THE ROLE OF HYBRID ORGANIZATIONS IN SCALING SOCIAL INNOVATIONS IN BOTTOM-OF-THE-PYRAMID MARKETS: INSIGHTS FROM MICROFINANCE IN INDIA

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ABSTRACT

While social innovations that solve financial exclusion have gained increasing attention as a means of helping the poor in developing markets, little research has empirically investigated the types of organizations that drive these innovations to achieve scale. Hybrids, a type of organization that exist in-between traditional organizational forms, are said to have rapidly gained prevalence, especially in bottom-of-the-pyramid markets. Some scholars claim that hybrids are largely responsible for the spread of established social innovations, yet hybrids do not constitute a homogenous group; instead each hybrid form exists on a spectrum between pure for-profit and not-for-profit organizational forms. It is important that empirical research investigates the role that various hybrid forms play in scaling established social innovations, especially under various bottom-of-the-pyramid market conditions. To this end, using two market-level outcome measures of scale achieved (prevalence and usage), the authors pursue two research objectives: to study (1) the extent to which, alternative hybrid forms (not-for-profit, quasi-profit, and for-profit hybrids) drive social innovation; and (2) the relative propensity of these hybrid forms to drive social innovation under varying bottom-of-the-pyramid market conditions, specifically, varying levels of development and social diversity. By theorizing how different organizational forms act given their degree of hybridity, the authors develop and test six hypotheses using datasets on microfinance organizations in India. Accordingly, they find that (1) compared with not-for-profit and for-profit hybrids, quasi-profit hybrids have a propensity to become more prevalent and achieve greater usage in bottom-of-the-pyramid markets overall. Yet, within the spectrum of hybrid forms, (2) not-for-profit hybrids are more likely to become more prevalent and achieve greater usage in markets with lower development levels; whereas (3) for-profit hybrids are more likely to become more prevalent and achieve greater usage in markets with lower social diversity when compared with other hybrid-forms.

(293 words)

Key words: social innovation, hybrid organizing, bottom-of-the-pyramid markets

PRACTITIONER POINTS

- Across the spectrum of hybrid organizational forms (i.e., from for-profit to quasi-profit to not-for-profit hybrid forms), quasi-profit hybrid forms are more prevalent and achieve greater usage in subnational bottom-of-the-pyramid markets than for-profit or not-for-profit hybrid forms.
- Relative to the other hybrid organizational forms, not-for-profit hybrid forms are more prevalent and achieve greater usage in subnational bottom-of-the-pyramid markets with lower development levels.
- Relative to the other hybrid organizational forms, for-profit hybrid forms are more prevalent and achieve greater usage in subnational bottom-of-the-pyramid markets with lower social diversity levels.

INTRODUCTION

Social innovation has received significant scholarly and policy attention for at least 15 years, and is seen as an important means for achieving the United Nation's Sustainable Development Goals (UN, 2017). Social innovation is not limited to any one sector within society; it happens in all three traditional sectors – public, private and non-profit alike – and increasingly within non-traditional organizations that exist between these sectors (Nicholls and Murdock, 2012). In recent years, a growing number of scholars have suggested that 'much of the creative action is occurring at the boundaries between sectors' (e.g., Nicholls and Murdock, 2012; Tracey and Stott, 2017). It can be argued that this has led to the implicit and largely uncontested assumption that most social innovation is driven by hybrid organizations (or hybrids), which mix aspects of for-profit and non-profit paradigms to solve social problems while striving for economic viability (Battilana and Lee, 2014).

However, it remains that little is known about what kinds of organizations are the primary drivers of social innovation, despite calls to find out (e.g., Barczak, 2012:356). For example, Nicholls and Murdock (2012) trace the emergence of literature on the role of social innovations in solving market failures, including papers that describe the actions of private sector companies, governments, civil-society groups and hybrid cross-sector partnerships (e.g., Yasushi, Nishikido, and Tetsunari, 2007; Tapsell and Woods, 2008; Le Ber and Branzei, 2010). Similarly, in their conceptual paper, McKague, Wheeler and Karnani (2015) provide a framework that outlines the roles played by private sector, government and civil society actors (including hybrid forms) in driving social innovation targeting poverty alleviation. However, these papers do not include empirical tests of their conceptual arguments. Furthermore, empirical research on hybrid organizing has focused on single, distinct and homogenous forms rather than on organizations that engage in hybrid organizing to various extents. Indeed, a vast array of hybrid organizations exist. Dubb (2016) outlines at least six hybrid

forms (community wealth-building forms) that can be found outside of the three traditional sectors, including community development corporations, cooperatives, and social enterprises. It follows that prominent scholars have called for hybridity to be treated as a "matter of degree" whereby organizational forms can be categorized as more or less hybrid than rival forms (e.g., Battilana, Besharov and Mitzinneck, 2017:22), but research has not typically done so. Moreover, relatively little is known about how various contextual elements—such as socio-economic and cultural factors—influence the types of hybrids that may emerge and gain prevalence in a given environment. Thus, Kerlin (2012), for instance, outlines four unique national contexts and links these to the hybrid forms that emerge from them, before calling for research into additional contexts and resultant forms. Importantly, Coskun, Monroe-White and Kerlin (2019) call for additional quantitative research at the subnational-level of analysis that links contextual elements with the hybrid forms that emerge from them.

We address these gaps by developing and testing a theory about the relationship between different hybrid organizational forms and their propensity to drive the spread of a social innovation within various contexts. In particular, we empirically investigate what types of hybrid organizational forms are more likely to attain prevalence and achieve greater usage in bottom-of-the-pyramid markets, especially given market heterogeneity relating to varying levels of development and social diversity. To do this, we treat hybridity as a matter of degree by positioning the many hybrid forms that exist along a continuum ranging from traditional for-profit companies at one end to non-profit charities at the other (i.e., for-profit hybrids at one end, not-for-profit hybrids at the other end, and quasi-profit hybrids in between).

We pursue our research objectives within a bottom-of-the-pyramid context not only because these markets are understudied compared with developed markets (Ernst et al., 2015; Sheth, 2011; Chandy and Narasimhan, 2015), but also because they comprise most of the world's poor and vulnerable populations (Nakata, 2012) for whom social innovations are

largely designed (Lashitew, Bals, and van Tulder, 2018). Further, we focus on social innovation within the context of financial inclusion for two reasons. First, financial inclusion remains largely unsolved: approximately 2.5 billion adults around the world still do not have bank accounts (World Bank, 2014). And second, financial inclusion holds enormous potential: access to finance allows people to take advantage of entrepreneurial opportunities, invest in education, insure against risks, and save for retirement (Demirgüç-Kunt, Beck and Honohan, 2008).

We develop and test six hypotheses using panel data on microfinance organizations within subnational markets in India (2002–2006). We focus on microfinance as it has been described as the "quintessential social innovation" (Phills, Deiglmeier, and Miller, 2008:36), which can be viewed as a novel business model that can be adopted by entrepreneurs, as well as a novel product that can be adopted by consumers. Furthermore, as with most social innovation that occurs within bottom-of-the-pyramid markets, microfinance has been offered by organizations across the hybrid spectrum, from for-profit to not-for-profit organizational forms, and those in-between these extremes (Phills et al., 2008; Nicholls and Murdock, 2012).

Our empirical analysis shows that (1) compared with organizational forms closer to the ends of the hybrid spectrum (not-for-profit and for-profit hybrids), hybrid organizational forms towards the middle of the spectrum (quasi-profit hybrids) are indeed more likely to become more prevalent and achieve greater usage in bottom-of-the-pyramid markets. Furthermore, (2) not-for-profit hybrids have a propensity to become more prevalent and achieve greater usage in markets with lower development levels, whereas (3) for-profit hybrids have a propensity to become more prevalent and achieve greater usage in markets with lower social diversity when compared with other hybrid forms. Thus, our study sheds light on which organizational forms are more likely to drive an established social innovation

to scale in bottom-of-the-pyramid markets overall, as well as under various bottom-of-the-pyramid market conditions.

