smoothly without effective state regulation (Evans, 1995; Schoenberger, 2015). Since markets and states complement one another, and making a choice between the two is a choice between “imperfect alternatives” (Wolf, 1993:64), Evans (1996) emphasizes synergy based on complementarity and embeddedness in state-market relations rather than

characterize them in oppositional terms. Similarly, Stoker (1998:18) seeks, “the blurring of boundaries and responsibilities for tackling social and economic issues.”

This blurring between the public and private domains will demand the reassembling of their economic and social missions, to understand which, it will be useful to examine the division of labour between the two and the conception of public goods. Although markets can efficiently allocate resources and, as an instrument of social coordination, are uniquely compatible with individual freedom, they are subject to failures (Wolf, 1993). Public goods are defined in the context of three instances of market failure and were conceptualized by Hume as non-rival and non-excludable, and range from concrete (infrastructural) examples (e.g., street lights) to intangible ones (e.g., law and order), to those that occur naturally (e.g., air). Some public goods are collective goods or assets that cannot be exchanged, and others are under-valued in the market, leading to instances of market failure. Adam Smith believed that public goods are best provided by public authorities, whose options are essentially to either make or buy (produce or outsource production, and then provide/ allocate). The condition of natural monopoly, wherein the largest supplier has an overwhelming cost advantage over competitors, also necessitates interventions by non-market actors (Samuelson, 1954; Weisbrod, 1964). State intervention to provide public goods has traditionally been viewed as limiting the rent-seeking behaviour of firms that exploit natural monopoly (Rodrik, 1997).

Despite its wide acceptance and usage, the concept of public goods is criticized on many fronts. First, the neoclassical conceptualization of public goods assumes pareto-efficiency, with rational actors maximizing utility under competitive market environments.

Consequently, most discussions of public goods revolve around issues of price (i.e., the free-

rider problem) and quantity (i.e., shortages), which often translate into the narrow question of ‘who decides, who pays’, and establishing decision-making over financing, allocation and provision (Ferroni & Mody, 2002; Sandler, 1997).

Second, public goods are ideal types and, in reality, few pure public goods exist (Bodansky, 2012). For example, goods with positive externalities (‘merit goods’) are often labelled as public goods (e.g., knowledge, human rights) and all types of social well-being are referred to as public goods (Rioux and Zubrow, 2001), although they may not be entirely non-excludable and non-rival. Education, for example, is often considered a public good although it is excludable in many instances and partially rival. The conceptual ambiguities of public goods have long been recognized (see Arrow, 1970), and have led to rhetorical contrasts with ‘public bads’, introducing normative ambiguities to what used to be primarily a technical concept. Air pollution, for example, has been used as an example of a public bad (see Kindleberger, 1981; Sonnemans et al., 1998) although it is more appropriate to consider it a form of negative externality. In addition, to accommodate the reality of goods that fall within a broad spectrum of pure public goods and private goods, a variety of hybrids have been recognized, including club goods (excludable and non-rival) and common pool resources (non-excludable and rival). The ambiguous definition of public goods weakens the justification for state interventions in their provision. While the state is assumed to be the ideal provider, it can be imprecise, clumsy and often irrational (Lindblom, 1977) and, as a result, state interventions will not necessarily resolve the failure of markets to achieve pareto-efficiency (Ostrom and Ostrom, 1999).

More recently, public goods have faced another conceptual problem around the issue of global public goods, which has been most actively discussed in international relations and

public finance (see, for example, Bodansky, 2012; Kaul, 2012; Maskus & Reichman, 2004; Stiglitz, 2007; Stoll, 2008), and is applied primarily to global economic stability, global environmental sustainability and global public health. . A good is considered globally public when its non-rival, non-excludable benefits impact “more than one group of countries and does not discriminate against any population group or generation” (Kaul et al., 2003:95). Global public goods are as problematic as public goods, particularly because it is unclear who is best suited to govern their production and delivery, since the provision and consumption of public goods are not conceptualized as being tradeable across national borders.

