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Jon Schmid and Rahul Pathak

ABSTRACT

Collaborative project implementation approaches are common in international development practice. This article uses a mixed-methods research design to examine the dynamics of North–South collaboration in a development setting. It studies election-monitoring campaigns in Nigeria and Ghana that involved cross-sector collaborations between several organisations. A conceptual model of cross-sector collaboration is proposed, which is then validated against two cases. Results show that while existing approaches to conceptualising collaboration provide significant insight into the empirical cases, additional factors such as resource constraints and power hierarchies should be considered when studying development collaboration in a North–South context.

Les approches de mise en œuvre de projets collaboratifs sont choses courantes dans la pratique du développement international. Cet article utilise un concept de recherche fondé sur des méthodes mixtes pour examiner la dynamique de la collaboration Nord-Sud dans un contexte de développement. Il évalue les campagnes de surveillance des élections au Nigeria et au Ghana qui ont eu pour implication des collaborations intersectorielles entre différentes organisations. Un modèle conceptuel de collaboration intersectorielle est proposé, pour être ensuite validé par opposition à deux cas. Les résultats montrent que si les approches existantes d'une conceptualisation de la collaboration offrent des perspectives importantes sur les cas empiriques, des facteurs additionnels tels que les contraintes de ressources et les hiérarchies de pouvoir doivent être pris en considération lorsque l'on étudie la collaboration développementale dans un contexte Nord-Sud.

Los enfoques basados en la implementación de proyectos colaborativos constituyen una metodología de uso común en la práctica del desarrollo a nivel internacional. En este sentido, el presente artículo utiliza un diseño de investigación basado en métodos mixtos para estudiar la dinámica de la colaboración Norte-Sur en un ámbito de desarrollo. Con este propósito analiza las campañas de monitoreo de elecciones en Nigeria y Ghana, en las que se aprovechó el establecimiento de colaboraciones transversales entre varias organizaciones. Para efectuar dicho análisis, en el artículo se establece un modelo conceptual de la colaboración transversal, mismo que fue validado al ser aplicado en dos casos. Al respecto se constató que, a la hora de estudiar la colaboración para el desarrollo en un contexto Norte-Sur, si bien los resultados muestran que los enfoques existentes para conceptualizar la colaboración dan cuenta de importantes percepciones sobre los casos empíricos, es necesario considerar la intervención de factores adicionales, entre ellos, las restricciones presupuestales y las jerarquías de poder.

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Introduction

Over the last few decades, the use of collaborative project implementation approaches in international development practice has increased (Townsend, Porter, and Mawdsley 2002). Increasingly, donors require that the development projects they fund incorporate local actors. The rationale for this requirement is two-fold. First, local partners possess knowledge regarding the implementation context and have access to critical local networks. Second, incorporating local actors is thought to serve a development function; development collaborations arguably improve local capacity through technology transfer and creating learning channels that facilitate the creation of social capital and public value.

However, this trend towards collaborative implementation increases project complexity. Many of these collaborative projects comprise a multitude of actors who can be significantly heterogeneous in terms of their service orientation (e.g. public, private, non-profit), organisational environment (e.g. resources, capital, technical knowledge, experience), goals (e.g. profit maximisation, public service, advocacy), and cultural settings. A significant body of literature – across multiple academic disciplines – discusses the rationale for cross-sector collaborations. However, few studies have explored collaboration within the context of development projects. Such projects are often characterised by distinctive factors such as a high degree of resource disparity among collaborating organisations, the presence of international donors, cultural differences, implicit power hierarchies, and the poor quality of infrastructure in much of the developing world.

This article reviews the existing scholarship on collaboration from an inter-disciplinary perspective and develops a conceptual model for understanding the dynamics of collaboration in a North–South international development setting. Our model is informed by previous work in the fields of organisational theory, public administration, and development practice. We extend the incumbent framework to account for several development-specific considerations. We then test the model's validity against two collaborative projects in sub-Saharan Africa. The next section provides background on the studied election-monitoring projects in Ghana and Nigeria. Subsequent sections outline the conceptual framework and its different components; summarise the research design and data collection strategy; present the key findings, and conclude.