The article is organized as follows. First, our conceptual overview discusses social innovation, hybrid organizational forms, and what it means to 'drive' social innovation. Next, we introduce the *hybrid spectrum* as an organizing framework that we then use to motivate our hypotheses. The following section discusses our methodology and data, followed by the results. Finally, we discuss the key findings from our analysis, implications for research and practice, and limitations and avenues for future research.

CONCEPTUAL OVERVIEW AND HYPOTHESES

Social Innovation, Hybrid Organizational Forms, Prevalence and Usage

Although a plethora of definitions emphasizing different features of social innovation exist (Tracey and Stott, 2017), this article employs the following definition: "Social innovation is a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals" (see Phills et al., 2008:36). To have a significant societal impact, a social innovation—whether a physical good such as the clean-cookstove or a service such as microfinance—must spread and be used by large numbers of people. Organizations are important actors in this regard, and the type—or form—of the organization is likely to influence the spread of social innovations.

As this article is concerned with linking different organizational forms with their propensity to drive the spread of a social innovation within various contexts, we will turn to defining the following key concepts. First, an organizational form comprises a specific cluster of features that are shared by organizations that enact that form (Hannan and Freeman, 1986; Pólos, Hannan and Carroll, 2002). In contrast to developed markets where for-profit companies dominate, in developing markets not-for-profit entities such as non-governmental

organizations (NGOs) are also a common organizational form (Sheth, 2011). These two types are well-established and distinct, and so are often described as "traditional" or "pure" organizational forms (Battilana and Lee, 2014). In recent decades, however, hybrid organizations (or hybrids) have gained prevalence, especially in developing markets (British Council, 2015). The hybrid organizational form arises when organizations combine multiple pure forms (Hannan and Freeman, 1986) and combine different institutional logics—such as social and commercial logics—in unprecedented ways (Battilana and Dorado, 2010). These can include planned or deliberate combinations in the pursuit of new opportunities or unintentional combinations caused by unforeseen external change (Battilana and Lee, 2014).

Second, what does it mean to 'drive' social innovation? Following Seelos and Mair (2013; 2017:1), the social innovation process can be divided into two components: the act of *innovation* in which organizations create and develop ideas under conditions of uncertainty; and the act of *scaling* in which existing products or interventions are used to serve more people. In this article, we are concerned with the second component of social innovation because it is not innovation per se that creates impact, but rather the act of scaling that creates impact from innovation (Seelos and Mair, 2017).

It follows that the scale (i.e., spread)[i] achieved by a social innovation can be measured using supply-side outcome measures such as organizational uptake (e.g., Minkoff, 2002) or demand-side outcome measures such as customer usage (e.g., Nakata and Weidner, 2012). Since a defining feature of social innovations is that their value is designed to accrue to society as a whole rather than to individual actors (Phills et al., 2008), rather than focus on the performance of individual organizations, it is fitting to consider supply- and demand-side outcomes at the market-population level of analysis. Accordingly, we compare various hybrid forms in terms of market-level organizational *prevalence*—that is, the number of organizations that belong to a certain hybrid form—and market *usage* —that is, the size of the

financial inclusion sector attributed to a certain hybrid form relative to the size of the local economy. We now turn to hypothesizing about which hybrid forms are more likely to attain greater prevalence and usage in bottom-of-the-pyramid markets.

The Hybrid Spectrum and Social Innovation Scale Outcomes in Bottom-of-the-Pyramid Markets Overall

We continue to build our conceptual model and motivate our hypotheses by drawing from the hybrid organizing literature (Battilana et al., 2017), including the categories perspective on hybrids, which has its origins in organizational ecology (Hannan and Freeman, 1986; Hannan and Carroll, 1992). Accordingly, Figure 1 outlines the spectrum of organizational forms found in bottom-of-the-pyramid markets, with pure for-profit forms at one end and pure not-for-profit forms at the other. We hypothesize about various hybrid forms that exist in-between these extremes.

[insert Figure 1 near here]

Organizational logics and objectives. At each extreme of the hybrid spectrum, pure organizational forms aim to either maximize profitability or welfare, whereas organizations closer to the center of the spectrum deviate from these maximization objectives. Hybrids are distinct from pure forms because they combine different institutional logics—commonly social and commercial logics—in new ways to varying degrees (Battilana and Dorado, 2010). Hybrids experience growth challenges because of their dual social and commercial goals (Battilana et al., 2017). For instance, reconciling these two often conflicting goals may lead to a variety of internal tensions (Jay, 2013), and situations in which hybrids drift away from social goals toward commercial ones (Battilana and Lee, 2014).

Fit with resource niches. Driving the growth of organizations within a market are two types of expenditure: initial setup costs or capital expenditure (CapEx), and ongoing running costs or operational expenditure (OpEx). The sources and availability of each expenditure type within a resource niche can profoundly influence an organizational form's ability to gain

prevalence, in turn influencing the scale and usage achieved for a given social innovation. A research niche can be defined as the economic, social and political conditions that sustain the functioning of an organizational form (Hannan and Carroll, 1992). As pure organizational forms have become institutionalized over time, they are able to access unique resource niches (Battilana and Lee, 2014).

Pure not-for-profit forms can fund CapEx through a rich array of donations. Furthermore, as they are often bound by non-accumulation legislation (Simon, Dale and Chisolm, 2006), they are driven to fund OpEx through the same or similar means. Occupying the other end of the spectrum, pure for-profit forms can access an established array of investments—often by selling an equity stake, a route that is not available to not-for-profits—but are expected eventually to rely on trade (market exchange) to cover and then exceed OpEx requirements (Friedman, 2007).

In developing markets, hybrids exist in-between these extremes. Two characteristics distinguish hybrids from pure forms: (1) hybrids have the flexibility to meet CapEx requirements through a combination of philanthropic and investment sources yet (2) they are expected to meet (and ideally exceed) OpEx requirements through market exchange (Santos, Pache, and Birkholz, 2015). Despite this flexibility, lawmakers commonly reward pure organizational forms over quasi-profit hybrid forms that give more equal weightings to financial and social goals (Battilana and Lee, 2014). In addition, funding evaluators may perceive these hybrids as more risky because they face frequent pressure to comply with demands that could conflict with evaluators' interests (Battilana and Lee, 2014).

Tension between financial self-sufficiency and social impact. At one end of the spectrum, pure for-profit forms such as commercial banks are limited by the expectations placed on them by investors—and institutional norms more generally—to address social problems only insofar as such pursuits coincide with the creation and capture of value through

market-based exchanges (Prabhu, Tracey and Hasan, 2017). Yet, these entities will tend to avoid addressing social problems unless a project generates a return on investment that is above the cost of capital. It is in this 'zone' below the cost of capital that many people around the world face needs that are unmet by the market (and often also the state). It is also here that great opportunities for social impact exist. With regard to the scale achieved by a given social innovation, this surplus-generating operational structure allows profits to be reinvested to scale-up operations and drive prevalence and usage. Yet, a related downside is that these surpluses can instead be redistributed to shareholders or diverted to other market opportunities that have the potential to yield greater returns, thus crowding out the social innovation opportunity.

At the other end of the spectrum, rather than aiming for a minimum required return, pure not-for-profit forms such as traditional charities and NGOs are more concerned with the opportunity cost of alleviating suffering in another way, for another group, in another location. As a consequence, they are less concerned with financial self-sufficiency and are more willing to drive the prevalence and usage of a given social innovation in markets considered unattractive by other sectors. Yet, as pure not-for-profit forms cannot access commercial capital markets and must rely on donations to survive, they are less able to find financially viable long-term solutions to social problems—or access the funds for these solutions to achieve scale—limiting their ability to drive prevalence and usage for a given social innovation.