The provision of global public goods cannot be achieved by the rescaling of public goods, with a simple expansion of geographic boundaries to the global, because it challenges the concept of non-excludability. As geographical distance and national regulatory boundaries inevitably shape accessibility to the site of public goods provision, access will not be uniformly distributed across the globe. Rescaling also challenges the assumption of non-rival consumption. Societal risks, such as financial instability, sea level rise, or depletion of offshore fisheries, can all be considered globally rival. Therefore, non-excludable and non-rival consumption cannot serve as suitable conceptual underpinnings for global public goods.

Although addressing collective action challenges can be conceptualized as attempts to rescale positive externalities to achieve global merit goods, while mitigating the cross-border effects of negative externalities, the conceptualization of market failure assumes that both positive and negative externalities are largely contained within national borders. Externalities are also assumed to be non-tradable, and cross-territorial transfer is not within the scope of the conceptualization. In reality, the impacts of negative externalities (e.g., communicable diseases, carbon emissions) increasingly cross national borders, and their sources have

become diffuse and ubiquitous. In contrast, positive externalities are not uniformly distributed/allocated over a territory, and can be subject to a significant distance decay function from the site of provision. Thus, the production of global merit goods (e.g., carbon emission reduction, poverty eradication) would involve mitigating cross-territorial negative externalities and enhancing productivity and cross-territorial transfers of positive externalities.

As today's collective action problems, such as climate change, public health, and poverty alleviation, have been rescaled in an inter-connected global economic system, institutional design at the level of the nation-state is no longer proving effective in balancing social, environmental and economic objectives (see, for example, Bruni and Zamagni, 2007; Bruyn, 2000; Castells, 2008; Dees, 1998; Mittelman, 2011; Reich, 2008; Scholte, 2011; Swyngedouw, 2005). There is recognition that "people and their governments around the world need global institutions to solve collective problems that can only be addressed on a global scale" (Slaughter, 2004:8). If a collective objective is to access and deliver global merit goods as ubiquitously as possible, the discussion thus far highlights that, provision by a single entity, in particular, the state, is neither conceptually nor practically feasible any longer.

To overcome such collective action problems, behaviour such as collaboration, altruism, and philanthropy does not find a place in conception of the economy as being governed exclusively by competition among market-rational actors. Individuals are understood to collaborate with others only when they believe that they are better off than without doing so. Similarly, but on a different scale, states are believed to collaborate with one another only when the terms are favorable to further their economic competitiveness vis-a-vis other states.

While compromises can be reached between competition and collaboration, long run systemic stability is a major challenge, and experimental studies have shown that competition can lead to an erosion of collaboration (Barker et al., 2012). In reality, however, the boundary between competition and collaboration is likely to be drawn, contested, negotiated, compromised, abandoned, and drawn again. It is to illustrate how new actors are redrawing and blurring the boundaries between the public and the private that the next section examines the role of social enterprises and their transnational variants

3. Social enterprises and transnational social enterprises

While social enterprises pursue a dual objective of increasing social value while remaining sustainable financially, they are not just profit-seeking firms with social impacts; rather, they are driven with a vision of prioritizing the social objectives of stakeholders. Social enterprises differ from commercial enterprises in terms of the sources of funding and expectations for pecuniary versus non-pecuniary compensations. Social enterprises are defined by several characteristics, such as 1) emphasis on production of goods and services (not relying on advocacy or grants as with NGOs), 2) risk-taking, 3) dependence on paid work (versus volunteers in NGOs), 4) clear community beneficiaries, 5) representation of some kind of collective action/objectives, 6) limited profit-maximization, 7) autonomy from state action, 8) emphasis on stakeholder over shareholder, 9) participatory management style (Defourny and Nyssens, 2013). Social enterprises also differ from co-operatives, as they do not serve membership-based ‘closed commons’ of sorts, but instead, cater to ‘open-commons,’ in which membership is not required and services are not territorially bound.

Sommerrock (2010) argues that social entrepreneurs serve a specific role as providers of public goods that typically involve multiple actors, such as the state, state-run corporations

and non-profit organizations. Social entrepreneurs function as catalysts in the economy by creating markets for products and services, which are characterized by either people's unwillingness to pay (i.e., free-rider problem) or their inability to pay (due to poverty). The latter is a particularly acute problem in the Global South where poverty, combined with deficient physical infrastructure, is widespread. Therefore, the potential of social entrepreneurship in developing novel designs that help overcome the constraints of underprivileged populations is significant in the Global South.