Election monitoring in Ghana and Nigeria

Project description and stakeholders

We examine two instances of international collaboration directed at improving election monitoring through the use of information and communication technologies (ICT). The Content Aggregation System for Elections (CASE) is an internet-based project that has been used to identify election irregularities and instances of political violence in several African countries. It has been used to monitor elections in Nigeria (2011), Liberia (2011), Ghana (2012), Kenya (2013), and Nigeria (2014).

CASE relies on software called Aggie that has been specifically developed to monitor elections. The Aggie system is first provided a database of predetermined keywords, which are established by local subject matter experts. The software then crawls social media feeds – Twitter, Facebook, Google+, Ushahidi, and RSS – and generates real-time trend visualisations based on keyword matches. The reports are monitored by a local Social Media Tracking Centre (SMTC), which identifies instances of violence or election irregularities. The SMTC is a temporary organisation that is staffed primarily by local volunteers that have been trained on the use of the election-monitoring technology. Flagged incidents are passed on to the members of the election commission or local police for further action.

This article considers two collaborative projects in which the Aggie system was used to monitor elections. The first case is the collaboration that implemented the Aggie 2.0 system for the first time during the 2014 state election in Ekiti, Nigeria (henceforth "the Nigeria collaboration" or "the
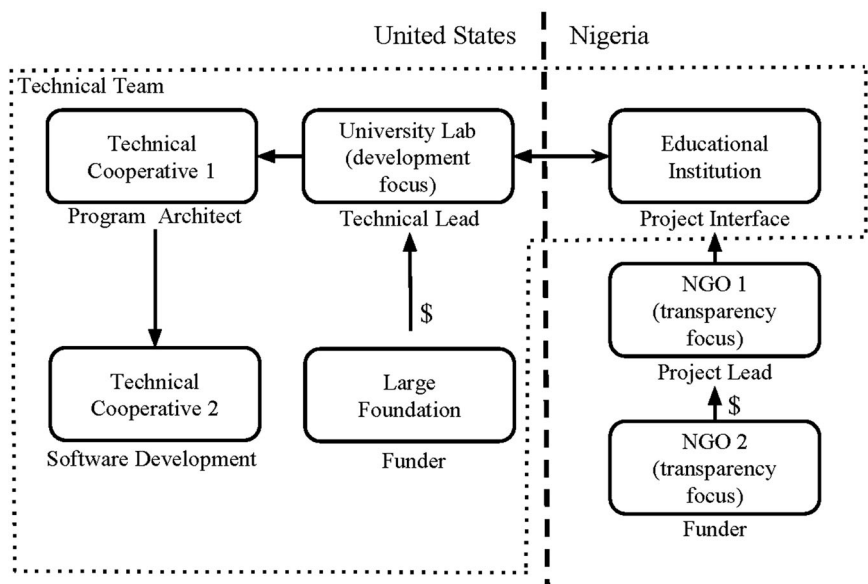
Figure 1. Stakeholder map for the Nigeria case.

Nigeria case"). The Nigeria collaboration consists of members from seven organisations: two US-based technical (software) cooperatives, a US-based development-focused university lab (the technical lead), a Nigerian educational institution, two Nigerian NGOs focused on transparency, and a funding agency. The second collaboration used Aggie to monitor the 2012 Ghana national election (henceforth "the Ghana collaboration" or "the Ghana case"). The Ghana collaboration consists of members from six organisations: two US-based technical (software) cooperatives, a US-based development-focused university lab (the technical lead), a Ghanaian educational institution, one Ghanaian transparency-focused NGO, and a funder.

The collaboration is defined in temporal terms the same way in both cases. The collaboration begins with the initiation of planning the election-monitoring event and concludes following the
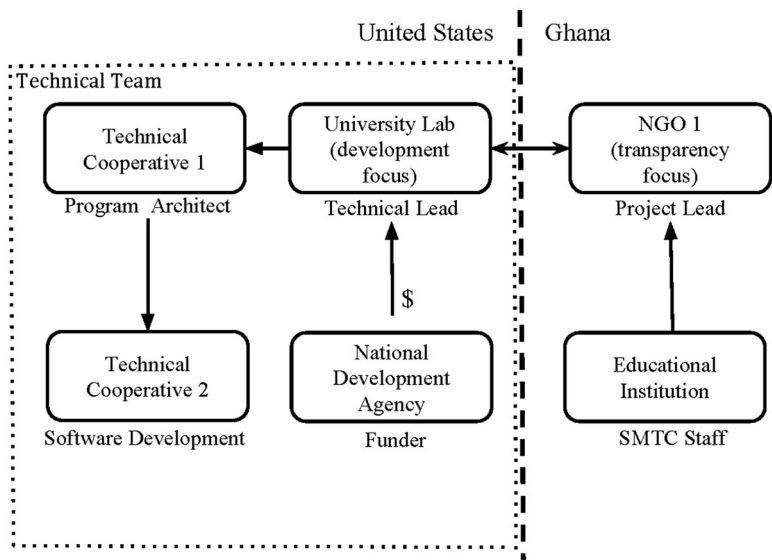

