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HYBRIDS OF HYBRIDS? PLURAL FORMS OF COLLABORATION AND THE SOCIAL VALUE OF PUBLIC INITIATIVES

Abstract

Although public initiatives often involve multiple collaborative (hybrid) arrangements between for-profit, nonprofit, and public actors, we still lack a consolidated framework explaining how a single public initiative can involve multiple types of collaboration in tandem. We examine three concurrent hybrids—public collaborations with for-profit firms, with non-profit organizations, and between units of the public bureaucracy—and use fuzzy set qualitative comparative analysis (fsQCA) to unveil configurations consistent with social value creation (evidence of social impact) based on a unique set of 24 public initiatives in Brazil, India, and South Africa. We find configurations involving multiple or plural types of collaboration (“hybrids of hybrids”) and inductively propose theoretical mechanisms explaining contingent synergistic effects of those hybrids as a function of their resource complementarity and perceived legitimacy.

Key words

Public-private collaboration, hybrid forms, social value, social impact, public services

INTRODUCTION

A thriving new field in strategic management has examined how economic actors can deploy their resources and capabilities to address pressing social needs (Agarwal, Barney, Foss, and Klein, 2009; Klein, Mahoney, McGahan, and Pitelis, 2013; Mahoney, McGahan, and Pitelis, 2009). Reflecting this trend, research has scrutinized *hybrid* forms of governance whereby public and private actors pool their resources and recombine existing capabilities to support innovations with high social value (Cabral, Lazzarini, and Azevedo, 2013; Kivleniece and Quelin, 2012; Rangan, Samii, and Van Wassenhove, 2006; Rufín and Rivera-Santos, 2012). Interestingly, this new trend in strategy converges with important new directions in the field of public management. After decades of research on how to increase the efficiency of public bureaucracies (Hood, 1991), the field is moving towards a more synergistic view of public action describing how multiple actors, public or private, can effectively create value in the form of tangible societal benefits (Bryson, Crosby, and Bloomberg, 2015; Moore, 1995).

Collaboration, however, remains a complex phenomenon; socially-oriented actors can interact and generate social value in myriad ways. Although the extant literature has improved our understanding of how particular forms of collaboration work—such as public-private partnerships involving for-profit private actors (Engel, Fischer, and Galetovic, 2014; Kivleniece and Quelin, 2012) or alliances between public actors and nonprofit organizations (Alexander and Nank, 2009; Bennett and Iossa, 2009; Gazley and Brudney, 2007)—in practice we often observe that multiple forms of collaboration are not only common but also used *in tandem* (Andrews and Entwitle, 2010). For instance, the municipality of Curitiba, in Brazil, designed an innovative bus rapid transport (BRT) system to provide fast, low-cost transportation to local citizens, later adopted in several countries (Lindau, Hidalgo, and Facchini, 2010). The project involved a complex array of collaborations, including alliances within and outside the public bureaucracy. For example, the Swedish multinational Volvo helped to design customized buses and innovative bus stops (“public-private” collaboration); local, nonprofit research centers provided technical support and training to the workforce (“public-nonprofit” collaboration); and the city government orchestrated a web of internal partnerships between state units such as the public transport authority and urban planning institute (“public-public” collaboration).

Despite the apparent importance of these hybrids, there is still little understanding of how alternative forms of collaboration might differ from each other and the conditions in which they might be combined to generate social value. Should we expect a synergistic combination of various types of collaboration? Which conditions will increase the odds that different combinations of collaboration-type will succeed? We examine these questions using a multiple-case comparative study of 24 public initiatives in Brazil, India, and South Africa. These countries are large emerging economies that suffer from a deficit of essential public services for a substantial portion of their population, combined with many voids related to poor infrastructure and access (Khanna and Palepu, 2013). These voids, however, are not uniform: even in

emerging markets it is possible to find effective public bureaucracies conducting socially-oriented innovations, often at a local level (Tendler, 1997). This feature allowed us to find projects with heterogeneous performance with robust evidence of social value creation. Namely, we searched for projects for which there were sufficient data or existing impact assessment studies allowing us to check not only the performance of the project per se, but also its *counterfactual*: that is, what would probably have happened to the target population if the project had not been implemented (Donaldson, Christie, and Mark, 2015; Kroeger and Weber, 2014).

We use fuzzy set qualitative comparative analysis (fsQCA) to examine multiple collaborative configurations consistent with high impact (Rihoux and Ragin, 2009). This technique is appropriate in our context given the number of successful and failed cases in our sample—not large enough for traditional econometric analysis but not small enough for qualitative cross-case comparison. Starting from the coding of conditions leading to observable outcomes, QCA applies Boolean algebra to arrive at multiple “solutions” or combinations of conditions consistent with success (Fiss, 2007). Importantly, our analysis unveils what we refer to as collaboration *plurality*. Instead of focusing on the effect of each type of alliance, we find conditions through which multiple alliance types can *jointly* help create social value. Following previous studies in management (Bell, Filatotchev, and Aguilera, 2014; Campbell, Sirmon, and Schijven, 2016), we use our fsQCA results to inductively propose a new theoretical framework on how plural collaborative forms promote social value depending on a host of contextual factors, including local characteristics of the political and economic environment.

In this sense, our work brings important contributions to the literature. Advancing existing discussions in strategic management on the interdependence between public and private interests (Agarwal et al., 2009; Mahoney et al., 2009), we provide new evidence that successful public initiatives often “mix and match” distinct types of collaboration and propose a new theoretical framework explaining their synergistic effects. In line with previous work examining

the plurality of organizational decisions (Bradach and Eccles, 1989; Ménard, 2013; Parmigiani, 2007), we explain the emergence of plural *hybrid* forms where distinct types of collaboration complement one another in discrete configurations resembling “hybrids of hybrids” (e.g. public initiatives supported by collaborations with for-profit *and* nonprofit firms). We propose that distinct types of collaboration differ in their perceived legitimacy and the heterogeneous resources brought by internal and external partners. Given these two factors, we submit that the synergistic effect of distinct collaborations is contextual. For instance, the legitimacy of public-private ties increases when governments face resource scarcity, while the risk that these for-profit actors will over-emphasize narrow economic objectives can be tempered by the simultaneous engagement of socially-oriented nonprofits.

We also show that private participation in social initiatives, far from simply acting as a substitute for inefficient governments (e.g. Auerswald, 2009: 54), actually requires concurrent public action in the form of internal (public-public) collaborations between units *within* the public bureaucracy, which have been relatively understudied (Andrews and Entwistle, 2010; Cabral and Krane, Forthcoming). In addition, our analysis reveal that an apparent necessary condition for multiple hybrids to work is the presence of strong *public operational capacity* to lead and execute value-creating initiatives (e.g. Moore, 1995). An important implication is that the analysis of interdependent public-private action should incorporate processes and capabilities *inside* governments, thus calling for more dialogue and conceptual integration between strategy and public administration scholarly work focused on the determinants of social value.

THEORETICAL BACKGROUND: COLLABORATION FOR SOCIAL VALUE

Interdependent Public and Private Interests in Strategic and Public Management

A recent movement in strategic management has tried to improve our understanding of how public and private actors can interact to address societal issues (Barney, 2005; Hitt, 2005; Mahoney, McGahan and Pitelis, 2009), and jointly stimulate innovations in the public interest

(Klein, Mahoney, McGahan and Pitelis, 2010). Although early work has viewed public action as an external, catalytic force affecting the costs of private entrepreneurship (Porter, 1990), we now have discussions describing how public and private actors can collaborate to craft initiatives in their mutual interest (McGahan, Zelner and Barney, 2013; Cabral, Lazzarini, and Azevedo, 2013; Klein, Mahoney, McGahan, and Pitelis, 2013). More precisely, initiatives triggered by public and private actors can create *social value*, defined as all the tangible benefits that these initiatives generate to local communities and all relevant stakeholders (Kivleniece and Quelin, 2012; Kroeger and Weber, 2014; Mahoney et al., 2009; Porter and Kramer, 2011). Recognition of the complex interplay between public and private actors opens new questions on how their interaction drives the creation of public value.