Prevalence and Usage Outcomes of Hybrid Forms in Bottom-of-the-Pyramid Markets Overall

We argue that hybrid forms closer to the center of the hybrid spectrum are more likely to attain greater prevalence and usage in bottom-of-the-pyramid markets overall for four reasons. First, unlike hybrids that more closely resemble pure for-profit forms (for-profit hybrids), hybrids closer to the center of the hybrid spectrum (quasi-profit hybrids) have lower

financial self-sufficiency thresholds. Rather than seeking economic profits, accounting profits are more likely to suffice. This affords them a greater propensity to pursue social innovation opportunities in bottom-of-the-pyramid markets, which are deemed relatively unattractive to for-profit hybrid forms. Second, because they are relatively more committed to social objectives than for-profit hybrids, quasi-profit hybrids are less likely to distribute surpluses to investors or divert resources to more profitable opportunities outside of a given social innovation activity. As such, they are relatively more likely to reinvest surpluses into scaling their social solution. Third, compared with hybrids closer to pure not-for-profit forms (not-for-profit hybrids), quasi-profit hybrids are more committed to solving social problems insofar as a financially sustainable market solution is available. While this lowers their relative social impact, it helps ensure that financially sustainable, and thus scalable, solutions, are sought. Finally, whereas not-for-profit hybrids are more dependent on donations and other philanthropic means to meet CapEx requirements, quasi-profit hybrids are able to meet these requirements directly from investors. This additional flexibility may act as a financial buffer and bolster their ability to spread a given social innovation.

Overall, at the organizational population level, we posit that, for a given social innovation, quasi-profit hybrids are adapted to balancing financial self-sufficiency with social impact requirements compared with hybrids toward the extremes of the spectrum (not-for-profit and for-profit hybrids). In turn, this affords them relative advantages in navigating the tensions faced by organizations engaging in social innovation, making them more prevalent and able to achieve greater usage within bottom-of-the-pyramid markets. Thus, we hypothesize that:

H1a: Relative to for-profit hybrid organizations and not-for-profit hybrid organizations, quasi-profit hybrid forms are more prevalent in bottom-of-the-pyramid markets.

H1b: Relative to for-profit hybrid organizations and not-for-profit hybrid organizations, quasi-profit hybrid forms achieve greater usage in bottom-of-the-pyramid markets.

The Hybrid Spectrum and Social Innovation Scale Outcomes under Various Bottom-of-the-Pyramid Market Conditions

We hypothesize that quasi-profit hybrids are more prevalent and achieve greater usage in bottom-of-the-pyramid markets overall, but they may not be ideally adapted to certain bottom-of-the-pyramid market conditions. A defining characteristic of bottom-of-the-pyramid markets is heterogeneity (Sheth, 2011). For instance, Nakata and Weider (2012) hypothesize that bottom-of-the pyramid market variations in the social context and the physical environment influence the likelihood, speed, and form of product adoption among the poor. Accordingly, we focus on two fundamental forms of market variation: physical heterogeneity (i.e., varying levels of development) and social heterogeneity (i.e., varying levels of social diversity).[ii] As such, the remaining hypotheses focus on the degree to which, relative to each other, various types of hybrids attain prevalence and greater usage under varying levels of these bottom-of-the-pyramid market conditions.

Prevalence and Usage Outcomes of Hybrid Forms in Bottom-of-the-Pyramid Markets with Varying Levels of Development

Perhaps the most prevalent form of heterogeneity in bottom-of-the-pyramid markets relates to development levels, in particular, the unequal provision of physical resources (Viswanathan and Sridharan, 2012; Sheth, 2011). Yet, scholars remain divided over the degree to which hybrids target consumers in less developed markets. The so-called mission drift thesis criticizes hybrids for focusing disproportionately on profitability instead of reaching more disadvantaged communities (Battilana and Dorado, 2010), yet only some studies have found evidence to support it (e.g., Cull, Demirgüç-Kunt and Morduch, 2007) while others have not (e.g., Mersland and Strøm 2010). Indeed, data reveal an ambiguous picture regarding the extent to which hybrids favor markets with lower development levels (Khan and Rabbani, 2015). This ambiguity may be the result of studies that do not take into account whether a

given hybrid has more in common with for-profit or not-for-profit organizations, instead grouping them together (Ault and Spicer, 2014 is a rare exception).

It is well established that development levels are positively associated with the provision of social needs, including better healthcare, finance and education (Viswanathan and Sridharan, 2012; Prabhu et al., 2017). Furthermore, if an unmet social need exists, there are at least three reasons for this market failure: a lack of awareness among buyers, a lack of accessibility, and a lack of affordability (Prabhu et al., 2017; Prahalad, 2010; Nakata and Weidner, 2012). Thus, all else being equal, the lower the development level, the more an organization will need to sacrifice its profitability to overcome these costly challenges.

Hybrids are distinct from pure forms because they combine different institutional logics in unprecedented ways (Battilana and Dorado, 2010). We argue that commercial logics dominate social logics in for-profit hybrids, relative to not-for-profit and quasi-profit hybrids. Further, because commercial logics emphasize directing resources toward profit maximization within legal constraints, for-profit hybrids are more likely to seek out more developed markets with greater social need provision. Well-documented financial reasons for prioritizing more developed markets that support commercial logics include benefiting from established customer tastes (Shen and Xiao, 2014), legitimacy building (Haveman, 1993), mitigating rivalry (Heggestad and Rhoades, 1978), and uncertainty avoidance (e.g. Baum, Calabrese and Silverman, 2000). Conversely, social logics dominate commercial logics in not-for-profit hybrids (relative to for-profit and quasi-profit hybrids). As social logics emphasize directing resources to those most in need, these organizations will focus on markets with lower development levels where substitutes are less available. Thus, we hypothesize that:

H2a: Relative to for-profit hybrid organizations and quasi-profit hybrid organizations, not-for-profit hybrid forms are more prevalent in bottom-of-the-pyramid markets with lower levels of development.

H2b: Relative to for-profit hybrid organizations and quasi-profit hybrid organizations, not-for-profit hybrid forms achieve greater usage in bottom-of-the-pyramid markets with lower levels of development.

Prevalence and Usage Outcomes of Hybrid Forms in Bottom-of-the-Pyramid Markets with Varying Levels of Social Diversity

Another defining characteristic of bottom-of-the-pyramid markets is heterogeneity in terms of social diversity (Sheth, 2011). This diversity can relate to languages, cultures, perspectives, values, social norms, individual aspirations, and desired benefits (Ansari, Munir and Gregg, 2012). Diversity within a population has been theorized to have both positive and negative economic effects. Positives arise from production complementarities, diversity of skills, and ideas (Alesina, Harnoss and Rapoport, 2016). Negatives are due to increased animosity between groups, policy disagreements, and conflict (Easterly and Levine, 1997). In addition to these forms of hardship, social diversity is commonly associated with greater income inequality (Dincer and Lambert, 2012; Milanovic, 2003), which in turn can have positive or negative economic effects (Alisena et al., 2016). Despite these mixed findings regarding economic outcomes, strong evidence indicates that social diversity is negatively associated with social capital, especially trust (Dincer, 2011). In bottom-of-the-pyramid markets, in order to mitigate the financial risks associated with adverse selection and asymmetric information, social innovations rely more on trust than their traditional alternatives (Churchill and Smyth, 2017). For example, microfinance is commonly administered through group lending schemes whereas traditional banking loans are not (Stiglitz, 1990). Likewise, credit provision for the purchase of products—such as solar energy systems for homes—rely more on trustworthiness checks than they do on formal collateral (Rivera-Santos and Ruffin, 2010). Furthermore, the usage achieved by an established social innovation depends on the ease with which it diffuses within a population of users (Rogers, 2003), with diffusion tending to be faster within social groups than across them partly due to higher inter-member trust (Swann, 2009). In more fractionalized markets with less inter-member trust, additional costs are incurred to overcome these barriers to diffusion including, for example, employing a more diverse salesforce (Sheth, Sisodia and Sharma, 2000). It follows that, all else being equal,

because more socially diverse communities suffer from lower trust, organizations that operate in them will experience greater risks to financial returns and greater barriers to diffusion, leading to reduced profitability.