Figure 2. Stakeholder map for the Ghana case.

last submission of an election irregularity. The decision to use Aggie in these particular elections was made by the technical lead organisation based on an evaluation of the feasibility of implementing technology-enabled election monitoring in the countries. The primary criteria in selecting Ghana and Nigeria were the existence of strong local partners' organisations that were interested in hosting the implementation of the project, and a high likelihood of election irregularity. Once the technical lead decided on the cases, it sought funding to implement the monitoring campaigns. In the case of Ghana, funding (roughly US$25,000) was provided by the UK Department for International Development. In Nigeria, funding (roughly US$75,000) came from the MacArthur Foundation. The nature of the two collaborations in terms of the number and character of the collaborative entities and the relationships between them are highly similar. Figures 1 and 2 provide a visual summary of the relationships between stakeholders.

Later, we provide a detailed analysis of the two collaborations; as a preview, the Nigeria collaboration performed below the expectations of the programme participants, while the Ghana collaboration was highly successful. In the Nigeria case, the collaborative relationship nearly broke down. In particular, poorly articulated governance, ambiguity in administration, tension within the cross-country context, power disparities, concerns regarding funding, and resource constraints appear to have significantly decreased the perceived success of the collaboration. Interview respondents unanimously reported tension between the local and international partners. Such tensions were particularly evident between the collaborating entities' leaderships.

The Ghana collaboration, on the other hand, ran smoothly. Specifically, clear governance, coherent inter-collaborator administration, mutuality, a lack of resource constraints, and lack of tension regarding funding resulted in a highly successful collaboration. One of the project leaders described the collaborative process in the Ghana case as: "*To work on the Ghana elections was exciting … and to work with people I really like was fun, and it was so easy.*"

Conceptual framework

This section describes the proposed conceptual framework for analysis of collaboration in a development setting. Our model of collaboration (presented in Figure 3) has its origins in the scholarship of
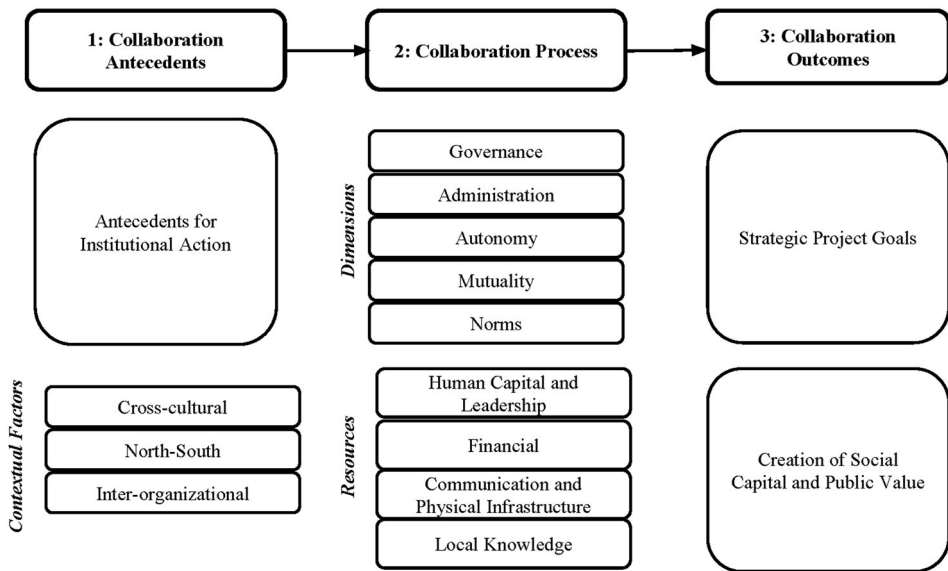

Figure 3. A conceptual model of collaboration in a development setting.

organisational behaviour, public administration, and development management. We follow the approach taken by Wood and Gray (1991) in dividing the process of collaboration temporally into antecedents, processes, and outcomes. The following sub-sections define the model's components, trace their relation to one another, and provide a brief description of their scholarly origins. The model presented here reflects a three-stage process. First, we consulted the literature in order to develop a preliminary conceptual model. Second, data-gathering instruments were created to test the initial model's validity. Finally, the model was updated based on data received in the previous stage.