Aligned with this new trend in strategic management, a new research stream called Public Value Management (PVM) considers that public value is created when all relevant actors, public or private, craft projects aligned with citizens' preferences and needs at a reasonable cost (Bozeman, 2007; Moore, 1995). Thus, the concept of *public* value adopted in PVM is well aligned with concepts of *social* value in strategic management. Although discussions in strategic management tend to overemphasize the role of private firms in addressing societal needs (e.g. Porter and Kramer, 2011; Prahalad, 2004), the concepts overlap if we consider that all actors, public or private, can generate tangible benefits to well-defined target populations (Bryson et al., 2015). Also, rather than assuming a marked division between public and private roles, PVM sees a more encompassing collection of multiple parties trying to create and sustain value-creating collaborations (Brown and Potoski, 2003; Bryson et al., 2015; Stoker, 2006). Therefore, both literatures have converged towards a more collaborative, relational approach of how interdependent public and private actors can promote social value.

Forms of Collaboration and their Effect on Initiatives for Social Value

Given this convergence between strategic and public management on the importance of collaborative efforts to create social value, a natural question emerges: Which types of collaboration are conducive to superior social value, and under which conditions? Below we examine the benefits and costs of three types of hybrids: public collaborations with for-profit firms (which we refer to as “public-private”), with non-profit organizations (“public-nonprofit”), and between multiple units of the public bureaucracy (“public-public”).

Public-Private Collaboration. This type is perhaps the most studied form of collaboration in the economics and management literatures. There has been substantial work on so-called public-private partnerships, whereby governments craft and sponsor activities that are executed and partially funded by private firms (Bennett and Iossa, 2006; Engel et al., 2014; Kivleniece and Quelin, 2012). An advantage of those partnerships is that they can marshal complementary *resources and capabilities* possessed by public and private actors (Fabrizio, 2012; Rangan et al., 2006). Thus, private firms can bring their external experience from previous projects, proprietary technology, and extra funding capacity, whereas governments can sponsor socially-relevant activities and define parameters for effective social interventions. Also, if public-private partnerships involve profit-oriented firms, then their typical higher-powered incentives promote superior capabilities for efficient execution, leading to lower costs and higher productivity (Cabral et al., 2010, 2013; Engel et al., 2014).

Yet these higher-powered incentives also create a risk that private operators will emphasize cost reduction at the expense of service quality and other relevant externalities that would otherwise increase social value (Hart, 2003; Williamson, 1999), especially in the case of exchange dimensions that are more difficult to measure and enforce (Brown and Potoski, 2003; Hart, Shleifer, and Vishny, 1997; Levin and Tadelis, 2010). Williamson (1999), in particular, talks about the need to preserve *probity* in public activities, which can be undermined by the profit-based motivation of private firms. The participation of for-profit firms in public services

is also normally criticized on the grounds that these services are the responsibility of governments and should emphasize social instead of economic goals (Dahl and Soss, 2014). Recent research in strategic management has emphasized how stakeholder groups, including beneficiaries, activists and even members of the public bureaucracy, may oppose “privatization” initiatives that are seen as exploiting public resources for private gain (Henisz, Dorobantu, and Narthey, 2014; Henisz and Zelner, 2005; Lamin and Zaheer, 2012). In a similar vein, PVM scholars stress the role of societal norms and principles in dictating the perceived *legitimacy* of how public services are delivered (Bozeman, 2007; Moore, 1995). Therefore, the degree of perceived legitimacy plays an important role when making judgements about the relative benefits and risks of including for-profit partners.

Public-Nonprofit Collaboration. This type of collaboration occurs when the public sector engages in joint activities with nonprofit firms such as institutes, foundations, or civil society organizations more generally. Although relatively less studied than more traditional public-private partnerships, these alliances are pervasive in the public sector (Gazley and Brudney, 2007; Valero and Jang, 2016). Nonprofits contribute with distinct sets of resources and capabilities that are normally not found in for-profit organizations. First, they tend to be mission-driven and specialized in particular social issues, leading them to focus on objectives and outcomes that are more aligned with a well-defined group of beneficiaries (Drucker, 1989; McDonald, 2007). Second, the incentives of nonprofits are not as high-powered as the incentives of for-profit firms, since their managers do not capture a substantial portion of the organization’s residual cash flow (Fama and Jensen, 1983). These features mitigate the aforementioned hazard of private partners focusing on efficiency at the expense of social benefits (Bennett and Iossa, 2009). Thus, compared to public-private collaborations, public-nonprofit ties tend to increase the perceived legitimacy of private engagement, potentially increasing the

confidence of public officials that nonprofits will put greater emphasis on the social needs of target populations (Witesman and Fernandez, 2013).

Yet public-nonprofit collaborations are far from a panacea. They may lack the specialized, proprietary knowledge possessed by for-profit firms, especially in the case of public initiatives that require novel and advanced solutions. By having restricted cash flow rights, managers of nonprofits will tend to face less pressure to perform, unless they are intrinsically motivated or subject to competitive pressure to attract sponsors (Glaeser, 2007). In other words, the lower-powered incentives of nonprofits can be a source of advantage to increase their perceived legitimacy, though this may become a liability if the public project requires efficient and cost-effective project execution.

Public-Public Collaboration. Far from being monolithic, governments often have a web of specialized structures dealing with diverse activities such as project design, legal enforcement, and service delivery. Especially in the case of governments overseeing large populations, unified structures were progressively replaced with more disaggregated structures focusing on narrower, specialized tasks (Greer, 1994). Although increased decentralization allowed for more autonomous decision making and localized learning, it also created the challenge of coordinating efforts among interdependent public units (Sen, 1976). To increase the effectiveness of policy making and implementation, governments had to devise integrating mechanisms to foster interaction among increasingly autonomous units (Boston, 1992; Peters, 1998). In this environment, public-public collaborations have emerged as the coordinated effort of two or more public agencies to jointly plan and execute integrative projects. These collaborations can occur either across distinct government units (Agranoff and McGuire, 2004), as in the case of partnerships between federal and municipal agencies, or between units of the same government.

Compared to the hybrid forms discussed earlier, public-public ties have been relatively less studied (Andrews and Entwitle, 2010). Consider, for instance, the organization of large

events in metropolitan areas (e.g. Cabral and Krane, Forthcoming). In events mutually sponsored by federal and local governments, intergovernmental coordination is necessary to properly allocate financial resources and carry out all necessary public investment in infrastructure and management resources. There must also be intense intragovernmental action involving units responsible for policing, urban transport, and all relevant support services in order to guarantee the security and orderly execution of all planned activities. Essentially, these public-public collaborations can be considered a form of *internal* hybrid (Zenger and Hesterly, 1997), given that they promote internal coordination and resource mobilization among more or less autonomous public units. By relying on internal (public) resources, they tend to be perceived as more legitimate than external collaborations. However, an exclusive focus on public-public ties precludes access to the heterogeneous—and potentially complementary—resources possessed by external actors, thereby limiting value-creation potential.

Although scholarly work on all these forms of collaboration have advanced our knowledge of how hybrid arrangements can support the creation of social value, the vast majority of studies tend to focus on each collaboration type in isolation. Even in cases where these multiple alliances are jointly assessed (e.g. Andrews and Entwitle, 2010), there is scant research effort on how multiple collaborations *complement* one another. Our previous discussion showed that often the shortcomings of one type of collaboration can be a source of advantage for another type. Thus, there is reason to believe that multiple, plural partnerships between governments, for-profit firms, and nonprofits can generate important synergies. Different combinations of partners will bring different relative contributions of perceived legitimacy and resources. In other words, we still need to understand how and under what conditions *plural* forms of collaboration—mixing different types of collaboration—occur and potentially lead to value-creating public initiatives. Our multiple-case methodology, described next, was designed

to empirically observe the outcomes of multiple collaborations and inductively generate a new theoretical framework to explain how these hybrids of hybrids can influence social value.

DATA COLLECTION AND METHOD

Case Selection

We built a sample of 24 public service initiatives in Brazil, India, and South Africa. Municipal-level projects were chosen in order to allow better comparability across these diverse economies. All three countries are large, emerging economies (Pelle, 2007) that, given their stage of development, still face important voids in infrastructure and public services (Khanna and Palepu, 2013). To ensure a balanced sample of countries and types of programs, we identified four sectors representing critical public services for the target populations: education, transportation, urban planning, and bureaucratic services (e.g. services to issue public documents or obtain useful information). In each sector and country, we searched for projects where we could show evidence of strong positive social impact (successes), as well as projects with evidence of no positive social impact (failures).