As has already been established, social logics are concerned with targeting those customers who are most disenfranchised and commercial logics are associated with targeting customers who offer the greatest financial returns (Battilana and Dorado, 2010). Social logics dominate hybrid organizations closer to the not-for-profit end of the hybrid spectrum and commercial logics dominate hybrid organizations closer to the for-profit end. Therefore, we hypothesize that the lower levels of hardship and inequality associated with less socially diverse markets will dissuade not-for-profit hybrids from operating in such markets relative to other forms. Conversely, the reduced costliness associated with less socially diverse markets will encourage for-profit hybrids to operate in them relative to other forms. Thus, we hypothesize that:

H3a: *Relative to not-for-profit hybrid organizations and quasi-profit hybrid organizations, for-profit hybrid forms are more prevalent in bottom-of-the-pyramid markets with lower social diversity.*

H3b: *Relative to not-for-profit hybrid organizations and quasi-profit hybrid organizations, for-profit hybrid forms achieve greater usage in bottom-of-the-pyramid markets with lower social diversity.*

METHODS AND DATA

Empirical Context and Data Sources

An ideal empirical context to test our hypotheses would be (1) an emerging market country with (2) high levels of poverty, that is, a typical bottom-of-the-pyramid context. Furthermore, for the purposes of achieving greater internal validity it would also comprise (1) a single industry which involves social innovation, (2) a country which possesses sufficient variation in hybrid organizational forms and (3) a country with clearly delineated market boundaries. Several scholars note that comprehensive data on hybrids are notoriously hard to acquire (Dacin, Dacin, and Tracey, 2011). This is especially true of datasets that focus on the

subnational market as the primary unit of analysis and is magnified by the deficiencies in data infrastructure within developing markets (Chandy, Hassan and Mukherji, 2017).

Considering these empirical challenges, and the nature of our research objectives, we test our six hypotheses using a panel dataset (2002–2006) on microfinance in India, an empirical context that meets all the aforementioned requirements. First, India is an emerging economy (IMF, 2017) and is comprised of a wide spectrum of geographic regions with high levels of heterogeneity such as varying stages of development and institutional stability, giving it the characteristics that Sheth (2011) describes as unique to bottom-of-the-pyramid markets. Second, India has high levels of poverty with one in five—or 270 million—people living under the international poverty line (World Bank, 2016a). Furthermore, 25% of rural Indians and 14% of Indians in urban areas live below the poverty line. Third, research on hybrid organizations has identified microfinance organizations as an ideal form of hybrid and a quintessential social innovation (Battilana and Lee, 2014; Phills et al., 2008). Furthermore, microfinance in India is both large and mature, with our period of study corresponding to the industry's growth phase (Sriram, 2017). Fourth, the microfinance organizations studied correspond to three distinct organizational forms resembling for-profit hybrids, not-for-profit hybrids and quasi-profit hybrids. Finally, the subnational markets in which these organizations operate can be clearly delineated using the Central Statistics Office (CSO) official Level Two Administration Boundaries, referred to locally as 'states'.

Within microfinance, we use panel data on the prevalence of and usage achieved by microfinance Self-Help Group (SHG) Federations. This corresponds with our three hybrid forms within 28 Indian states. SHGs are sometimes referred to as lending circles (Thompson, 2011) or community savings groups (Karlan, 2014) and represent the dominant form of microfinance in India during our period of analysis (Gaiha and Nandhi, 2008).[iii] In India, a SHG refers to a group of 12–20 people from the same social class (usually poor women) who

meet regularly to contribute to a savings pool and develop financial literacy (Gadenne and Vasudevan, 2007). After demonstrating mature financial behavior over several months, group members are able to access bank credit without needing formal collateral at rates considered more favorable than those available in the informal sector (Gadenne and Vasudevan, 2007). As a solution to financial exclusion, the creation, promotion, and management of SHGs is attractive to organizations in achieving both social objectives and financial objectives (Gaiha and Nandhi, 2008).[iv] This makes them an ideal hybrid for study (Battilana and Lee, 2014). Furthermore, SHGs are widely considered a major social innovation within the financial inclusion space (Choi and Majumdar, 2015). They are considered a social innovation in several respects: they are a novel solution in terms of their business model (group lending) and product offering (noncollateralized loans for the poor and previously excluded) that is more effective, efficient, sustainable, and just than existing solutions (individual banking, etc.). Furthermore, the value of SHGs accrues primarily to society in the form of greater financial inclusion.

Our dataset was collected from publicly available reports released by NABARD, an Indian government body tasked with promoting and monitoring SHGs. Overall, NABARD, divides the industry into three organizational forms: *Model I*: those SHG Federations that are promoted, formed and managed by banks (for-profit hybrid organizational forms); *Model II:* those SHG Federations that are promoted and formed by NGOs but actively managed by banks (quasi-profit hybrid organizational forms); and *Model III:* those SHG Federations that are promoted, formed and managed by NGOs (not-for-profit hybrid organizational forms). A hybrid is, by definition, a combination of pure organizational forms that attempts to integrate previously separate institutional logics and features from different organizational forms (Battilana et al., 2017). Accordingly, we classify SHG Federations under *Model II* as quasi-profit hybrids because they are managed by a combination of bank and NGO staff (these

employees work together, and each have contact with SHG members). Conversely, we classify SHG Federations under *Model I* and *Model III* as for-profit and not-for-profit hybrid organizational forms respectively. This is because *Model I* Federations are managed solely by bank staff, putting them closer to the for-profit end of our hybrid spectrum; and *Model III* Federations are managed by NGO employees, putting them closer to the not-for-profit end of our hybrid spectrum. Our data document the formation of SHGs by each organizational form from 2002–2006. We chose these years because of data availability (certain metrics were not reported post-2006) and because, according to Sriram (2017), they correspond to the growth phase of this social innovation (inception: 1996–2001; growth: 2002–2008; maturity: 2008 onwards). Next, we provide a description of our dependent, independent, and control variables. A list of conceptual variables, measured variables and data sources is provided in Table 1.

Dependent Variables

Our first set of hypotheses (H_{1a}, H_{2a} and H_{3a}) concern the dependent variable, *prevalence,* defined as the number of organizations that belong to each hybrid form ($Prev_{it}$). As such, we measure prevalence as the number of SHGs formed in each year in each state under each organizational form (for-profit hybrid, quasi-profit hybrid and not-for-profit hybrids). $Prev_{it}$ was collected from NABARD and is used in the analysis of hypothesis H_{1a}. Since H_{2a} and H_{3a} are concerned with the ratio between each hybrid form, we use two different ratios: the ratio of number of not-for-profit hybrid organizations to the summation of quasi-profit hybrid forms and for-profit hybrid organizations ($PrevRatioNFP_{it}$); and the ratio of number of for-profit hybrid organizations to the summation of number of quasi-profit hybrid forms and not-for-profit hybrid organizations ($PrevRatioFP_{it}$). $PrevRatioNFP_{it}$ and $PrevRatioFP_{it}$ are used in the analysis of H_{2a} and H_{3a} respectively.

Our second set of hypotheses (H_{1b}, H_{2b}, H_{3b}) relates to the dependent variable, *usage achieved*, defined as the size of the financial inclusion sector (value of loans outstanding) attributed to a certain hybrid form relative to the size of the local market. This variable resembles a common measure of financial inclusion used by development economists referred to as banking usage or depth (World Bank, 2016b; Kuri and Laha, 2011). Banking usage captures the reality that even individuals with access to financial services may not use these services. Accordingly, this measure of usage is commonly adopted in addition to banking availability (which in turn corresponds with our measure of prevalence; Grohmann, Klühs and Menkoff, 2018). As our focus is already on the local market level of analysis, the value of loans outstanding in lakhs of Indian Rupees (one lakh =100,000) in each year in each state for each organizational form (for-profit, quasi-profit, and not-for-profit hybrids) captures usage achieved (*Usage*$_{it}$). *Usage*$_{it}$ was collected from NABARD and is used in the analysis of H_{1b}. Since H_{2b} and H_{3b} are concerned with the ratio between each hybrid form, we use two different ratios: the ratio of *Usage*$_{it}$ by not-for-profit hybrid organizations to the summation of *Usage*$_{it}$ by quasi-profit hybrid forms and for-profit hybrid organizations (*UsageRatioNFP*$_{it}$) and the ratio of *Usage*$_{it}$ by for-profit hybrid organizations to the summation of *Usage*$_{it}$ by quasi-profit hybrid forms and not-for-profit hybrid organizations (*UsageRatioFP*$_{it}$). *UsageRatioNFP*$_{it}$ and *UsageRatioFP*$_{it}$ are used in the analysis of H_{2b} and H_{3b} respectively.