Collaboration antecedents

Collaboration antecedents refer to factors that have led to the creation of a collaborative alliance and have bearing on the collaborative process (Gray and Wood 1991). We split the antecedents into two broad categories: *antecedents for institutional action* and *contextual factors*. Antecedents for institutional action include a broad range of preconditions that scholars suggest facilitate or motivate the creation of the collaboration. These factors are well specified in the literature and include inter-organisation resource complementarity (Pfeffer and Salancik 1978; Gray and Wood 1991; Tulder et al. 2016), shared motivation among the leadership for initiating the collaboration (Huxham and Vangen 2013), and shared ideologies between organisations and project leaders (Selsky and Parker 2005).

In addition to the preconditions, contextual factors have been found to affect North–South development collaborations (Abouassi 2010). We define three types of contextual factors that may affect collaboration processes and outcomes. First, the cross-cultural dynamics of an international collaboration have been shown to affect collaboration processes and outcomes (Stahl et al. 2010). For example, variation in organisations' cultural contexts may influence process dimensions such as mutuality and norms that rely on a common set of assumptions to govern participant behaviour. Second, we consider the North–South context. In the international development context, this principally manifests through the existence of hierarchies and power relations between donors, collaborators, and implementing agencies (Mawdsley, Townsend, and Porter 2005). Third, the collaboration may contain significant diversity in organisational type, which has been shown to affect the dynamics of collaboration (Sander 2016). This is an important contextual factor considering the diverse organisational types (e.g. government agencies, NGOs, businesses, technology-focused organisations, project-implementation organisations, and donors) present in a typical development project.

Collaboration processes

Our model proposes two categories of components comprising the collaborative process: *dimensions* and *resources*. Thomson, Perry, and Miller propose a conceptualisation of collaboration comprising five dimensions: *governance, administration, organisational autonomy, mutuality, and norms* (Thomson, Perry, and Miller 2007). In the context of inter-organisational collaboration, governance refers to the rules – formal or otherwise – that shape the behaviour of and between actors of the collaboration during planning and taking collective action (Thomson, Perry, and Miller 2007). Examples of governance structures include division of roles and responsibilities, how parent organisations influence the behaviour of the collaboration, and whether there exists transparency regarding the roles, contribution, and membership decisions of the organisations' contributing to the collaboration. Administration refers to the structures that convert governance into action. As collaboration is initiated by the participating organisations in order to realise some definable end, the focus of the administrative structure of a given collaboration is "doing what it takes to achieve a goal" (Thomson, Perry, and Miller 2007). The third dimension proposed is organisational autonomy. This refers to the tension between the identity and objectives of the organisations from which the collaboration sources its members, and the new identity and objectives and the collaboration itself.

Mutuality requires that the collaboration benefit every partner organisation. Mutuality can occur in two forms: complementarities and shared interests. Complementarity occurs when a mutually beneficial end is sought through sharing resources such as funding, knowledge, or technical expertise. Shared interests refer to cases of collaboration in which organisations share a common objective. Lastly, norms refer to the beliefs held within a collaboration regarding the appropriate behaviour of members in relation to their responsibilities and obligations. Norms are difficult to identify since they tend to represent implicit understandings or expectations, but if certain behaviour leads to sanctioning from other group members, it is likely to have been the result of norm violation.

We contend that the collaboration dimensions discussed by Thomson, Perry, and Miller are insufficient for a comprehensive understanding of the collaboration process since they do not account for resource availability or constraints. Pfeffer and Salancik's resource dependency theory (RDT) articulates the relationship between resources and organisational behaviour. RDT posits that organisations depend on essential and scarce resources that are often located outside the organisation itself. As the resources sought by a given organisation are often held by other organisations, mutual dependencies emerge during the process of acquiring resources. Previous models of collaboration have typically included resources within the antecedents' phase of collaboration (Gray and Wood 1991; Thomson and Perry 2006). While our data confirm the salience of resources in the antecedents' phase, they also suggest that resources play a central role in collaboration *process*. Based on our data, we include four key resources in the process stage of our final model: human capital and leadership, financial resources (especially donor financing), communication and physical infrastructure, and local knowledge.