Indeed, another way of characterizing social enterprises is to understand them as organizations pursuing social innovation. Moulaert, et al (2013) discuss how Drucker (1987) defined social innovation, as “innovation in meeting social needs of, or delivering social benefits to, communities” and conceptualized it broadly as institutional design that generates social benefits. To Drucker, social innovation in the 19th century was primarily led by the state (e.g., the social security system by Bismarck), whereas the key initiators of social innovation in the 20th century were private sector entities (e.g., corporate research laboratories, mass media, and farm agents). Today, social innovation is more narrowly defined; Moulaert, et al (2013:13) define social innovation as “the creation of new products, services, organizational structures or activities that are ‘better’ or ‘more effective’ than traditional public sector, philanthropic or market-reliant approaches in responding to social exclusion.”⁵

Recently, there has been another dimension to social entrepreneurship with a growing number of entrepreneurs crossing borders to engage in poverty alleviation (Alvarez and Barney, 2014; McMullen, 2011). While the literature on transnational entrepreneurship has,

⁵ Social entrepreneurship has been known to deliver social innovation in areas such as ethical banking, work integration, and environmental services, including recycling (Defourny and Nyssens, 2013).

thus far, been concerned almost exclusively with commercial entrepreneurs, primarily in such forms as ethnic/diaspora entrepreneurship (Bhachu, 2003; Ioannides and Minoglou, 2005; Kloosterman et al., 1999; Zhou, 2004), and returnee/argonaut entrepreneurship (Chrysostome and Lin, 2010; Saxenian, 2006), the focus of this paper is on highly-skilled entrepreneurs originating from the Global North and relocating to select locations in the Global South seeking, simultaneously, to further entrepreneurial objectives with social missions..

TSE start-ups in the Global South are established by a new breed of entrepreneurs who combine transnational resources – human capital, social capital, technology, and knowledge of needs – to provide a new perspective to long-standing local problems in sectors where acute social needs and economic values intersect, such as health, renewable energy, and education (Aoyama with Parthasarathy, 2016).⁶ Despite their access to transnational resources, TSEs move to the Global South to gain familiarity users and their unmet social needs. Knowledge required for innovation is often ‘tacit’ (Polanyi, 2009) and context-specific, and thus has strong geographical implications, as effective ‘learning-by-interacting’ requires proximity which comes only with physical presence in a place (Gertler, 2003).

4. The emerging resource base for social entrepreneurship

While official development assistance (ODA) by states is by far the largest source of funds for development in the Global South (OECD, 2015), philanthropic organizations are playing an increasingly active role in innovating and producing global public goods. For example,

⁶ TSEs are typically founded by graduates of elite universities. In India, they tend to be overwhelmingly drawn from such US institutions as Harvard University, Johns Hopkins University, Massachusetts Institute of Technology (MIT), Stanford University, the University of California, Berkeley and, the University of Wisconsin, Madison; from Cambridge University and the London School of Economics and Political Science in the UK; and from the five original campuses of the Indian Institutes of Technology (Kharagpur, Bombay, Madras, Kanpur and Delhi) (Aoyama and Parthasarathy, 2016).

Global public-private partnerships (GPPP) led by the United Nations is funded by ODA, but philanthropic organizations are increasingly important funders of these projects. Unlike public charities, that receive broad public support and contributions, private philanthropic foundations are funded with endowments given by one or a few set of individuals, and their missions and objectives largely remain in private hands.

A greater involvement of philanthropic organizations in development is leading to claims about the emergence of “philanthrocapitalism” (Bishop and Green, 2008), or “the effort by a new generation of entrepreneurial philanthropists and business leaders to drive social and environmental progress by changing how business and government operate.” (Edwards et al., 2014: 550). Entrepreneurial “philanthpreneurs”, such as Warren Buffet and Bill Gates, have led an initiative called the Giving Pledge, which is “a revival and a reinvention of an old tradition that has the potential to solve many of the biggest problems facing humanity today.” (Bishop and Green, 2008:2).⁷ Acs (2013) argues that philanthropy driven by private foundations is a distinctly, though not exclusively, American capitalist tradition that connects opportunities with entrepreneurship, distinguished from social democracy or market socialism in which the state plays a key role in directing redistribution and providing basic needs.