Independent Variables

Regarding *development levels (DevLev^{NLDI})*, the distribution of nocturnal light is a powerful indicator of development (Elvidge, Baugh, Anderson, Sutton, and Ghosh, 2012). It was this realization that led to the collection of nighttime light data by the US Air Force Defense Meteorological Satellite Program (DMSP) across the planet. The dataset is derived from an annual composite of daily satellite images of the earth captured from 20:30 to 22:00 local time. Light-at-night satellite data correlate positively with poverty rates (% < $2 per day) and

the Multidimensional Poverty Index, and negatively with the Human Development Index and Electrification Rates (see Elvidge et al., 2012). These data are available at the subnational level, which is ideal for our analysis. Please note that this variable is coded such that high values indicate low levels of development, while low values indicate high levels of development (see Figure 2a).

[insert Figure 2 near here]

Our measure of *social diversity* (*SocDiv$_{it}$*) is a typical measure of ethno-linguistic diversity. We focus on ethno-linguistic diversity because it is a defining feature of bottom-of-the-pyramid markets (Churchill and Smyth, 2017) and is the most commonly measured form of social diversity in development economics (e.g., Easterly and Levine, 1997; Churchill and Smyth, 2017). We follow Churchill and Smyth (2017) and construct a linguistic fractionalization index using the Herfindhal index. The Herfindhal index suggests that where s_{ej} is the share speaking mother-tongue e in market j, $SocDiv_J = 1 - \sum_{e=1}^{N} S_{ej}^2$. This index captures the probability that two randomly selected individuals in a market belong to different ethno-linguistic groups. We construct the variable using Census of India data (linearly interpolated using 2001 and 2011 census reports) on the dominant mother-tongue adopted by each citizen in each state from 121 spoken languages recognized in India. This variable is coded such that high values indicate high levels of diversity, while low values indicate low levels of diversity (see Figure 2b).

Control Variables

Number of MFIs (MFI$_{it}$): Even though Grameen-style microfinance organizations (MFIs) were only just emerging in India during our period of analysis, they are potentially an indirect form of competition for SHG Federations. To account for any such competitive effects, we include the number of MFIs per state in our sample for each year.

Literacy rate (Lit$_{it}$): As it is possible that uneducated individuals may be less capable of turning their loans into viable enterprises (Ault and Spicer, 2014), which may in turn influence SHG outcomes, we control for the literacy rate in each state.

Social sector expenditure (SocExp$_{it}$): Government expenditure on socio-economic development in each state can influence the prevalence and usage outcomes of SHGs in each state. To account for this effect, we control for social sector expenditure in our analysis.

Election year (ElectYear$_{it}$): During election years, ruling parties generally implement expansionary economic policies that go over and above tactical resource allocation resulting from party competition (Vaaler, 2008). Thus, we defined an indicator variable to capture election year fixed effects for every state.

Sex ratio (SexRatio$_{it}$): As the primary target audience of SHGs is women, we control for sex ratio, which we measure as the number of women per 1,000 men in the state. We collect data on *SexRatio$_{it}$* for all states in our sample from 2002–2006.

Number of households (Households$_{it}$): As microfinance organizations, including SHGs, are attracted to markets with larger populations (Ault and Spicer, 2014), but allow no more than one borrower per household (Sharma and Zeller, 1997), we include the natural logarithm of the number of households (rather than of the total population) as a control in our analysis.

Geographic Size (Size$_i$): Since some authors argue that geographically larger markets may provide greater economies of scale than smaller ones (Prahalad, 2010), we also control for the geographic size of each state as measured in square kilometers.

Population Growth (PopGrowth$_{it}$): Following past research on explaining microfinance performance outcomes (e.g., Assefa, Hermes and Meesters, 2013), we also control for population growth in each state from 2002–2006.

Analytical Methods

We use a *t*-test for H_{1a} and H_{1b} and panel estimation to test H_{2a}, H_{2b}, H_{3a} and H_{3b}. Data from each state in each year (2002–2006) are used as the unit of analysis.

Specifically, in the analysis of H_{1a}, we use a *t*-test to compare the mean number of quasi-profit hybrid forms relative to the sum of for-profit hybrid and not-for-profit hybrid organizations across states over time. In the analysis of H_{1b}, we use a *t*-test to compare the mean value of loans disbursed by quasi-profit hybrid forms relative to the sum of the value of loans disbursed by for-profit hybrid organizations and not-for-profit hybrid organizations across states over time.

In the analysis of H_{2a}, we use the ratio of the number of not-for-profit hybrid organizations to the sum of quasi-profit hybrid and for-profit hybrid organizations (*PrevRatioNFP$_{it}$*) as the dependent variable and developmental level (*DevLev^{NLDI}*) as the independent variable. We include literacy rate (*Lit$_{it}$*), social expenditure (*SocExp$_{it}$*), number of micro-finance institutions *(MFI$_{it}$)*, election year (*ElectYear$_{it}$*), sex ratio (*SexRatio$_{it}$*), population growth (*PopGrowth$_{it}$*), number of households (*Households$_{it}$*) and geographic size (*Size$_i$*) as controls. A positive and significant coefficient for *DevLev^{NLDI}* will show support for H_{2a}.

In the analysis of H_{2b}, we use the ratio of the value of loans disbursed by not-for-profit hybrid organizations to the sum of the value of loans disbursed by quasi-profit hybrid and for-profit hybrid organizations (*UsageRatioNFP$_{it}$*) as the dependent variable, and developmental level (*DevLev^{NLDI}*) as the independent variable. We include the same eight control variables as with the previous hypothesis. A positive and significant coefficient for *DevLev^{NLDI}* will show support for H_{2b}.

In the analysis of H_{3a}, we use the ratio of the number of for-profit hybrid organizations to the sum of the number of quasi-profit hybrid and not-for-profit hybrid organizations (*PrevRatioFP$_{it}$*) as the dependent variable, and social diversity (*SocDiv$_{it}$*) as the independent

variable. As before, we include the same eight control variables. A negative and significant coefficient for $SocDiv_{it}$ will show support for H_{3a}.

In the analysis of H_{3b}, we use the ratio of the value of loans disbursed by for-profit hybrid organizations to the sum of the value of loans disbursed by quasi-profit hybrid and not-for-profit hybrid organizations ($UsageRatioFP_{it}$) as the dependent variable, and social diversity ($SocDiv_{it}$) as the independent variable. Again, we include the same eight controls as before. A negative and significant coefficient for $SocDiv_{it}$ will show support for H_{3b}.

RESULTS

The descriptive statistics and correlation matrix are presented in Table 2. H_{1a} predicts that relative to for-profit hybrid organizations and not-for-profit hybrid organizations, quasi-profit hybrid forms are more prevalent in bottom-of-the-pyramid markets. To support H_{1a}, a t-test should show that the number of quasi-profit hybrid forms is significantly greater than the sum of the number of for-profit hybrid organizations and not-for-profit hybrid forms. The t-test result in Table 3 supports H_{1a} ($p<.01$).

H_{1b} predicts that relative to for-profit hybrid organizations and not-for-profit hybrid organizations, quasi-profit hybrid forms achieve greater usage in bottom-of-the-pyramid markets. To find support for H_{1b}, a t-test should show that the value of loans disbursed by quasi-profit hybrid forms is significantly greater than the sum of the value of loans disbursed by for-profit hybrid organizations and not-for-profit hybrid forms. The t-test result in Table 3 supports H_{1b} ($p<.01$).