Collaboration outcomes

The last phase of our conceptual model is collaboration outcomes. We conceptualise collaboration outcomes using two approaches. The first concentrates on outcomes in terms of the stated project goals, and the second focuses on the plausible externalities of the collaboration process. In the first approach, outcomes are measured by analysing the stated objectives of the collaborative exercise. This approach primarily derives from the problem-orientated approach that suggests that collaboration will facilitate participants' movement from negative towards positive outcomes (Gray 2000). Many studies on collaboration take a problem-orientated approach, though the outcome metrics vary depending on context (Bingham et al. 2003).

However, a focus on stated objectives may not fully capture the long-term value of collaboration. Thus, our second approach considers the externalities of the collaboration process. Gray (2000) suggests that the generation of social capital is an important outcome of collaboration. Social capital here can be understood as the creation of social ties that involve some trust component. Development scholars such as Porter and Lyon (2006) have criticised the simplistic operationalisation of social capital by means of "counts" of social groups to which an individual belongs. We attempt to avoid such metrics and operationalise social capital as changes in network connections or changes in the quality of working relationships. Finally, scholars have argued that evaluation of collaborative outcomes should consider the collaboration's role in creating public value (Sagawa and Segal 1999). The creation of public value can be operationalised by measuring changes in the attitudes of participants, changes in network density, or the continuation of the collaboration beyond its initial mandate.

The concepts of social capital and public value have been linked to improved development outcomes on a range of topics. For example, in microfinance programmes, social capital (manifest in peer group pressure and peer monitoring) is utilised to replace traditional capital as means of collateralising loans. One of primary effects of public value is to facilitate the creation of future collaborations at the formal as well as the informal level. Furthermore, both social capital and public value may help in technology and knowledge transfers between different stakeholders beyond the end of the collaborative project.[1] Incorporating each of these aspects of collaboration outcomes is important to

Table 1. Descriptive statistics of survey results.

	Mean	Std. Dev.	Min.	Max.
Dimensions				
Governance	75.4	18.4	36.5	100
Administration	79.6	18.0	32.5	100
Autonomy	85.3	18.3	37.5	100
Norms	78.8	20.7	32.5	100
Mutuality	74.0	18.7	18	100
Outcomes				
Effectiveness	77.4	11.8	60	100
Key project goal	69.9	15.2	40	100
Enhancement of social capital	71.4	21.4	20	100
Creation of public value	81.1	12.1	65	100

fully capture the long-term impact of the collaboration. In our interviews and surveys, we followed this broader definition to understand the outcome of the collaborations

Research design and methods

The study uses a mixed-methods research design in order to develop and test a conceptual model of collaboration in a development setting. We use a mixed-methods approach to incorporate input from the entire population of stakeholders involved in the design and implementation of the project. While we attempted to interview subjects from each of the organisations involved in the two collaborations, we were unable to gather a representative sample of interviewees. Thus, we supplement our interviews with a survey to increase the representativeness of the sample. Furthermore, the combination of qualitative and quantitative methods allows researchers to take advantage of the complementary strengths of each method (Creswell and Plano Clark 2007).

Interviews

We conducted 10 in-depth semi-structured interviews with key stakeholders from the collaborations. These included volunteer training staff, election monitors, software developers, and leaders of the collaborative projects. Two individuals were interviewed twice as they were involved in both cases. Audio-recordings of the interviews were transcribed and then independently coded by two researchers. Each researcher conducted an initial coding based on the proposed model components. For example, if a researcher noticed that a portion of the transcribed interview text dealt with any aspect of the governance dimension, this entire portion of text would be coded as "governance". Second, each researcher re-coded the transcripts using an open-coding approach. The first stage was aimed at model validation while the second open-coding stage sought to identify components missing from the initial model. Researchers then met in order to compare results