Venture philanthropy is a form of grant-making by private foundations that uses market-based strategies to overcome the limitations of traditional giving, and typically involves

⁷ The Bill and Melinda Gates Foundation is a particularly important foundation for international grants, in the area of health. The Gates Foundation combines advocacy with schemes to induce innovation and support new social enterprise start-ups, while encouraging market-based strategies, financial accountability and transparency among the NGOs. The Foundation has been instrumental in creating collaborative financing schemes for Product Development Partnerships (PDPs) to support R&D for vaccines of ‘neglected’ diseases, such as malaria and tuberculosis, which are prevalent in the Global South and are not adequately served by the private sector. In India, for example, the Gates Foundation has been critical in supporting social entrepreneurship for the medical devices and diagnostics industry. For more on the work of the Foundation, see <https://www.gatesfoundation.org/>

equity investment in the private-sector. Much like venture capital, it provides support in areas such as business plan development, ensuring efficiency, and reporting progress. Unlike venture capital, however, venture philanthropy involves an exit plan once the target objective is accomplished. Also, unlike traditional philanthropy, venture philanthropy expects a financial return to investment.

Another form of financing to bridge social and economic missions is ‘impact investment’, a term coined by a group of entrepreneurs, investors, and philanthropists at the Rockefeller Foundation’s Bellagio Center in Italy to refer to investments that are “intended to deliver both financial returns and social and environmental benefits.”(Rodin and Brandenburg, 2014:vi). Impact investment emerged, in part, to give credit to and nurture the thriving presence of micro-entrepreneurship as an alternative to instead of traditional charity. Impact investment can be structured as equity, debt, cash deposits, or other hybrid forms, and vary by asset class, return expectation, sector and geography.

Increasingly, traditional financial agencies, such as banks and pension funds, are expanding social investment portfolios. Various financial intermediaries that are becoming active in funding social enterprises are involved in developing social capital markets (Kaplan and Grossman, 2010). Thus, the sources of impact investments are many and do not only include venture philanthropy and High Net Worth Individuals (HNWIs), but also such entities as social-impact capital aggregators (which assemble capital from HNWIs and serve as intermediaries), social-impact secondary market operators (which securitize bundled loans as collaterals to issue bonds), social stock exchanges (which serve as platforms where funds are matched with seekers of funds), and quasi-public investment funds (e.g., the International

Finance Corporation of the World Bank, Multilateral Investment Fund established by the Inter-American Development Bank, Big Society Capital funded by the UK lottery).

5. Case Studies⁸

5.1 Portable ophthalmic imaging device

Our first case study is a firm that introduced a portable ophthalmic imaging device that offers corneal imaging, retinal imaging and a refractometer.⁹ It was founded in 2010 by three employees of a multinational enterprise (MNE) who wanted to concentrate on preventive healthcare. The optical device, among the first of its kind, was developed to address the common ailments that are responsible for blindness (diabetic retinopathy, glaucoma, cataract and common cornea problems among others), as a means of reducing the high percentage of preventable blindness (about 80%) in India amidst a low doctor to patient ratio (about 1:60,000).

The inspiration for the diagnostic device came primarily from a talk attended by two of the founders. The talk was delivered by Dr Govindappa Venkataswamy, an ophthalmologist and the founder of the Aravind Eye Care System, whose efficiency in providing affordable, large scale, quality health care has led to it being described as “the McDonalds of health organizations” (Pahls et al 2010). The talk emphasized the importance of early diagnosis to reduce preventable blindness in the country. The central problem identified by the doctor was

⁸ While the cases presented here draw directly on three interviews, they are also informed indirectly by the 115 semistructured interviews carried out between 2011 and 2014 as part of a project, titled “The Global Shift in R&D Alliances: Multinational Enterprises (MNEs) and the Quest for the ‘Base of the Pyramid’ (BoP) Markets”, that was supported by a U.S. National Science Foundation grant (BCS-1127329), for which the authors were the principal investigators. Interviewees ranged from social enterprises, TSEs, the business units and corporate social responsibility sections of multinational enterprises, private foundations, and global and grassroots NGOs. Our research is qualitative, and the sample size does not allow us to demonstrate representativeness; rather, the two cases are, in our opinion, paradigmatic and offer insights into how new actors are overcoming the state-market divide to provide social value..