The criterion for labeling a case as “successful” was based on evidence of positive social value. Following our previous discussion, we consider that social value is created when a public initiative generates novel and tangible gains valued by the target populations (Auerswald, 2009; Kivleniece and Quelin, 2012; Moore, 1995). Our operationalization of social value creation then follows what has been termed as social *impact*, that is, increases in relevant social dimensions compared to a counterfactual, that is, an estimate of what would have occurred without the project (Kroeger and Weber, 2014). This approach, commonly used in the impact analysis of public policies (Donaldson, Christie, and Mark, 2015), follows the rationale of a scientific experiment: the public initiative is considered a “treatment” that can generate positive impact as long as its outcomes are superior to those of a comparable group not subject to the intervention, which serves as a counterfactual. Thus, instead of simply observing whether the initiative was

successfully implemented or generated positive results on its own, we also need to gather evidence on what happened to comparable groups outside the domain of the project.

For instance, in 1997 a “one-stop shop” was implemented in the city of Sao Paulo, Brazil, to help citizens obtain driver licenses and other official documents. The objective was to reduce the time spent by citizens across a variety of bureaucratic institutions and to reduce the effect of costly intermediaries, a critical problem in emerging countries (e.g. Stone, Levy, and Paredes, 1996). The new service, labeled “Poupatempo” (in English, “save time”), was very well received and consequently implemented in several cities. To assess the impact of the initiative, Fredriksson (2016) used a differences-in-differences technique comparing the time spent by citizens in municipalities with and without Poupatempo, before and after the implementation of the service in the period 2008-2010. The study found that Poupatempo reduced the time spent on driver license renewals by 29%, compared to the regular service provided by the state. Total time savings for the citizens (as an opportunity cost) were estimated to have an economic impact of \$10.4 million reais per year (around \$3.2 million dollars). This initiative therefore generates social value by reducing the time wasted at inefficient public service centers, allowing citizens to reallocate their time towards more valuable activities. We thus consider the assessed impact of the project as an empirical indicator of social value creation (Kroeger and Weber, 2014).

With this criterion in mind, we conducted a broad review of evaluation studies of public service initiatives in municipalities across our three target countries. We searched for cases with existing impact assessment studies using counterfactual analysis from multiple sources such as repositories of research papers and impact studies (such as the World Bank impact evaluation library). Because many of those studies are devised to test the efficacy of policy recommendations, we then narrowed our search to cases where the assessment was associated with policies that were effectively implemented. We then checked whether we could locate and secure the participation of former project managers as respondents to our interviews. In

situations where we could not find initiatives with publicly available evaluations, we then contacted sector specialists to explore suggestions for other potential cases where positive impact could be shown. Finding publicly available studies on initiatives that failed raised different challenges. We searched the literature and contacted sector specialists, who suggested several potential cases. To label a case “unsuccessful,” we gathered evidence on whether the project was discontinued due to poor implementation, excessive cost, or sheer inadequacy (i.e. it was not a viable solution to the target problem). In some cases, we were also able to gather data on the outcomes of the project, compared to regional or national data.

Table 1 presents a description of our cases and a summary of evidence indicating whether the case is successful or unsuccessful. When describing the cases of failure, we do not identify the name of the project or specific location where it was implemented. This was a condition set by some interviewees to release more specific, sensitive information. A more detailed description of the cases, however, is available upon request.¹

<Table 1 around here>

Method

Given the number of cases, it would be difficult to qualitatively describe and synthesize our findings. At the same time, our number of cases is not sufficiently large for conventional regression analysis. We thus used a configurational, set-theory approach in order to examine how distinct combinations of conditions are consistent with success in public initiatives (Fiss, 2011; Ragin, 2006). Specifically, we used *fuzzy-set qualitative comparative analysis* (fsQCA), which employs Boolean algebra to find combinations of conditions consistent with each outcome. In fsQCA, instead of coding the simple presence or absence of a condition, it is

¹ When describing the cases of failure, we do not identify the name of the project or specific location where it was implemented, only their state or province. This was a condition set by some interviewees to release more specific, sensitive information. Also, two cases in Brazil and South Africa mixed elements of bureaucratic services and urban development; they were classified as spanning these two areas.

possible to consider the degree to which a condition is present (e.g. the extent of collaboration or the extent of resource munificence). Thus, fsQCA allows the researcher to examine not only conditions that will explain the occurrence of a phenomenon—i.e. if a case is successful (referred to as “fully in” in QCA jargon) or unsuccessful (“fully out”)—but also the extent to which each observation is consistent with success or failure.

The fsQCA method has further advantages. First, it accounts for *equifinality*, i.e. it accommodates situations where multiple paths can lead to the same outcome (Fiss, 2007; Ragin, 2008; Rihoux and Ragin, 2009). Second, it allows for multiple combinations or configurations leading to positive or negative results. These features are crucial for our research question, given that we intend to examine not only how distinct forms of collaboration can lead to superior social value, but also how multiple forms of collaboration can be combined in the same project (i.e. *plurality*). Following previous research in management (e.g. Bell, Filatotchev, and Aguilera, 2014; Campbell, Sirmon, and Schijven, 2016), we use the configurations arising from our QCA analysis to reexamine existing theoretical links and even generate a new framework to be subsequently tested in future research.

Data Collection

We collected data through qualitative interviews anchored on customized scales (rubrics) to measure our variables. Our use of rubrics instead of agreement (Likert) scales is justified because we wanted to guarantee comparability across all responses. In our rubrics, we carefully described what each point in the scale meant for each item, thus anchoring responses on distinct types of behavior corresponding to different levels of the construct (Moskal, 2000; Oakleaf, 2009).² Dedicated research teams in each country, with deep understanding of the local context,

² For example, for the construct “public-public collaboration,” we measured the degree of collaboration through a range starting from the lowest level “1” indicating a situation where the initiative functions completely independently of other organizations in the public sector; and ending at the highest level “5” indicating the situation where operations were co-managed with other public units, in a system characterized by mutual interdependence and synergy. Our rubrics are not shown here but are available upon request.

performed the interviews and overall data collection. In each project, they conducted three interviews with public officials or managers of private organizations that conceived or implemented the project. The selection of multiple interviewees allowed us to mitigate common respondent bias and check the reliability of their assessments. Each interview lasted at least one hour; in total, our whole interviewing process took about 72 hours in total, not considering the field trips and additional interviews required to validate all the cases. The interviews were conducted in person or by phone/internet calls. Besides collecting coded information following our rubrics, we also gathered qualitative assessments of how the project was executed and explanations of the dynamics that drove its final outcomes. This procedure allowed us to triangulate our quantitative and qualitative data and provide an in-depth view of each initiative and its context (Kvale and Brinkmann, 2009).

After completing the set of three interviews for each of the 24 cases, we performed reliability tests to ensure consistency within cases as well as agreement across interviewees for the same case. First, we computed the Cronbach Alpha to check the internal consistency of the interview results. Second, we performed Kappa agreement tests against the null hypothesis that responses across raters were randomly determined (Fleiss, Levin, and Paik, 2003). All cases show Alphas higher than the acceptable threshold of 0.7, and in all cases the corresponding p values allow us to reject the null hypothesis that response scores are randomly chosen. We thus conclude that there was high agreement across our distinct raters.

Outcome Measure: Evidence of Social Impact

As described in the previous section on case selection, we built a set of successful and unsuccessful cases based on existing evidence of impact (outcomes above what would have probably happened without the project). Evidence of impact is thus an empirical operationalization of the social value created by the public initiative (see Table 1). In this sense,

our outcome variable is a binary indicator of whether a particular case is considered a success (i.e. with evidence of impact) or failure.

Measures of Collaboration

In our analysis of public service collaboration, we focused on three main forms of collaboration, namely: public-private, public-nonprofit, and public-public. For each type of partner (a for-profit firm, a nonprofit organization, or another unit within the public bureaucracy), we relied on two questions coding whether the public agency responsible for the project i) effectively collaborated with the partner, and ii) recruited/engaged people from the partner to work on the project. The second item was particularly designed to capture a potential cross-fertilization of capabilities across partners in the public domain (Cabral, Lazzarini, and Azevedo, 2013; Klein, Mahoney, McGahan, and Pitelis, 2013). As discussed before, each item had a specific rubric indicating what we meant by each point on the 1-5 scale. For each collaboration type, we then calculated the average of those two items. We thus arrived at three composite measures for each collaboration type: public-private, public-nonprofit, and public-public; their Cronbach Alphas were respectively 0.70, 0.85 and 0.71, all above or equal to the acceptable threshold level of 0.70.