Table 2. Pearson correlation coefficients for model components.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	Governance	1.00								
(2)	Administration	0.70***	1.00							
(3)	Autonomy	0.73***	0.93***	1.00						
(4)	Norms	0.51**	0.70***	0.71***	1.00					
(5)	Mutuality	0.57**	0.78***	0.78***	0.56**	1.00				
(6)	Effectiveness	0.58**	0.57**	0.49*	0.30	0.54**	1.00			
(7)	Stated goal	0.35	0.06	0.15	0.16	0.26	0.59***	1.00		
(8)	Social capital	0.47*	0.58**	0.50*	0.41	0.68***	0.72***	0.61***	1.00	
(9)	Public value	0.43	−0.05	0.03	−0.16	−0.09	0.60***	0.49**	0.18	1.00

Notes: *** Sig at 0.01 level; **Sig at 0.05 level; * Sig at 0.10 level.

and settle on a final coding scheme. The results are based on the coding scheme resulting from that meeting. The interviews provided an opportunity for researchers to become familiar with the details of each case and validate the conceptual model of collaboration. While the majority of the components of the conceptual model have well-documented origins in the collaboration literature, empirical validation allows for identification of gaps in the model. For example, the interviews alerted us to the role that resources play in the collaborative process in an ICT for development setting. In the case of interviews, we present counts of coded references and direct quotations related to a particular model component as evidence of its salience. Additionally, in order to trace how the model components both manifest and interact in practice, we provide narrative descriptions, based on the interviews, of portions of the two election monitoring campaigns. Thus, discussion of the cases constitutes means of validating our conceptual model, not an evaluation of the cases in question.

Survey

We supplement our interview results with the survey findings. The survey focused on the relationship between the dimensions of collaboration and collaboration outcomes. In designing the survey questions, we used the framework outlined in Thomson, Perry, and Miller (2008). The survey was sent to 39 stakeholders and we received 22 responses (56.4% response rate). Three surveys had missing

Table 3. Cross-case comparison of collaboration dimensions.

	Ghana	Nigeria
Governance	[Regarding formal process for managing conflict] "*I just assumed that I would handle everything that I could and certainly the last resort was to go to [University Lab Director] or [Head of local partner organisation] There was not a problem*." "*There was never a sense of hierarchy*."	"*There was much discussion with local partner, but not on my side of things. I don't know if Person X was in discussion with them*." "*As I wasn't part of the planning and organising, so I can't tell the root cause of chaos*." "*I don't think I had the power to direct the organisations how to plan*." '*Was there a formal relationship between [Project Lead] and [Technical Lead]? No, never.*'
Administration	"*So then you start work out those sort of tensions, after that if there were problems, we would collectively solve them*."	"*Honestly the relationship was not described to me very clearly and things are a little fuzzy, even on asking*." "*No, there was no process, there was just miscommunication*." "*I think it would have been helpful to have a framework to help international partners communicate better*." "*It [division of labour] would change at different points of time, there were times when it would be that university [individuals from the university] would lead and then there were other times when local partners were in charge of everything and university would be, to the extent possible, an assistant. So, those were the two models*."
Mutuality	"*They definitely have a good governance, anti-corruption kind of mission*." '*So I see X, the Ghanaian counterpart as he more embodies the term counterpart, I mean he was working a lot throughout. He would embed us. So he was playing an important part of the team, so he was very much a team player*." "*If there were problems, we would collectively solve it*."	"*There was a difference in our [the Project Lead the and Technical Lead] visions [for the focus on the monitoring campaign]*." "*It was sort of like they were required to be there, as opposed to being excited by monitoring elections over social media*."
Autonomy	"*But I do think that this organisation is something that is supported more internationally*."	"*She was probably feeling the pressure from international folks [donors]*."
Norms	"*The partners were absolutely trustworthy*."	"*To an extent the partners were trustworthy but not entirely. The staff was trustworthy, but leadership wasn't*."

responses and were thus dropped from the sample. We received complete surveys from each of the collaborative partner organisations, with the exception of the funders and local partners in Nigeria. Table 1 provides descriptive statistics for the survey responses. The respondents rated the different dimensions and outcomes on a scale of 0 to 100, and the average score in Table 2 shows the sample means. For example, the average effectiveness score of 77.4 corresponds to the respondents' view of whether the "Aggie collaboration was effective in meeting its goal of improving election monitoring". Similarly, the average governance score of 75.4 is an average of two questions corresponding to the respondents' view of whether the participants understood the goal of the collaboration and the role of their organisations.[2]

In the survey, we focused on the relationship between collaboration dimensions and collaboration outcomes, thus we present pairwise Pearson correlation coefficients relating these model components to one another.[3] Table 2 provides the pairwise correlation coefficients for the measured model components. Model components are calculated as the mean normalised score for the questions within a given category (generally three to six questions). For example, the mutuality indicator is calculated as the mean score of the five survey questions addressing mutuality. Finally, we enhance the validity of our results through member checking. Member checking is a data validation technique whereby subjects are provided an opportunity to verify the interpretation of the data that they have provided (Carlson 2010). In particular, narrative sections of this article were shown to interview subjects to confirm their accuracy.