Before testing for H_{2a}, H_{2b}, H_{3a} and H_{3b}, we tested for collinearity, heteroskedasticity and normality of residuals. In our estimation we did not find evidence of multicollinearity; both the individual and mean variance inflation factors (VIF) are below the cutoff threshold level of 10 (Hair, Black, Babin, and Anderson, 2009; Kock and Lynn, 2012). For H_{2a}, H_{2b}, H_{3a}, and H_{3b}, we conducted the Breusch Pagan test (1979) and did not find any evidence of

heteroskedasticity. The panel data for H_{2a}, H_{2b}, H_{3a} and H_{3b}, were tested for normality of residuals using the Shapiro Wilk test (1965). The Shapiro Wilk test (1965) shows that the residuals are normally distributed for the panel data used in estimating H_{2a}, H_{2b}, H_{3a}, and H_{3b}.

Next, we turn to the tests for hypotheses H_{2a}, H_{2b}, H_{3a}, and H_{3b}. H_{2a} predicts that relative to for-profit hybrid organizations and quasi-profit hybrid organizations, not-for-profit hybrid forms (*PrevRatioNFP*$_{it}$) are more prevalent in bottom-of-the-pyramid markets with lower levels of development (*DevLev*^{NLDI}). We will find support for Hypothesis H_{2a}, if the coefficient of development level (*DevLev*^{NLDI}) is positive and significant in the panel estimation. Table 4 presents the results of the panel estimation. We find that the coefficient of development level (*DevLev*^{NLDI}) is positive and significant (.89, p<.01), in support of H_{2a}.

H_{2b} predicts that relative to for-profit hybrid organizations and quasi-profit hybrid organizations, not-for-profit hybrid forms (*UsageRatioNFP*$_{it}$) achieve greater usage in bottom-of-the-pyramid markets with lower levels of development. We will find support for H_{2b} if the coefficient of development level (*DevLev*^{NLDI}) is positive and significant in the panel estimation. As Table 4 shows, the coefficient developmental level (*DevLev*^{NLDI}) is positive and significant (.47, p<.05) in support of H_{2b}.

H_{3a} predicts that the ratio of the number of for-profit hybrid organizations to the sum of the number of quasi-profit hybrid and not-for-profit hybrid organizations (*PrevRatioFP*$_{it}$) is more prevalent in bottom-of-the-pyramid markets with lower social diversity (*SocDiv*$_{it}$). We will find support for H_{3a}, if the coefficient of social diversity (*SocDiv*$_{it}$) is negative and significant in the panel estimation. Table 5 presents the results of the panel estimation. We find that the coefficient of social diversity (*SocDiv*$_{it}$) is positive and significant (–11.26, p<.05), in support of H_{3a}.

H_{3b} predicts that the ratio of the number of for-profit hybrid organizations to the sum of the number of quasi-profit hybrid and not-for-profit hybrid organizations (*UsageRatioFP*$_{it}$)

achieves greater usage in bottom-of-the-pyramid markets with lower social diversity ($SocDiv_{it}$). We will find support for H_{3b}, if the coefficient of social diversity ($SocDiv_{it}$) is negative and significant in the panel estimation. Table 5 presents the results of the panel estimation. We find that the coefficient of social diversity ($SocDiv_{it}$) is positive and significant (-35.48, p<.05), in support of H_{3b}.

SUMMARY AND DISCUSSION

By theorizing about where organizations are located on a hybrid spectrum, this study attempts to empirically investigate what types of hybrid organizational forms are more likely to attain prevalence and achieve greater usage in bottom-of-the-pyramid markets, especially given market heterogeneity relating to varying levels of development and social diversity. By linking three hybrid forms to prevalence and usage outcomes at the market-level of analysis, we developed six hypotheses and tested these using a microfinance dataset, specifically on the formation and usage of SHGs within 28 Indian states. Our first set of findings (H_{1a} and H_{1b}) indicates that, compared to for-profit and not-for-profit hybrids, quasi-profit hybrids closer to the center of our spectrum, are more prevalent and achieve higher usage in bottom-of-the-pyramid markets overall. Our findings also indicate that, relative to competing hybrid forms, not-for-profit hybrids are more prevalent and achieve higher usage in less developed bottom-of-the-pyramid markets (H_{2a} and H_{2b}), while for-profit hybrids are more likely to achieve these two outcomes in bottom-of-the-pyramid markets with less social diversity (H_{3a} and H_{3b}). Overall, our study responds to calls for a more nuanced understanding of what organizational forms drive social innovation—in particular, the spread of existing social innovations focused on financial inclusion— and under which conditions (e.g., Barczak, 2012; Battilana et al., 2017). By theorizing about different hybrid forms instead of about hybrids in general, this is an initial attempt at empirically extending research that links bottom-of-the-pyramid market

contexts to the hybrid forms that attain greater prevalence and usage within them (e.g., Kerlin, 2009, 2012).

Implications for Research

First, our research contributes to the categories perspective on hybrids, which has its origins in organizational ecology and defines hybrid organizations as those that combine features associated with different organizational forms (Battilana et al., 2017; Ruef and Patterson, 2009; Minkoff, 2002; Ruef, 2000). Empirically, this stream has focused mostly on the market-level emergence of single hybrid forms in contexts such as healthcare (Ruef, 2000) and voluntary associations (Minkoff, 2002). Instead of hybrids as a single, homogenous form, we extend this stream of research by conceptualizing hybridity as a "matter of degree" (Battilana et al., 2017:3) in which hybrids can be placed on a spectrum. We also extend it by linking the emergence of various hybrid forms—via their relative prevalence and achieved usage—across and within various subnational bottom-of-the-pyramid markets over time. As such, we shed light on how the characteristics of resource niches associated with subnational bottom-of-the-pyramid markets encourage or constrain hybrids depending on whether they more closely resemble for-profit or not-for-profit forms.

Second, our study complements rich case studies and quantitative research that links unique resource contexts for social innovation with the hybrid forms that emerge, gain prevalence, and obtain users within them (e.g., Kerlin, 2009; 2012). This stream of literature typically employs a combination of national data on factors including GDP, international aid, infrastructure, and cultural traits and links them to the characteristics of hybrids that emerge. We extend this research by conducting a pioneering larger-*N*, quantitative study to test the links between context and form. Furthermore, we look beyond the country-level of analysis (Ault and Spicer, 2014) to important subnational market traits found in bottom-of-the-pyramid markets and find significant regional variation in forms. Within this literature stream,

Kerlin's (2012) model would suggest that contexts similar to the one that we analyze, which are characterized by high levels of collectivism and poorly functioning economic and governance institutions, encourage the prevalence of hybrid microfinance organizations. We extend this finding by theorizing about, and finding evidence for, the significant regional differences that exist in these hybrid microfinance forms given subnational heterogeneity in development and social diversity levels.

Third, rather than focusing on a single supply-side or demand-side outcome measure, by hypothesizing about scale as measured through the prevalence of organizational forms as well as through customer usage, our study addresses both of these. Apart from contributing to the robustness of our findings, this dual approach also allows us to contribute to supply-side oriented literature including the categories perspective on hybrids, which has its origins in organizational ecology (e.g., Minkoff, 2002). Furthermore, it allows us to contribute to literature on the diffusion of innovations (e.g., Rogers, 2003), which tends to be more concerned with predicting demand-side outcome measures.