Contextual Factors

We also gathered data on additional conditions that can affect project outcomes and facilitate or hinder the adoption of certain types of collaboration. Following Moore (1995), we consider two sets of conditions related to the *operational capacity* of the public organization as well as its surrounding *environment*. These conditions are detailed below.

Operational Capacity. We also use rubric items to measure the ability of the public unit responsible for the project to lead and coordinate action towards the intended results. Public administration scholars have underscored the importance of effective *leadership* to design and guarantee support for new programs (Hennessey, 1998; Fernandez and Rainey, 2006). Acting as

change agents, project leaders connect ideas, personnel, and resources centered on a well-defined vision of what needs to be done (Consedine, Lewis, and Alexander, 2009; Kemp, Funk, and Eadie, 1993).³ In addition, we measured the extent of *execution capabilities* of the public unit, expressed as a set of resources and managerial practices leading to effective implementation and high-level accountability. In particular, we tried to gauge whether the public bureaucracy recruited highly skilled and professional staff (Miller, 2000; Borins, 2001; Bhatti, Olsen, and Pedersen, 2011), adopted mechanisms to monitor performance and curb corruption (Barzeley and Armajani, 1992; Parker and Gould, 1999; Klarner, Probst, and Soparnot, 2008; Cabral and Lazzarini, 2015), and incentivized its personnel to achieve high performance (Bloom and Van Reenen, 2010; Zenger and Hesterly, 1997).⁴

Environment Contingencies. The environment plays a critical role in influencing the performance of public service initiatives (Damanpour and Schneider, 2009) and public collaborations (Andrews and Entwitle, 2010). First, in line with the management literature (e.g. Dess and Beard, 1984), we assess whether governments were affected by the degree of *resource munificence* in the environment, assessed in terms of human, financial, and infrastructure resources.⁵ For instance, Bhatti, Olsen, and Pedersen (2011) show that municipalities with better access to financial resources are more likely to adopt new innovations. In addition, following

³ We measured project leadership based on four items, coding the extent to which the project leader i) had a clear vision for the initiative and the ability to clearly articulate its goals; ii) provided proactive strategic and operational oversight; iii) communicated internally and externally the performance of the project; and iv) allowed ideas and solutions to emerge “bottom-up”, from the public organization (Cronbach Alpha = 0.90).

⁴ Our measured items asked the extent to which public managers i) had up-to-date formal training in their areas of expertise; ii) were selected based on rigorous technical criteria instead of political; iii) were allocated to dedicated units to run the project; iv) were rewarded based on their performance; v) monitored key performance indicators (KPIs), budget controls, and time controls; vi) received support to adapt to new process under the project; and vii) created practices to control potential corruption (Cronbach Alpha = 0.92). Because these items appear to cover a broad range of constructs (such as monitoring and incentives), we also ran factor analyses to see if these items could be split into more specialized measures. However, likelihood-ratio tests consistently revealed that the single-factor model significantly outperforms the model with two or more factors. In all rubrics, respondents were explicitly asked to provide their assessments of the project as at the time of design and implementation.

⁵ We measured munificence as the degree of access the project had to three sets of critical resources: i) human capital recruited for the project; ii) infrastructure (physical and technology); and iii) financial capital in the municipality (Cronbach Alpha = 0.83).

discussions in political economy (Persson and Tabellini, 2002), we assessed whether the political context for each project was subject to frequent changes in the ruling political party—a factor that can undermine project implementation and continuity. Thus, we measured *political stability* by asking respondents to indicate their perception of whether a change in public administration would scrap initiatives implemented by previous teams.

Calibration and Thresholds

Before running the analysis, we calibrated our data by converting all variables to a scale ranging from 0 to 1. Following the fsQCA methodology, we also defined intermediary points in the data. First, we built the raw database using the median term of each group of questions measuring the same construct (Bell, Filatotchev, and Aguilera, 2014; Judge, Fainshmidt, and Lee Brown III, 2014). Second, considering the scores for each variable in the raw database, we generated a quartile split of the entire sample. We arrived at the following values: 1.00 representing full membership; 0.67, mostly membership; and 0.33, mostly non-membership and 0, full non-membership. This calibration improves our assessment of the differences among cases (Crilly, 2011; Judge et al., 2014), and avoids the definition of arbitrary intermediate points which can potentially lead to estimation error (Maggetti and Levi-Faur, 2013; Ragin, 2008; Rihoux and Ragin, 2009). As for the outcome variable, we followed a crisp-set calibration (Fiss, 2007, 2011; Ragin, 2008; Rihoux and Ragin, 2009) by classifying cases as either successful or unsuccessful (as explained earlier). Table 2 shows the descriptive statistics and correlations among our variables.

<Table 2 around here>

After calibration, we defined the consistency and frequency thresholds for the fsQCA. Consistency refers to the degree to which membership in a particular configuration is a subset of membership in the final outcome (Ragin, 2006). In simple terms, high consistency means that a certain combination of conditions tends to be associated with the outcome of interest (in our

case, evidence of positive impact). When defining a target level of consistency, we sought a conservative level of 0.800 (Bell et al., 2014; Campbell et al., 2016; Fiss, 2007, 2011), though 0.750 can be considered acceptable (Ragin, 2006). As for the frequency threshold, based on the technical literature (Maggetti and Levi-Faur, 2013; Ragin, 2008), we pursued a more parsimonious set of configurations having correspondence to our observed cases—that is, we ignored the so called “logical reminders,” which are essentially plausible but lack representation in the data. Given our relatively small sample size, we followed the recommendation by Rihoux and Ragin (2009: 107) and considered configurations with at least one representative case.

RESULTS: CONFIGURATIONS AND CASE ILLUSTRATIONS

Table 3 presents the results involving sufficient and necessary conditions for social value creation (evidence of positive impact) in public service initiatives. Overall, results report consistent solution configurations, above our defined consistency threshold of 0.8 (except for the second configuration, which is slightly below this threshold but still at an acceptable level; e.g. Ragin, 2006). Furthermore, our revealed configurations account for more than 61% of the sum of membership scores in the outcome (Ragin, 2006), a result that can be considered satisfactory (Bell et al., 2014; Campbell et al., 2016). We consider only solutions with unique configurations, totaling four distinct combinations of conditions. Following Fiss (2011), we use black circles ("●") to indicate the presence of a condition, and crossed-out circles ("⊗") to indicate its absence. Blank spaces indicate an immaterial (“don’t care”) situation, that is, the presence or absence of the condition is not relevant to the solution.

<Table 3 around here>

Before describing the role of distinct types and combinations of collaboration—the focus of our paper—we note a robust pattern that we found in our analysis: the two variables coding public operational capacity (leadership and execution capabilities) are present in all four solutions. Thus, they can be considered as *necessary* conditions for social value creation in our

setting. The pervasive effect of effective leadership recurs across our successful case studies. For example, we saw the Chief Minister of Andhra Pradesh play a crucial role in the successful eSeva electronic kiosk project and also in the creation of the Water Supply and Sewerage Board, both projects in Hyderabad, India. His distinctive contributions included finding and bringing together relevant people and departments from diverse parts of the public bureaucracy; as well as an insistence on effective monitoring and reporting mechanisms, which proved essential in achieving efficient outcomes and avoiding corruption. Consider, for instance, the following quote from the Water Supply and Sewerage Board initiative in Hyderabad:

They [political leaders] made a list of the kind of people they needed. IT people, organization people, management people and accountancy people and then they went looking for talent. They managed to get a good people and it was a systematic exercise (sector specialist in India, pers. comm.).

Although leadership and execution capabilities appear to act as necessary conditions for social value creation, they are not sufficient; our revealed fsQCA solutions involve a host of simultaneous conditions, including distinct types of collaboration. Our first solution—consistent with positive impact—involves a single type of collaboration, *public-public*. This solution is characterized by the absence of any alliance with for-profit firms, whereas the existence of public-nonprofit alliances is not material to achieving the positive impact. Solution 1a shows that public-public collaboration alone can be consistent with positive impact but only under very favorable contextual conditions—namely, environments with high political stability and high resource munificence. An example in our set of cases is Cape Town’s MyCiti BRT, in South Africa. The project was initially conceived by the National Department of Transportation to support the activities of the 2010 World Soccer Cup. The transportation agency in the municipality was responsible for mobilizing multiple public units and employees, including public transportation authorities, engineering agencies, bus operators, and universities. The importance of public-public collaboration appears in the following quote:

If you look at any project, if you don't have Treasury on board, it's unlikely you will have too much success because they hold the money. The involvement of Treasury, and actively making the resources available are extremely important... In terms of the skills, I think that was a good level of human capital within the project team, with very experienced people. Not only skills in terms of engineering, no; [but also in terms of] how to work within local government, national, with big major infrastructure projects (sector specialist in South Africa, pers. comm.)