Results and discussion

This section describes interview and survey results in the context of the proposed conceptual model. Our focus is on the manner in which collaboration processes affected outcomes. Our model suggests that collaboration antecedents should manifest in collaboration processes. Thus, validation of the antecedent components is conducted not through their direct observation, but by considering the extent to which they influence processes and outcomes. We discuss the evidence supporting the inclusion, and relative position within the model, of each model component. It should be noted that while we have taken steps to mitigate the possibility of omitted variables (the use of an open-coding approach and a mixed-methods research design), our research design leaves open the possibility that the observed variation in the cases owes to omitted factors. For example, it is possible that there were election-specific differences that contributed to variation in the measured variables. Table 2 summarises the results of the quantitative analysis and Table 3 provides key excerpts from qualitative interviews that inform our discussion.

Governance and administration

In both the qualitative and quantitative analyses, governance and administration were found to be salient and closely tied to the collaboration outcomes. For instance, in the case of our most general measure of the collaboration's success ("Effectiveness", Table 2, row 6), the coefficient estimates for both governance and administration are positive, statistically significant, and large in magnitude. For example, a 1% change in the governance measure is correlated with 0.58% change in the measure of collaboration effectiveness. In addition, a large, positive, and statistically significant relationship is found between governance and administration and the extent to which stakeholders perceived the collaboration to have created social capital (Table 2, row 8). Specifically, a 1% increase in the governance measure is associated with a 0.47% increase in the social capital measure, and 1% increase in the administration measure is associated with 0.58% increase in the social capital measure.

Our interviews also confirm the relevance of governance and administration to the collaborative process and to collaborative outcomes. As described above, governance refers to the formal and informal rules that shape behaviour within a collaboration, and administration refers to manner in

which these governance structures are translated into action. Thus, these dimensions are closely linked conceptually and statistically (Table 2, row 2, column 1). Of the five collaboration dimensions, governance and administration were observed most frequently during interviews (26 and 27 coded references respectively). These two dimensions also shared the greatest number of cross-coded references, suggesting that the dimensions are also closely linked in practice.[4]

The most striking feature revealed by a cross-case comparison of governance relates to the perceived distribution of decision-making power. In the Nigeria case, interview subjects regularly mentioned that they were outside of the decision-making process. One interviewee (a technical expert) expressed this sentiment succinctly stating, "*I wasn't a part of the planning and organisation so I can't tell the root cause of the chaos.*" In the Ghana case, this segregation of decision-making power appears to have been absent. Indeed, one interviewee explicitly mentioned the lack of perceived hierarchy within the Ghana collaboration stating, "*There was never this sense of hierarchy.*" During an interview with the University Lab Director, the absence of clearly defined responsibilities in the Nigeria case became evident. When asked about how the collaborating parties divided the various project responsibilities, the interviewee responded,

> "I mean it [the division of labour] would change at different points of time, there were times when it would be that university [individuals from the university] would lead and then there were other times when local partners were in charge of everything and university would be, to the extent possible, an assistant. So, those were the two models."

Comparing the cases on the administration dimension reveals a degree of process ambiguity in the Nigeria collaboration. When a software trainer was asked about the mechanisms for resolving conflicts or miscommunications, she responded, "*No, there was no process, there was just miscommunication.*" This sentiment was echoed by a technical expert who stated, "*Honestly, the relationship* [between the collaborating partners] *was not described to me very clearly and things were a little fuzzy, even on asking.*"

In the Ghana case, lack of process clarity was not observed. Indeed, here the process by which governance was translated into action appears to have mirrored the perceived governance structure. Specifically, the lack of hierarchy in governance appears to have allowed for a sense of collectivity among collaborators when taking action. One interviewee (a software trainer) described this group-centred approach to collaborative action stating, "*If there were problems, we would collectively solve it.*"