Fourth, although it is well documented that hybridity tends to create internal and external organizational challenges and opportunities (e.g., Jay, 2013), most studies build theory through single or small case studies and therefore struggle to predict market-level outcomes (Lee, Battilana and Wang, 2014). This situation is compounded by the fact that comprehensive data on hybrids are notoriously hard to acquire (Dacin, Dacin, and Tracey, 2011) especially within developing markets (Chandy et al., 2017). By testing our research objectives quantitatively, we respond to these challenges. The dominance of quasi-profit hybrids relative to for-profit and not-for-profit hybrid forms revealed in our analysis suggests that opportunities afforded to hybrids may outweigh related challenges they face. Conversely, our analysis indicates that, when it comes to scaling an existing social innovation, not-for-profit (for-profit) hybrids may be afforded a relative advantage over other forms in bottom-of-

the-pyramid markets with lower development (social diversity) levels. Thus, while we cannot yet isolate the exact causal mechanisms, these findings shed light on the degree to which various challenges and opportunities may help or hinder different hybrids as vehicles for social innovations to achieve scale within bottom-of-the-pyramid contexts. Overall, our findings provide a nuanced contribution to the debate about how hybridity can be a help or a hindrance (see Battilana et al., 2017).

Implications for Practice

The findings provide useful managerial implications for entrepreneurs and managers engaged in the act of scaling up existing social innovations that address financial inclusion in bottom-of-the-pyramid markets. Furthermore, the results have implications for policymakers seeking to encourage their spread. First, our results suggest that, compared to for-profit and not-for-profit hybrids, quasi-profit hybrids closer to the center of our spectrum are more prevalent and achieve higher usage in bottom-of-the-pyramid markets overall. We argue that this may be because they have attributes that help them reconcile the tensions between social outcomes given financial constraints. These attributes include: (1) having the flexibility to acquire resources previously limited to either traditional charities or businesses despite being optimized for neither resource niche; (2) being driven to achieve financial self-sufficiency (un)like traditional businesses (charities), yet accepting lower expected profitability, and hence, having a lower market entry threshold compared with traditional businesses; (3) being less likely to crowd-out social innovation activities with more profitable ventures, in comparison to traditional profit-maximizing businesses due to the prominence of social objectives over their commercial objectives. Given these initial findings, managers and policymakers may be wise to favor quasi-profit hybrids as a vehicle for the spread of financial inclusion-focused social innovations within bottom-of-the-pyramid markets that resemble the Indian context studied.

Second, our results indicate that, compared to for-profit and not-for-profit hybrids, quasi-profit hybrids are not necessarily more prevalent or achieve greater usage in every bottom-of-the-pyramid context. In particular, our results show that not-for-profit hybrids are more likely to achieve our two outcome measures in bottom-of-the-pyramid markets with lower development levels, while for-profit hybrids are more likely to achieve them in bottom-of-the-pyramid markets with lower levels of social diversity. These findings imply that, when planning to enter a new bottom-of-the-pyramid market, a manager's ability to match their choice of hybrid form with market characteristics is likely to affect social innovation outcomes. For instance, it may be beneficial to set up hybrid organizations that more closely resemble not-for-profit forms in less developed markets. For policy makers, our findings could help inform legislation to better regulate the hybrid sector to encourage the spread of social innovations. For instance, as for-profit hybrids tend to attain prevalence in less socially diverse bottom-of-the-pyramid markets, they could be offered tax incentives for locating in more diverse areas. Overall, our findings imply that explicit consideration by practitioners about the suitability of organizational forms, given various market contexts and objectives, will lead to more informed decision-making in scaling existing social innovations.

Limitations and Avenues for Future Research

Our research is subject to several limitations, which provide opportunities for future research. First, while our theorizing examines the prevalence and usage outcomes of three distinct hybrid forms in bottom-of-the-pyramid markets, we test our hypotheses using data on microfinance organizations within a single developing market context, India. Although the SHG model is recognized as a major social innovation that addresses financial inclusion, is a dominant variant of microfinance that involves hybrid organizing, and is found in a wide array of developing countries (Thompson, 2011), a plethora of hybrid organizations exist. Our focus on a single hybrid industry and country helps to bolster internal validity, but further

research using data from other industries and countries will be valuable in ascertaining the generalizability of our findings. Kerlin (2012) identifies four social innovation contexts of which India represents just one. Future studies could examine hybrid forms in other contexts. For example, in *laissez-faire* contexts, typical of the United States and Australia, there has been a prevalence of new hybrid forms engaged in scaling social innovations to various extents. These include B-Corps, L3Cs and LLCs, which in turn can be mapped along a hybrid spectrum (see McMullen, 2018). It would be interesting to examine the prevalence and usage patterns attained by these forms given subnational factors that are relevant to these developed world contexts.

Second, we chose to focus on SHGs because they are widely considered a social innovation in terms of their business model (group lending) and product offering (noncollateralized loans for the poor and previously excluded). Furthermore, we focus on the degree to which three hybrid forms within this industry drive social innovation at the market-level of analysis as measured through prevalence and usage outcome measures. It follows that, for our measure of prevalence to accurately reflect the scale achieved by a social innovation, we rely on two assumptions: that each form is engaged in social innovation to the same degree, and that each form is engaged in the same type of social innovation. While we are confident that these assumptions hold within our context—as SHGs are largely homogeneous regardless of whether they are operated under *Models I*, *II* or *III*—they may not hold in other contexts. As such, we encourage researchers with access to more sophisticated datasets that account for greater within-firm variation in social innovation activities and outcomes, which in turn allow for the relaxation of these assumptions, to generate and test hypotheses that link other organizational traits with the scale achieved by social innovations. Such studies could also test the causal mechanisms that we outlined to motivate H_{1a} and H_{1b}. Furthermore, our dataset covers the growth period between inception and maturity within the

industry and country context. Future studies could investigate whether findings vary over longer time horizons or different stages in the life-cycle of a given social innovation.

Third, in comparing hybrid forms, our hypotheses currently adhere to an A>B structure whereby a single organizational form (e.g., not-for-profit hybrids) is contrasted with the other forms (e.g., quasi-profit and for-profit hybrids). While this approach aids simplicity and understanding, future researchers could test hypotheses that adopt an A>B>C structure whereby each hybrid form is rank-ordered. This approach will lead to an even more granular understanding of which hybrid forms drive the scale achieved by social innovations.

Fourth, it is possible that endogeneity may be present in this study due to an omitted variable that may affect both independent and dependent variables. It is also possible that other alternative explanations may account for our results. To address alternative explanations, we have included a number of controls that account for demographic phenomena (e.g., sex ratio), political influences (e.g., election year), and other market traits (e.g., social sector expenditure). In addition, the use of panel methods allows us to control for state- and time-specific heterogeneity which our explicit controls do not account for, thus helping us to further rule out alternative explanations. Nevertheless, future studies that account for possible endogeneity or include additional control variables can bolster the robustness of the findings. Furthermore, researchers could exploit the emergence of interesting new GIS datasets to build and test hypotheses that link the prevalence of various hybrid forms to other interesting conditions found in bottom-of-the-pyramid markets such as recent histories of localized social unrest or the propensity for natural disasters to strike.

Overall, in pursuing these research opportunities, we encourage future researchers to pay heed to Tracey and Stott (2017:58) who argue that, focusing on organizational processes, activities, and outcomes under the umbrella of social innovation presents researchers with an opportunity to move from 'advancing a narrow intellectual agenda in the service of

commercial elites, towards looking outwards and asking how organizations are altering our

society.' This article is an early attempt to do precisely this, and we hope it inspires further

work in the same vein.