The quote above illustrates the importance of public-public collaboration, and it also underlines the value of having an adequate pool of physical and human resources available in the public bureaucracy—i.e. a condition of high resource munificence. The project also had access to sufficient funding from public sources. The National Treasury Department supported this project as a national initiative in close partnership with the local transport authority. At the same time, the initiative benefitted from a context of high political stability. The local government remained with the same party from 2006 to 2013, spanning the entire implementation period of the project (2007-2010).

Like solution 1a, solutions 1b and 1c also reveal the importance of *public-public* collaboration. But they uncover that combining *public-public* collaboration with *public-nonprofit* collaboration can result in success even when environmental conditions are not very positive. Specifically, we see positive impact when these two collaboration types coexist, in a moderately favorable environmental context characterized by *either* high resource munificence or high political stability, not necessarily both. Thus, solution 1b shows that public-nonprofit collaborations complement public-public ties when the environmental favorability stems from the presence of high political stability (i.e., resource munificence may or may not be present). An example is Poupatempo, the “one-stop shop” unit in Sao Paulo, Brazil, discussed earlier:

Collaboration across diverse public agencies was a sine qua non condition for the success of Poupatempo. As we recruited people from diverse public agencies, these agencies would either collaborate, or otherwise we would make the project happen (former manager of Poupatempo who led the project, pers. comm.).

Yet Poupatempo's public managers also relied on partnerships with nonprofits, such as the Getulio Vargas Foundation (FGV), a Brazilian think-tank and school that provided the government with technical analyses and advice. These collaborations occurred in a context of high political stability. The State of São Paulo has been run by the same political party since 1995; and during 1995-2002, the federal government was controlled by a coalition led by that same party. When the first Poupatempo unit was implemented, in 1997, the mayor of the city of São Paulo was from a political party that was also part of the federal coalition. This political alignment also helped the replication of Poupatempo in other municipalities.

Solution 1c is similar to the second configuration (1b), as it also involves the presence of both *public-public* and *public-nonprofit* collaboration. However, solution 1c requires the absence of public-private collaboration and the presence of high resource munificence. The presence of political stability is immaterial. For example, we examined the Andhra Pradesh Teacher Performance Pay project in India as one of our successful cases. Focused on primary education, the program implemented performance-contingent compensation to incentivize teachers and schools. Specifically, teachers and schools were provided with bonuses tied to the evolution of student learning assessed through independent exams. The State of Andhra Pradesh, with a level of per capita income slightly above the national average, mobilized resources from its education system and helped fund some activities, with support from the World Bank and from the UK's Department for International Development (DFID). That is, while political stability supported the implementation and expansion of Poupatempo, the Andhra Pradesh project benefitted from improved resource munificence in the form of funding and skills from a variety of external sources. In addition, the government worked with a complex network of nonprofit partners, including Vidya (a charity hiring volunteers to help vulnerable communities) and the Azim Premji Foundation (a nonprofit specialized in primary education):

The World Bank brought in resources from The Department of International Development (DFID) and channeled them through the Azim Premji Foundation with the full blessing of the state government. The State of Andhra Pradesh put in 2 crores [twenty million] rupees into the study on top of which they also provided 100 Vidya volunteers to schools that had been identified as a part of the study. The Azim Premji Foundation (APF) brought in a core team of about 10 people. There were about 30 staff that APF had brought on board to maintain relationships with the schools by doing a tracking survey every month. They were provided training on a regular basis by the APF (senior economist at the World Bank, pers. comm.).

Finally, solution 1d is the only one where *public-private* collaboration is present, jointly with *public-nonprofit* collaboration. This configuration also involves high political stability and an *absence* of munificent resources; this solution thus differs from configuration 1b, where political stability is required but munificence is immaterial. An example from our case studies is the Siyakha Nentsha project (translated as “building with young people”), an education program for teenagers in South Africa’s KwaZulu-Natal province. The project involved developing extracurricular skills among young students, with the particular objective of teaching them how to mitigate threats from HIV/AIDS—whose incidence in this region of South Africa is particularly high. The project was implemented in coordination with nonprofit organizations, specifically, the Population Council and Isihlangu HDA. These nonprofits worked with the Department of Education to offer specialized education programs for HIV prevention. Public-private collaboration, in turn, came through the activities of AccuData, a for-profit firm specialized in data and research solutions. AccuData and the Population Council closely interacted on important technical activities, as evidenced by the following quote:

AccuData was chosen as partner because of their vast expertise in successfully organizing and managing social science research within traditional communities in southern Africa... Isihlangu HDA certainly had the local knowledge, and Pop Council had the technical expertise for the survey data collection, but neither organization had the combination described above that was required to work in the peri-urban and rural communities where the project took place (Population Council manager, pers. comm.).

The project was executed in a context of low resource munificence. KwaZulu-Natal is in a poor region of South Africa, where most families are subsistence farmers and have poor access

to quality education and infrastructure. However, the project benefitted from high political stability. The province is an area of Zulu communities, with enduring social norms and interactions. Between 2004 and 2009, a period covering most of the project's implementation, KwaZulu-Natal was run by the same Premier and his successor was from the same party.

To finalize, it is also informative to examine combinations consistent with *failure*. One of the premises of QCA analysis is that configurations leading to success are not necessarily the opposite of configurations leading to failure; that is, there is asymmetry in the conditions affecting positive and negative outcomes. As seen in Table 4, except for configuration 2f, all “failed solutions” involve the absence of either leadership or execution capability, which reinforces our previous finding that these factors seem to represent baseline conditions to support successful project implementation. As configurations 2a-2d show, the absence of leadership and execution capability is a common characteristic of failed solutions, even when different hybrids are present. Interestingly, these factors are immaterial in configuration 2f, but in this solution we see the complete absence of all forms of collaboration as well as political stability.

It is also interesting to note that cases of failure tend to be associated with single (nonplural) public-nonprofit or public-private collaborations (2a-2c); or, alternatively, with the absence of at least one form of collaboration (2e-2g). The only solution leading to failure involving plural collaboration is the fourth (2d). In this configuration, we observe the absence of public-public collaboration and execution capabilities, whereas leadership and resource munificence may or may not be present. Therefore, our empirical analysis reveals that cases of plural collaboration are more frequently associated with successful than unsuccessful outcomes. However, we also find that collaboration per se is not sufficient to generate impact, as it requires the presence of other important conditions—notably, leadership and execution capability.

<Table 4 around here>

DISCUSSION: TOWARDS AN INTEGRATED FRAMEWORK ON PLURAL COLLABORATIONS

In light of our empirical findings, we now inductively propose a new theoretical framework on the emergence of plural collaborations in the context of public initiatives and especially mechanisms leading to their complementary (synergistic) effects. Table 5 summarizes our revealed configurations and proposed mechanisms. Based on our theoretical discussion earlier, our analysis is based on two key factors influencing the synergistic effect of plural hybrids: *resource complementarity* (the ability of actors to bring valuable, complementary resources) and *legitimacy* (whether the proposed collaboration is aligned with public and stakeholder norms). We also propose that the complementary effect of multiple, plural collaborations is *contextual*: distinct traits of the local environment will influence the perceived benefits (and risks) of different hybrids (and hybrids of hybrids) in terms of resource mobilization and legitimacy.

A common contextual condition, irrespective of the type of collaboration, involves the existence of superior public operational capacity, as a mix of public leadership and execution capabilities. For collaborations to work and lead to successful initiatives, they first need the full engagement of political leaders who can help legitimize the project and define a common vision guiding the mobilization of public and private resources (e.g. Consedine, Lewis, and Alexander, 2009; Kemp, Funk, and Eadie, 1993). Although this is not a particularly novel argument—Moore (1995), for instance, has long emphasized the importance of public operational capacity to promote social value—it does indicate that collaborations do not simply supplant or substitute for the lack of effective government action. However, this statement should not imply that the absence of operational capacity is sufficient for failure; our previous analysis showed that unsuccessful outcomes are usually associated not only with low operational capacity, but also with a host of additional and diverse conditions.