⁹ The experience of this social enterprise is drawn primarily from an interview with its co-founders on 12 June 2012 in Bangalore, supplemented with data from the firm’s website and articles in the press.

the lack of reliable, portable equipment that would help untrained personnel diagnose problems in rural areas. Subsequent conversations with the doctor, extensive research, and collaborations with hospitals, highlighted two factors hindering diagnosis and treatment: insufficient doctors to cover the rural population, and the difficulty in diagnosing non-cataract related diseases in the field.

Typically, hospitals reach wide swathes of the rural population by hosting periodic eye camps. While these camps help cataract patients, for whom the treatment is fairly simple and easy, more complicated diseases require well-trained ophthalmologists and nurses. They also demand extensive follow-up, currently missing from the way eye camps are conducted. As a result, the conversion rates from diagnosis to treatment in rural areas is low i.e. a high proportion of rural patients do not seek treatment despite being diagnosed with eye problems. There are many reasons for this. The first is affordability. Second, diagnosing the more severe diseases can take several hours. The time that it takes to dilate the pupil, to be examined by a doctor, to test for intraocular pressure, and then to wait for results, is often too long for patients who face opportunity costs in terms of lost income. Third, social reluctance to address one's health problems has led to a persistent culture of denial even before coming to a diagnostic center. A vast segment of the rural population believes that seeking diagnosis can only invite problems. As a result patients either do not always take the diagnosis seriously or they delay treatment until it is impossible to negotiate daily work. Usually, by this time, the treatment is unlikely to succeed.

For these reasons, it became evident to the founders that diagnostic help was needed was to get more personnel with minimal ophthalmological training on the ground, to quickly identify the patients with more serious problems and send them to hospitals, rather than providing

extensive diagnosis in the camps. This would improve efficiency and ensure that more resources are spent (by the patient and supporting organizations) on treatment rather than on diagnosis. Similarly, it was important to provide tangible evidence to patients about the severity of their condition, say, in the form of printed images of their eyes, to convince them to pursue treatment. In this manner, the founders hoped to ensure the screening of a larger proportion of the population, thereby improving the chances of treating those ailing with eye problems.

Besides the background work, the personal histories of the founders also helped them understand the needs of their potential patients deeply. Since two of the three founders are from rural areas, they were able to draw on their personal experiences in accessing healthcare, and to understand the economic and social constraints that rural populations typically face. The ability to “relate first hand to the rural needs”, also influenced their decisions.

It was thus that the co-founders decided to establish a firm to develop a device to address this gap in the market. In addition to meeting the above criteria, the emphasis was also on ensuring low-cost and ruggedness as the primary markets are rural hospitals and health care centers that service poorly connected disadvantaged communities. The device that was custom-built for this market can detect five major ailments including cataract, diabetic retina, and glaucoma. It also permits accurate refractive index measurements and can provide a pre-screening report. To minimize loss of accuracy that can come with movement of parts as the device traverses uneven rural roads, unwanted optics was eliminated in favor of solid-state electronics.

The firm had more than 30 installations across the country within two years of introducing the devices. They have proven highly reliable on the field and consume much less power when compared to similar devices. The diagnosis of various diseases which required up to 45 minutes with other procedures and machines has been cut to five minutes because the device is non-invasive and no dilation is involved. Similarly the cost of screening has fallen from Rupees 350 (~US\$5) to less than Rupees 50. There are also improvements in conversion rates, because of the option of printing out the results of the eye exam. With these printouts, the assistants are better able to explain the problems and advocate immediate treatment.

Conceptualizing a medical device was not a challenge for the founders. They argued that there are many researchers in this field and the relevant information that they needed was easily accessible through the doctors who shared their desire to make a difference. They also established a research center, from which four patents have been filed during the development of the device. While the founders were confident about addressing any technological need, it was questions pertaining to financing, scalability and sustainability that were their primary concerns from the beginning.