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TABLE 1: Variables and Sources

Conceptual Variable	Measure	Data Source
Relative prevalence of for-profit organizations ($PrevRatioFP_{it}$)	Ratio of number of for-profit hybrid organizations to summation of number of quasi-profit hybrid forms and not-for-profit hybrid organizations	NABARD, 2002–2006
Relative prevalence of not-for-profit organizations ($PrevRatioNFP_{it}$)	Ratio of number of not-for-profit hybrid organizations to summation of quasi-profit hybrid forms and for-profit hybrid organizations	NABARD, 2002–2006
Relative usage of for-profit organizations ($UsageRatioFP_{it}$)	Ratio of *Usage* by for-profit hybrid organizations to summation of *Usage* by quasi-profit hybrid forms and not-for-profit hybrid organizations	NABARD, 2002–2006
Relative usage of not-for-profit organizations ($UsageRatioNFP_{it}$)	Ratio of *Usage* by not-for-profit hybrid organizations to summation of *Usage* by quasi-profit hybrid forms and for-profit hybrid organizations	NABARD, 2002–2006
Development level ($DevLev^{NLDI}$)	Night Light Development Index (NLDI) based on the distribution of nocturnal light	Light-at-night satellite data by the US Air Force Defense Meteorological Satellite Program
Social diversity ($SocDiv_{it}$)	Herfindhal index based on the share of each ethnic group in each state of India	Census of India, linear interpolation using 2001 and 2011 data
Number of MFIs (MFI_{it})	Number of MFIs per state in our sample for each year	Sa-Dhan annual reports, 2002–2006
Literacy rate (Lit_{it})	Percentage of literate population across each state in each year	Census of India, linear interpolation using 2001 and 2011 data
Social sector expenditure ($SocExp_{it}$)	Central government distribution of "grants-in-aid" for socio-economic development to individual states in each year.	India's Ministry of Finance, 2002–2006
Election year ($ElectYear_{it}$)	Capture election-year fixed effect for every state	Election Commission of India, 2002–2006
Sex ratio ($SexRatio_{it}$)	Number of women per 1,000 men in each state in each year	Census of India, linear interpolation using 2001 and 2011 data
Population growth ($PopGrowth_{it}$)	Ratio of difference in population in year t and $t–1$ with population in year $t–1$	Census of India, linear interpolation using 2001 and 2011 data
Number of households ($Households_{it}$)	Natural logarithm of the number of households in each state in each year	Census of India, linear interpolation using 2001 and 2011 data
Geographic size ($Size_i$)	Geographic size of each state as measured in square kilometers	Office of the Registrar General, India

TABLE 2: Descriptive Statistics and Correlation Matrix

Variable	M	SD	Min.	Max.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. $PrevRatioFP_{it}$	1.13	5.50	0	47.19	1.00													
2. $PrevRatioNFP_{it}$	.09	.21	0	1.45	-.04	1.00												
3. $UsageRatioFP_{it}$	.08	.22	0	1.91	.71***	-.01	1.00											
4. $UsageRatioNFP_{it}$	.86	2.60	0	24.86	.01	.88***	-.03	1.00										
5. $DevLev^{NLDI}$	.76	.12	.41	.98	.05	-.01	.14	-.02	1.00									
6. $SocDiv_{it}$	.43	.23	.06	.93	-.04	-.25**	.07	-.14	.44***	1.00								
7. Lit_{it}	83.23	39.33	48.48	228.47	-.03	.28**	-.05	.13	-.44***	-.32**	1.00							
8. $SocExp_{it}$	58.65	50.95	3.1	242.7	-.01	.07	-.05	.05	-.41***	-.48***	.09	1.00						
9. $ElectYear_{it}$	.20	.40	0	1	-.07	-.07	-.05	-.05	-.05	-.04	.06	.01	1.00					
10. $SexRatio_{it}$	935.28	47.57	825.7	1071	.04	.50***	.07	.35***	.04	-.32**	.21*	.06	.01	1.00				
11. MFI_{it}	4.53	5.87	0	26	.01	-.08	-.07	-.07	-.51***	-.29***	-.06	.74***	.01	-.01	1.00			
12. $PopGrowth_{it}$	.02	.01	4.82×10^{-3}	.03	-.20*	.08	.08	.07	.32**	.22*	-.55***	-.25	.06	-.28*	-.23*	1.00		
13. $Households_{it}$	14.97	1.76	11.34	17.38	.14	.02	.01	.01	-.43***	-.58***	-.10	.73***	.03	.10	.58**	-.05	1.00	
14. $Size_i$	118209	105033	1483	342239	-.15	.01	.01	-.17	-.14	-.32***	-.34***	.55***	.55	-.11	.45***	.09	.58***	1.00

*(p<.05), **(p<.01), ***(p<.001); t-stats are in parentheses; results are from two-tailed tests.

TABLE 3: T-Test Results for H$_{1a}$ and H$_{1b}$

	Mean for Quasi-Profit Hybrids	Mean for Sum of For-Profit and Not-for-Profit Hybrids	P-value
Prev (**H$_{1a}$**)	30,584.75	11,707.61	.0024
Usage$_{it}$ (**H$_{1b}$**)	1,425.93	345.91	.0047

TABLE 4: Panel Regression with Not-for-Profit Hybrid Forms

	PrevRatioNFP$_{it}$	*UsageRatioNFP$_{it}$*
DevLev^{NLDI} (**H$_{2a}$**)	.89** (2.86)	
DevLev^{NLDI} (**H$_{2b}$**)		.47* (2.53)
Lit$_{it}$	1.57 X 10^{-3**} (2.99)	8.18 X 10^{-4*} (–2.35)
SocExp$_{it}$	1.65 X 10^{-4} (.48)	9.47 X 10^{-3} (2.64)
ElectYear$_{it}$	–.02 (–.86)	.01 (.70)
SexRatio$_{it}$	2.52 X 10^{-3} (5.55)	2.64 X 10^{-3} (5.53)
MFI$_{it}$	–5.41 X 10^{-3} (–1.78)	–6.01 X 10^{-3*} (–2.04)
PopGrowth$_{it}$	–1.94*** (–4.08)	5.98*** (4.00)
Households$_{it}$	.06*** (4.58)	3.74 X 10^{-3} (.88)
Size$_i$	–2.11 X 10^{-7***} (–4.58)	–2.61 X 10^{-7***} (–3.81)
Intercept	–3.88 X (–4.63)	–2.99*** (–4.97)
N	145	145

*(p<.05), **(p<.01), ***(p<.001); *t*-stats are in parentheses; results are from two-tailed tests.

TABLE 5: Panel Regression with For-Profit Hybrid Forms

	PrevRatioFP$_{it}$	*UsageRatioFP$_{it}$*
SocDiv$_{it}$ (**H$_{3a}$**)	–11.26* (-2.09)	
SocDiv$_{it}$ (**H$_{3b}$**)		–35.48* (–2.01)
Lit$_{it}$	–.06 (–.92)	–4.75 X 10^{-3} (–.16)
SocExp$_{it}$	–.27 (–1.41)	–.53 (–1.79)
ElectYear$_{it}$	–6.59 (–.64)	–7.16 (–.73)
SexRatio$_{it}$	.12 (1.14)	.15 (.65)
MFI$_{it}$	–.47 (-.56)	.59 (.39)
PopGrowth$_{it}$	660.74 (1.40)	183.56 (1.37)
Households$_{it}$	6.38 (1.04)	7.50 (1.56)
Size$_i$	8.37 X 10^{-6} (.60)	2.96 X 10^{-5} (1.43)
Intercept	–190.23 (–1.08)	–206.79 (–1.43)
N	145	145

*(p<.05), **(p<.01), ***(p<.001); *t*-stats are in parentheses; results are from two-tailed tests.

[i] In this article, the terms scale and spread are used interchangeably.

[ii] Social diversity has been shown to both positively and negatively affect economic development (e.g. Alesina, and Ferrara, 2005; Montalvo and Reynal-Querol, 2016). Most recently, upon comparing the degree to which social diversity versus a conceptually distinct variable, ethnic inequality, affects development levels, Alesina, Michalopoulos and Papaioannou (2016) conclude that it is not the former but the latter that is correlated with development. In other words, they find that it is not social diversity per se, but the horizontal inequalities across ethnic and linguistic lines that are a feature of undeveloped societies. As such, even if some degree of conceptual or empirical overlap between social diversity and development levels exists, we argue, in accordance with several prominent economists referenced herein, that it is worthwhile hypothesizing about and studying these concepts separately.

[iii] Estimates suggest that at the end of our period of analysis (2002–2006), there were 2,225,426 SHGs (NABARD, 2007) versus only 190 Grameen style microfinance organizations (Sa-Dhan, 2008).

[iv] It has been noted that, unlike commercial sector loans, SHG loans offer a higher financial margin and have close to 100% on-time payment performance (Gaiha and Nandhi, 2008).