<Table 5 around here>

If superior operational capacity is present, then environmental conditions will come into play. Our results show that successful cases always involve the presence of either high resource munificence or high political stability. Consider the first successful configuration (solution 1a), involving both resource munificence and political stability. This is the only case where we observe simple, *non-plural* public-public collaboration. With high availability of financial, human, and physical resources, governments may not necessarily need to outsource key activities to tap into external inputs and knowledge. Furthermore, external collaboration may be seen as illegitimate, because governments have the capacity to operate value-creating projects using their own resources. If governments engage external actors, they may face public criticism that they are “privatizing” services that are supposed to be state-run, or simply transferring public resources to selected individuals and organizations (Dahl and Soss, 2014). Interestingly, solution 1a requires the *absence* of public-private collaboration, suggesting that this threat to legitimacy is particularly acute in the case of firms with profit-based objectives. High political stability, in turn, facilitates the continuous mobilization of internal resources and institutionalizes collaborative public action. With a highly stable political environment, the public bureaucracy will tend to preserve technical pockets of specialized personnel (Schneider, 1991) and create expectations of a longer-term interaction among public actors, supporting the development of repeated, relational collaborative ties (Bertelli and Smith, 2010).

Solution 1b occurs in an environment where political stability is high but resource munificence is not guaranteed—it can be either high or low. A stable political environment supports the internal mobilization of public resources and the creation of public-public ties. However, because resource munificence is not necessarily present, internal efforts can be complemented by the external involvement of nonprofits and the diverse resources they possess. In our previous discussion of theory, we argued that nonprofits often have a comparative

advantage in important dimensions of public service, such as specialized knowledge of target beneficiaries, skills to communicate with local communities, or extra financial resources to support interventions (e.g. Gazley and Brudney, 2007). In addition, the involvement of nonprofits reduces legitimacy concerns, given that they are less financially-motivated and more mission-driven than private firms (Drucker, 1989; McDonald, 2007). In solution 1b, however, we still expect that the role of the public actors will remain central to the design and delivery of the project—nonprofits will likely contribute with specialized knowledge and skills that complement the activities of their *public-public* partners.

When resource munificence is high but political stability is not necessarily present, we again see a plural combination of public-public and public-nonprofit collaboration, but with the absence of relevant ties with for-profit firms. If the political environment happens to be stable, public-public ties can be promoted and developed over time, with a positive impact on the government's ability to mobilize internal resources. However, in this configuration, political stability is not guaranteed. If changes in policy can destabilize internal public collaboration, nonprofits can complement public-public ties in at least two important ways. First, nonprofits can create embedded ties with members of the public bureaucracy (McDermott, Corredoira, and Kruse, 2009), helping represent the interests of potential beneficiaries and promoting the continuity of value-creating initiatives. Second, nonprofits can act as more stable and consistent repositories of specialized knowledge, thereby facilitating the accumulation of information and experience. In this solution, nonprofits will tend to have a more prominent role, helping to execute key activities while still working with public-public ties to access government resources. Note again that high resource munificence reduces the legitimacy of for-profit private participation, thus leading governments to rely on the action of mission-oriented nonprofits.

Finally, in solution 1d, we see social value being created through plural public-nonprofit and public-private collaborations, in a context of political stability and low resource munificence.

In fact, this is the only configuration where public ties with for-profit firms are consistent with positive impact. As noted before, low resource munificence helps legitimize the participation of for-profit firms. These firms can bring extra capital for new investment, as well as proprietary technical knowledge and efficient execution capabilities (Cabral, Lazzarini, and Azevedo, 2013). At the same time, high political stability increases their willingness to deploy these distinct resources, since it reduces the risk of new administrations coming to power that might alter or terminate existing contracts (e.g. Kivleniece and Quelin, 2012; Moszoro and Spiller, 2012). However, the higher-powered incentives of for-profit firms may pose a risk to social value creation if they place excessive emphasis on economic gains at the expense of social value. The presence of mission-driven nonprofits can therefore help balance social and profit-oriented objectives during project design and implementation (Bennett and Iossa, 2009).

Although we observe many instances of plural collaboration, social value creation does not appear to require the simultaneous presence of *all* three forms of collaboration. A possible conjecture is that the cost and complexity of designing and governing such a web of alliances would be excessive. For instance, if nonprofits bring distinctive resources and capabilities unavailable in the public sector, governments can avoid the cost of crafting complex contracts with for-profit firms to access the same resources and capabilities. And in doing so, they would also avoid the risk of damaging perceived legitimacy. The total number of plural hybrids may also be tempered by the complex interplay between the alliance types and the environmental conditions. For instance, in a context with low resource munificence but high political stability, we observe the presence of *public-private* and *public-nonprofit* collaborations, whereas the presence of *public-public* ties is not material to success. In this case, while political stability can promote intragovernmental ties (as we argued before), it may also result in the development of distinct administrative bodies, specialized in project management and coordination, circumventing the need for different public bodies to each develop their own capacity to

collaborate. This reinforces our assertion that the examination of internal conditions in the public bureaucracy is crucial to understand external collaborations with private actors.

CONCLUSION: CONTRIBUTIONS AND NEW DIRECTIONS

In this paper, we advance the discussion of how social value can potentially emerge from the intertwined action of public and private actors. Our fsQCA analysis reveals not only alternative configurations consistent with positive impact, but also solutions involving more than one type of collaboration—which we refer to as collaboration plurality. Each unique combination also depends on a host of contextual conditions involving the operational capacity of the state as well as environmental factors influencing the value-creating ability of distinct forms of collaboration. Our research brings important contributions, outlined below.

Contributions

Our analysis of multiple forms of collaboration enhances our understanding of how public-private hybrids work and affect social value. Received theory has conceived public-private hybrids as forms that mix elements of private markets and public bureaucracies; for instance, firms in traditional public-private partnerships are autonomous entities but are normally subject to strong public supervision (e.g. Cabral et al., 2010; Williamson, 1999). However, while a cursory examination of collaborations in the public sector suggests multiple types of hybrid forms, the literature has tended to examine each single hybrid in isolation. Even in the rare instances where scholars consider the effect of multiple types of alliances (e.g. Andrews and Entwitle, 2010), there is no consolidated discussion of how various hybrids can positively affect each other in the creation of social value. We thus improve our understanding of how hybrid public collaborations work by studying the emergence of *plural* hybrids (or “hybrids of hybrids”), with a particular emphasis on their potential synergistic effects. Our emphasis on plurality is consistent with previous research in strategic management studying the simultaneous presence of multiple arrangements to govern the same focal activity, such as in the case where

firms make *and* buy supply components (Bradach and Eccles, 1989; Ménard, 2013; Parmigiani, 2007). In our discussion, we unveil multiple channels through which various hybrids can complement one another and jointly promote social value. No less important, we argue that their complementary effects are *contextual*, that is, they depend on key conditions influencing the perceived legitimacy and resource-based benefits of distinct collaborations. For instance, we show that public-private collaborations tend to increase social value mostly in a condition of low resource munificence, which enhances the benefit and legitimacy of accessing valuable resources possessed by for-profit actors.

Although our findings confirm the importance of external collaboration with nonprofit and for-profit private firms, our discussion highlights the equally important role of internal collaboration across different parts of the public sector (Andrews and Entwitle, 2010; Cabral and Krane, Forthcoming) and of public operational capabilities (Moore, 1995). Public-public collaboration is found to be relevant in many configurations consistent with superior social value. We thus advance our understanding of the interaction between external *and* internal hybrids, the latter defined as collaborative efforts across relatively autonomous public units. We also find that hybrid collaborations are not sufficient to generate social value; they require the presence of public operational capacity, which has long been discussed in public administration (Miller, 2000; Moore, 1995). Therefore, a movement towards greater private sector participation in public initiatives and intense utilization of cross-sector resources—referred to as “externalization” (Alford and O’Flynn, 2012)—requires more, not less, capability within the public sector to lead and execute value-creating activities. This point also has significant practical implications, as several governments have tried to stimulate various types of public-private arrangements throughout the world (Engel, Fischer, and Galetovic, 2014). Public capabilities seem to be critical for the performance of those collaborative endeavors even if they are largely executed by private actors. Our assertion of the importance of improving public

sector capabilities (whether around leadership or execution) calls for greater cooperation between scholars of strategic management and public administration. Their independent efforts to understand the value-creating potential of public and private interactions would benefit from the cross-fertilization of one another's ideas.