An aspect of scalability was the founders' limited understanding of optical device manufacture. To overcome this, they used their networks and knowledge from working in MNEs to identify a manufacturing partner who could make the device to specification. But there were challenges when it came to financing and market acceptance. As mentioned earlier, the diagnostic equipment used in India is largely foreign made and expensive (Datta et al, 2013). The firms faced resistance from hospitals who were hesitant and skeptical about the quality of a product that was on offer for a fraction of the price of other similar products. The founders had to combat the widely-held belief and perception among hospitals, doctors,

and patients that inexpensive equipment is likely to be of poor quality. Given the option between cheaper Indian brands and more expensive foreign brands, the customers are likely to pick the latter as a proxy for better quality. To fight this problem, the firm went about gaining acceptance with the key stakeholders, so that their opinion and feedback on the equipment could be used to gain entry into uncharted territory. Eventually, the positive testimonials of their early clients provided word-of-mouth advertising for the product.

At the time of our interviews, the firm was in the process of building a platform to expand the range of the device to detect early signs of diabetes and other nephrological problems. They were also plans to venture into telemedicine by building cloud-based data centers that can connect doctors with patients in remote locations. Reflecting their early success, they obtained US\$5 million from two venture capitalists (IDG Ventures India and Accel Partners). Additionally, they were examining the possibility of expanding to similar environments in South East Asia, Africa, and South America by working with NGOs, such as the Gates Foundation, and the World Health Organization (WHO). For example they wanted to be associated with the WHO initiative to eradicate blindness which, they argued, aligns well with the capabilities of their device and their personal passion. They had already started the expansion to Mauritius. The firm was also starting to collaborate with universities in North America and Europe to expand the research and the range of applications of the device to more affluent markets.

5.2 Deploying mobile phones to overcome infrastructural deficiencies

This is a case of a TSE that provides information about water supply to its customers, and seeks to create an information portal that will bring efficiency to water supply systems.¹⁰ The idea for the TSE was triggered when one of the co-founders, while working on her PhD in civil engineering from the University of California, Berkeley, found herself waiting a long time for water samples from a city in the Indian state of Karnataka. It occurred to her that, if she had a problem waiting for water, it was very likely that this problem was shared by most others in the city. She brought it back to her class on ICT Solutions in Social Enterprise in Berkeley and, along with her students, devised a methodology to provide real-time information about the date and time of water supply. While utility management can be undertaken using supervisory control and data acquisition systems (SCADA), not only are such systems prohibitively expensive, but they are also engineered for continuous water distribution systems whereas most distribution systems in the Global South supply water intermittently.

The purpose was to help residents, especially households of low income and daily wage earners, most of whom had either only one water tap at home, if at all, or had to rely on a public tap nearby in a city where treated water is piped in for only a limited time in a day with no fixed daily supply schedule. The unpredictability of supply meant that someone had to be at home at all times to store water. What the enterprise wanted to do was to give information on water supply timings, so that households could arrange their schedules to store water while the rest of the day could be used more productively.

¹⁰ The experience of this TSE is drawn primarily from an interview with its Chief Executive Officer on 28 June 2013 in Bangalore, supplemented with data from the firm's website and articles in the press.

A pilot project was launched in the city, because of the co-founder's familiarity with the area and the local government which consented to the project. Once the pilot involving 230 families proved successful the TSE was established in 2010. The enterprise relies on valve-men of the water supply network using their mobile phones to call into an Interactive Voice Response (IVR) system. That data is processed with back-end technology and subscribers to the service receive text messages with the date and time when water will arrive about an hour before the supply begins. This enables residents to reach their homes in time to collect and store water.

The service also had benefits that went beyond the household to the water-supply network. Reports are also sent to the utility's decision makers and engineers who, based on the information supplied to them, can instruct the former on how much water to release where. When problems in the water lines occur, either the valve men or the customers immediately transmit the information to the engineers for remedial action and, more crucially, to cut down on wastage of precious water. Usually, a big problem which engineers face is the inability to identify the precise site of a problem in the water line. The site is only identified after a large number of calls are logged in. With the data aggregation system of the TSE, engineers are able to crowd source the geolocation of the problems in the water lines with a single SMS and tackle the problem sooner. In a manner of speaking, the valve men and the customers are the portal that collates and feeds information for the engineers. In some ways, the TSE migrated from supplying water information to lower income groups to water management for municipalities.