Our emphasis on cases with evidence of positive impact can also be adopted in future studies assessing the determinants and performance implications of public initiatives. Our empirical operationalization of social value creation is based on the notion of social impact, where the outcome of a given project is evaluated in comparison to a counterfactual scenario assessing what would have happened to the target population if the project were not implemented in the first place. Our stringent criterion for the inclusion of cases deemed as successful is aligned with recent academic work calling for more rigorous assessment of impact (Duflo, Glennerster, and Kremer, 2008; Kroeger and Weber, 2014) as well as applied discussions emphasizing the importance of isolating extraneous factors that may incorrectly lead to the impression that a given project was successful (Donaldson, Christie, and Mark, 2015).

Limitations and Suggestions for Future Research

Our chosen method, fsQCA, allowed for the systematic assessment of conditions in a restricted set of cases, in order to inductively generate a new theoretical framework on how plural collaboration might affect social value creation. Future research could also try to statistically test the relevance of our conditions using a larger number of cases. Although it may be difficult to gather a large number of instances of positive impact, researchers could identify heterogeneous conditions associated with each case. Suppose, for instance, that data on micro-level outcomes (e.g. at the individual or family level) are available for a given project of public service innovation. Then researchers could look for differences in the implementation of the project, possibly associated with heterogeneity in the strength or effectiveness of collaborations, as well as differences in environmental conditions (e.g. poorer versus richer regions).

Scholars can also delve into the details of each collaboration type, as well as the functioning of all plural modes identified in our research. Consider Makadok and Coff's (2009) theory of hybrids based on three dimensions: authority, incentives, and ownership. Thus, private (for-profit or nonprofit) firms collaborating with governments may totally or partially own relevant assets (Bennett and Iossa, 2006); receive contingent payments based on exchange outcomes (Bugg-Levine and Emerson, 2011); and exhibit varying degrees of autonomy depending on the extent of regulation or supervision (Williamson, 1999). Future research can not only identify various forms of collaboration, but also measure in more detail how each type can be described as a combination of ownership, authority, incentives, and relational traits.

Expanding the range of sectors and countries with successful public innovations is also a promising avenue for future research. For instance, scholars could examine the impact of collaborations on large infrastructure projects requiring massive capital expenditures, as well as initiatives in a broader range of emerging and developed countries. An improved institutional framework, with stronger checks-and-balances against discretionary regulation and corruption, can create a more stable setting for private investment and external collaboration with private firms; but it can also increase the efficiency of public bureaucracies, thereby facilitating the emergence of multiple internal public-public collaborations. Studying plural collaboration across a more diverse set of institutional settings may reveal even more complexity and insights into how these hybrids of hybrids work and affect social value creation.

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Table 1. Description of Cases and their Outcomes

Sector and location	Cases of successful social value creation		Cases of failure	
	Description	Why it is a success (evidence of impact)	Description*	Why it is a failure
Education, Brazil	“Sobral Education Program”: Initiative implemented in 2001 to improve the quality of primary education in the municipality of Sobral.	The proportion of students falling behind their regular school year decreased from 57.5% to 2% between 2000 and 2014. The outcomes of standardized learning assessment tests showed that students in the city improved their learning in Portuguese and Mathematics above comparable students in other cities, using propensity score matching (Rocha, Komatsu, and Menezes Filho, 2015)	Project to implement new IT devices in schools aimed at improving learning and digital inclusion.	The IT devices were discontinued a few years after their implementation. The equipment was assessed as unused and obsolete three years after acquisition.
Education, India	“Andhra Pradesh Teacher Performance Pay Initiative”: the purpose of the project, implemented between 2004 and 2007, was to improve the quality of primary education through incentives (pay for performance) to teachers	Two years after the program had been implemented, the test scores of students were higher in the schools with the incentive system, compared to other schools in the same state without the incentive system. To build the treated and control groups, the assessment study used a randomized controlled trial design (Bruns, Filmer, and Patrinos, 2011; Muralidharan and Sundararaman, 2011).	Program to improve education indicators (grades, dropouts), and healthcare indicators (nutritional needs).	In more than 80% of the centers that received the program, there was scarcity of equipment like weighing scales, education kits, and toys. In 44% of the centers, none of the enrolled children were found attending pre-schools.
Education, South Africa	“KwaZulu-Natal - Siyakha Nentsha”: school-based life-skills program for teenagers, to mitigate the threats of HIV/AIDS in the KwaZulu-Natal province, between 2008 and 2012.	Different sets of programs were implemented: (1) a control group received standard life orientation; (2) a treatment group received an enhanced package of education focused on social skills; and (3) another treatment group received the same enhanced package plus education to develop financial skills. Compared to the control group, the teenagers reported more responsible sexual behavior as well as higher propensity to save money and other positive behaviors (Hallman et al, 2012).	The program provided refurbished computers to schools, funding all costs of connection. The initiative involved the establishment of an operational cyberlab at the school to be used for education and the development of ICT skills.	The lab became inactive soon after its launch, due to a lack of dedicated personnel and planning. The computers were not used and the technology rapidly became obsolete.
Bureaucratic Services, Brazil	“São Paulo Poupatempo”: one-stop shop launched in 1997 to consolidate several services and bureaucratic processes involved in the issuance of official documents to citizens.	A study compared the time spent by individuals issuing documents in cities with and without Poupatempo (Fredriksson, 2015). Using differences-in-differences analysis (i.e. changes in outcomes in the two groups before and after the introduction of Poupatempo), the study found a 29% reduction in the time spent obtaining a driver’s license compared to the regular service provided by a state unit in the period 2008-2010.	Project to provide portable GPS-enabled electronic devices to support the work of municipal civil engineering inspection teams.	The government shut down the program before its implementation, but after significant investment had been made in software development, hardware acquisition, and training.
Bureaucratic Services, India	“Hyderabad e-Seva”: Roll-out of electronic kiosks, launched in 1997, to support service transactions in both rural and urban areas. Kiosks offer public services and facilitate transactions with private firms (payment of phone bills, for example).	A study showed that the program benefitted citizens through reduced travel costs and waiting times vis-à-vis the traditional manual service. For instance, waiting times at manual service centers were on average 32.9 minutes, compared to 14.5 at the e-kiosks (Bhatnagar et al, 2007).	ICT devices offered at kiosks in villages to provide centralized and easy access to citizen services.	Out of the 36 kiosks that opened between 2001 and 2004, only 4 remained operational by 2005.
Bureaucratic Services/ Urban Planning, South Africa	“Polokwane Settlement Program”: Starting in 2004, this initiative involved the coordination and centralization of multiple services related to housing, water and sanitation, electricity, health, and education. The project involved the relocation of citizens from slum dwellings to a new settlement, with formal home ownership.	The new settlements brought tangible improvements to the dwelling structures, improved access to services (electricity, water, health), and lower crime rates. The population attained benefits from formal land ownership, including the raised likelihood of receiving loans from banks and higher investment in home upgrades. These gains were assessed in comparison to the previous settlement which lacked consolidated services (serving as control group). Half the population of the informal settlement remained in the area, due to lack of available land (Martinez, Legovini, Krishnan, and Coville, 2011).	The program aimed to centralize municipal billing databases, replacing multiple, disparate IT systems, to improve the accuracy and completeness of the billing and invoicing processes, as well as improving collection and service quality.	It took twice the expected time to complete implementation (five years). Problems with service infrastructure lead to 41,000 disconnections and massive numbers of citizen complaints. These problems persisted after project implementation.
Public Transport, Brazil	“Curitiba BRT System”: A Bus Rapid Transport system (BRT) with capacity to accommodate more passengers at higher speeds. The busways were structured in a	Compared to regular bus systems, the new BRT system achieved higher average speeds, greater passenger capacity, and improved frequency. A study in 2009, for instance, found that the average speed was 49% higher in the BRT system compared to regular bus lines (NTU, 2009).	“Cycle lanes”: The program built dedicated lanes for bicycles across a large city, complemented by	The cycle lanes suffered from design problems, construction problems and poor planning and coordination with existing