Households are charged Rupees 10 per month (~US\$ 1.50) for the service. Initially, the enterprise targeted only low-income consumers with a time-value proposition, arguing that

“the higher you go up the income strata, the more coping mechanisms you have”. But the enterprise was surprised to find that it was primarily middle income people were also demanding the service in part because it eliminates the stress of not knowing when the water will come. After the early lessons and growing to serve 75,000 residents by 2015, the TSE expanded to Bangalore, the state capital with metropolitan population of 8 million. Given the scale of Bangalore, the service grew rapidly to the point where the enterprise was considering expansion to other places experiencing water scarcity in South East Asia, Latin America, and even California.

6. A concluding discussion

This paper begins by pointing to a prominent contemporary concern about large sections of the world’s population having limited or no access to social and physical infrastructure such as education, healthcare, all-weather roads or power. Empirically, the lack of such access reflects the failure of both states and markets; conceptually, it exposes the limits of the accepted distinctions between these institutions in terms of the division of labour in providing public/private goods. The conceptual limits are exacerbated by the increasing prominence of global public goods, whose jurisdiction of production and consumption are murky, the double-edged prospects of globalization, and the alluring possibilities offered by new technologies, especially ICTs.

To overcome the impasse, new institutional actors are needed and it is on two such that this paper focuses: social enterprises and TSEs. What is novel about social enterprises and TSEs is their keenness to overcome the state-market divide by pursuing a dual objective of increasing social value as an outcome of product/service delivery, while remaining sustainable financially. Their ability to do so reflects the concurrent emergence of financing,

particularly venture philanthropy and impact investing which seek social and environmental returns to any investment. However, since they are also keen on a financial return, they differ from conventional philanthropy.

Providing products/services for the underserved not only requires the help of new forms of financing, but it also requires new technology and organization (social innovation) as the cases of the social enterprise in health care and the TSE in urban infrastructure show. But developing technological and organizational alternatives demands an intimate knowledge of users who have hitherto not been served by either states or markets. In the case of the social enterprise, the understanding came in part from a talk by Dr Venkataswamy, especially the challenge posed by the lack of trained doctors to treat non-cataract diseases, which reinforced the personal experiences of the founders. Similarly, in the infrastructure case, despite the training of the TSE's founders at the University of California, Berkeley, conjuring a solution came only after spending time in India and learning-by-interacting with the water supply utility, and the potential value of easing the stress of the uncertainty of water supply for citizens.

With this understanding of needs, the technological and organizational design followed. In the health care case, the imaging device required two aspects to designing a new product to respond to the conditions of rural India. The first was use of ICTs, in the form of solid state electronics, instead of optics. The second was the ability to investigate five major diseases in a non-invasive manner so that dilation was eliminated. In the infrastructure case, there was no question of using a SCADA system - whether for reasons of expense or in terms of its relevance for an intermittent water supply. Thus there emerged a solution that was essentially

an IVR system with the ubiquitous mobile phone (many of which are not even smart phones) to address a widespread challenges in many urban areas.

But technology does not determine the device by drawing on their years of experience as employees of MNEs. But despite their training and experience, gaining acceptance for their innovation was a challenge. Finding a place in the device ecosystem not only required demonstrating superior performance but also overcoming the prejudice that any imported and pricier device was necessarily superior in terms of quality and fit. Acceptance had to wait until positive testimonials from early clients provided word-of-mouth advertising. Similarly, the TSE had to develop a model of crowd-sourcing for data aggregation and, in the process, found itself from redefining as not merely a provider of information for individuals but for municipalities.

Does the emergence of social enterprises and TSEs represent new possibilities for meeting the needs of the underserved and, more broadly, new possibilities for capitalism? While there are reasons to be optimistic about the shift in emphasis from the narrow metric of financial returns to encompassing the triple bottom line, caution is also in order. For instance, how patient will patient capital be and will meeting the goals of the triple bottom line be a case of putting a round peg in a square hole? Similarly, how will social entrepreneurs and TSEs sway in their position between for-profit and not-for profit ventures over time? Finally, some of the areas that the enterprises are venturing into, such as health, can be politically significant. Thus, in India, where NGOs have thrived, there are increasing limits being placed on their work and sources of funding state (Harneit-Sievers, 2016)

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