Sector and location	Cases of successful social value creation		Cases of failure	
	Description	Why it is a success (evidence of impact)	Description*	Why it is a failure
	corridor format, crossing through central areas of the city. The project started in the 1970s but was substantially expanded thereafter.		comprehensive education policies to control traffic and reduce speed limits.	transport infrastructure. Usage and satisfaction levels are very low.
Public Transport, India	“New Delhi Metro”: metro system providing a cost-effective and environmentally friendly alternative to existing public transport. The metro, whose construction started in 1995, eased the growing pressure on the existing, over-crowded road network.	The metro system reduced the number of vehicles on the streets. Furthermore, comparisons with the metro system in another large Indian city showed Delhi Metro with a substantially lower cost per kilometer and with higher rates of return on investment (25,8% versus 13,4%) (Ramachandran, 2012).	Launched in 2006, the program aimed to build a Bus Rapid Transport system to upgrade the dilapidated bus infrastructure, to alleviate over-crowded roads and to complement a new metro system.	Average travel times actually increased (by 15.7 minutes), and the project suffered a financial loss of US\$ 36 million per year. A survey indicated that citizen satisfaction decreased from 3.53 (considered as average-good) to 2.54 (bad-average).
Public Transport, South Africa	“Cape Town BRT System”: creation of a bus rapid transport system, in part to support the FIFA World Cup Finals, but also to provide safe, reliable and affordable transport to citizens. Construction started in 2007.	Although no existing impact assessment was found, we used a survey measuring citizen feedback on the BRT conducted in 2014. The survey included questions about previously available transport alternatives as well as comparisons with current transport options. The BRT scores higher than the alternatives on the many features measured, including value for money, quality, punctuality, comfort and safety.	Project with the objective of providing an integrated transport system to support a large city that was about to host a large international event.	The buses that were acquired for the system remained unused after the event. The project resulted in substantial losses due to financial irregularities and under-utilized assets.
Urban Planning/ Bureaucratic Services, Brazil	“Osasco Land Titling Regularization”: Starting in 2005, the program assigned housing property rights to disadvantaged populations through the coordinated distribution of formal land titles in illegally-occupied urban areas.	The program had a positive effect on labour supply (hours worked) of individuals in the target communities, compared to control groups. The results indicated that individuals could allocate more time to work instead of spending time protecting their belongings (Moura, Piza, Poplawski-Ribeiro, 2011)	Urban planning project to transfer all city electricity cables underground and remove the electricity poles. Objectives included the lowering of maintenance costs and improving the urban landscape of the city.	While the initial project set an initial target of 250 kilometers of cable to be buried in each year and an estimated completion time of no longer than five years, project execution was well below target and conclusion is not expected within 24 years.
Urban Planning, India	“Hyderabad Metro Water Supply and Sewerage Board”: The program improved the overall quality of water supply and sewerage treatment in a fast-growing Indian city. Initiated in 1989, the program was implemented through the 1990s.	An evaluation of the program before and after it was implemented pointed to the reduction in time spent on complaint redressals. Other benefits included improved accessibility, affordability and simplification of the process of attaining new plumbing connections. Compared to a comparable city, the Hyderabad service was found to be cheaper and less likely to encounter pipe breakages (Kamalanathan, nd).	Project to provide affordable and appropriate housing to slum residents through a rehousing program that improves living conditions.	The implementation of the project began seven years after it was approved. The cost of the project almost tripled from the initial proposal, and several phases and procedures were never accomplished as planned.
Urban Planning, South Africa	“eThekweni Water and Sanitation”: The initiative brought potable water and sanitation facilities to a low-income metropolitan area that had practically none. The program started in the mid 1990s.	An assessment of the outcomes of the project before and after it was implemented indicated an increase in total water-supply connections, beyond levels observed in other cities during the same period. In fact, it was the only municipality out of 14 in the same area that was assessed to not be water vulnerable (Mussa, 2015).	Initiative to replace the old infrastructure for electricity services. The goal was to reduce energy usage through more accurate metering and billing operations.	The municipal government terminated the contract to implement this initiative due to economic losses.

* For the cases of failure, we do not identify the name of the project or specific location where it was implemented. This was a condition set by some interviewees to release confidential information.

Table 2. Descriptive Statistics and Correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7
1 Success in Public Services	0.50	0.51							
2 Public-Public Collaboration	2.88	1.28	0.57						
3 Public-Private Collaboration	3.21	1.38	-0.03	0.06					
4 Public-NGO Collaboration	2.63	1.50	0.31	0.13	0.31				
5 Leadership	3.17	1.45	0.88	0.53	0.05	0.39			
6 Implementation	3.25	1.48	0.80	0.58	-0.07	0.38	0.90		
7 Resources Munificence	3.58	1.02	0.33	0.53	-0.09	0.18	0.31	0.45	
8 Political Cycle Stability	3.67	1.40	0.58	0.22	-0.02	0.25	0.66	0.60	0.25

Table 3. Configurations Consistent with Social Value Creation (Evidence of Impact) in Public Initiatives

Conditions	Configurations			
	1a	1b	1c	1d
Collaboration Type				
Public-Public Collaboration	●	●	●	
Public-Private Collaboration	⊗		⊗	●
Public-Nonprofit Collaboration		●	●	●
Public Operational Capacity				
Leadership	●	●	●	●
Execution Capability	●	●	●	●
Environment Contingencies				
Resource Munificence	●		●	⊗
Political Stability	●	●		●
Consistency	0.848	0.790	0.875	1.000
Raw Coverage	0.306	0.417	0.193	0.083
Unique Coverage	0.112	0.223	0.027	0.028
Overall solution consistency	0.816			
Overall solution coverage	0.612			

Notes: Black circles ("●") indicate the presence of a condition, and open circles ("⊗") indicate its absence. Blank spaces indicate a "don't care" situation, that is, the condition is not relevant to that particular configuration. Only configurations with unique coverage are represented.

Table 4. Configurations Consistent with Failure in Public Initiatives

Conditions	Configurations						
	2a	2b	2c	2d	2e	2f	2g
Collaboration Type							
Public-Public Collaboration				⊗	⊗	⊗	
Public-Private Collaboration		●	●	●		⊗	⊗
Public-Nonprofit Collaboration	●			●		⊗	⊗
Public Operational Capacity							
Leadership	⊗	⊗	⊗		⊗		⊗
Execution Capability	●	⊗		⊗	⊗		⊗
Environment Contingencies							
Resource Munificence	●		●				
Political Stability	●	●		●	⊗	⊗	
Consistency	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Raw Coverage	0.082	0.305	0.388	0.166	0.222	0.222	0.139
Unique Coverage	0.027	0.027	0.056	0.028	0.028	0.028	0.028
Overall solution consistency	1.000						
Overall solution coverage	0.722						

Notes: See Table 3.

Table 5. Plural Collaborations and their Underlying Mechanisms Leading to Social Value

Collaborative Configuration	Contextual Factors			Mechanism Leading to the Contextual Complementarity between Collaboration Types
	Public Operational Capacity	Resource Munificence	Political Stability	
Public-public (absence of public-private) (1a)	High	High	High	None; this is a non-plural internal hybrid. Very favorable contextual conditions imply that governments can leverage internal resources, avoiding public opposition against “privatization” initiatives, and capitalizing on recurring internal collaborative ties.
Plural public-public and public-nonprofit (1b)	High	High or low	High	High political stability allows governments to forge stable public-public collaborations supporting the project. However, because resource munificence is not necessarily present, collaboration with nonprofit firms can help bring new specialized knowledge and operational resources, thus complementing the efforts of the internal bureaucracy.
Plural public-public and public-nonprofit (absence of public-private) (1c)	High	High	High or low	High resource munificence reduces the legitimacy of for-profit participation and allows the government to mobilize internal resources and internal collaborative ties. However, because political stability is not necessarily present, internal ties may be weakened over time. In this context, public-nonprofit collaborations can help promote the continuation of the innovation projects and act as repositories of cumulative knowledge.
Plural public-nonprofit and public-private (1d)	High	Low	High	Low resource munificence helps legitimize the participation of for-profit firms—the justification is that the public sector can benefit from the funding, knowledge, skills, and organizational resources of private firms. High political stability, in turn, guarantees that for-profit firms can deploy their private resources with reduced risk of expropriation. At the same time, collaboration with mission-driven nonprofit firms helps temper profit-maximizing pressures from for-profit actors, as well as bringing knowledge and experience of working with targeted communities.