The North–South context (a collaboration antecedent in our model) affected the administration of the Nigeria case. Specifically, the University Lab Director indicated that individuals from one of the local partner organisations used the historical legacy of colonisation and the North–South power disparity as effective discursive tools that changed the manner in which he executed his administrative responsibilities. Such actions represent a means of counteracting the existing power disparity in favour of individuals from Western organisations. In describing both the manner in which this occurred and its effect on administration, the Lab Director commented, "*They basically called out the non-Africans as essentially trying to dominate them due to the advantage we have from being from North America or the West. And rather than ignoring that, I would cave to it.*"

Mutuality

In the survey, mutuality was also strongly linked to two of the outcome measures (Table 2, column 5, rows 6 and 8). Specifically, the composite mutuality score had a large and statistically significant correlation with collaboration effectiveness and the creation of social capital. A 1% increase in the mutuality score was associated with a 0.54% increase in the effectiveness score and a 0.68% increase in the social capital score. It is thus telling that during the interviews, the dimension of mutuality was observed in Ghana, but not Nigeria. More precisely, mutuality (in the form of

shared interests) was coded eight times during the Ghana interviews and never in the Nigeria interviews.

The manner in which mutuality appeared in the Ghana case interviews may help in explaining the interaction between the inter-organisational context (a collaboration antecedent in our model) and collaboration processes. In this case, the group of election monitors sent from the US were part of a university-run, development-focused, lab that was charged with the use of technology to realise development outcomes. This organisational orientation is similar to that of the local project lead in Ghana, which articulates its mission as "Promoting effective governance by deploying technology that enhances participation." Regarding their shared interest, one interview subject (a software trainer) stated, "*they* [the Ghana partner] *definitely had a good governance, anti-corruption kind of mission*". Thus, we observe that the inter-organisational context affected a process component in that organisational homogeneity in terms of ideology-enhanced mutuality.

Autonomy

Table 2 also reveals organisational autonomy to be associated with two collaborative outcomes: effectiveness and the creation of social capital (Table 2, column 3, rows 6 and 8). Specifically, a 1% increase in the autonomy score is associated with roughly 0.5% increase in the effectiveness and social capital scores. However, these correlations were significant only at a 10% level. Organisational autonomy refers to the capacity of each organisational component of a collaboration to independently determine their course of action. While the nature of collaboration implies the absence of complete organisational autonomy, if an organisation is largely dependent on another entity, the collaboration may suffer. This appears to have been true in the Nigeria case. In particular, it appears as if the autonomy of one of the local partner organisations was affected by concerns about retaining international donor support.

Norms

Our results in regards to the dimension of norms are ambivalent. While the survey does not reveal norms to be related to outcomes, the interviews indicate cross-case variation in norms that is consistent with the observed variation in outcomes. Norms govern beliefs concerning what behaviour is considered appropriate during collaboration. Because norms are often implicit, their identification can be problematic. However, norms can be identified in the perceptions of members regarding the trustworthiness of other members and in their sanctioning and disapproval of others' behaviour. When asked whether their Nigerian counterparts were trustworthy, one interview subject (a technical expert) responded, "*To an extent, but not entirely. The staff I interfaced with were trustworthy, the leadership wasn't*." To the same question the Lab Director simply responded, "*No*." In the case of Ghana, interview subjects' perceptions regarding the trustworthiness of their collaborative partners indicated a shared normative framework. In response to a question regarding whether their Ghanaian counterparts were trustworthy, a software trainer responded, "*Absolutely*", and the University Lab Director, "*Yeah*."

Norms are often most evident when they are violated (Pfeffer and Salancik 1978). An instance of norm violation in the Nigeria case reveals both the salience of norms to collaboration processes and the manner in which the cross-cultural context affects norms. During the incident, a software trainer from the university was administering evaluation instruments to some of the election monitors in what the interviewee described as "*a low voice*". During this process, a senior employee of a local partner approached the software trainer, shut his laptop and stated, "*You're distracting the room*." The individual from university characterised his response to this action as a "*jaw-drop reaction*" and stated, "*I was like, where does this happen in the world!*" Following the incident, the interviewee

Table 4. Cross-case comparison of collaboration resources.

	Ghana	Nigeria
Human and social capital	"*I would describe them as very dedicated and hardworking and easy to interact with.*" "*The* [education institution] *volunteers were superb.*" "*They knew how to work in teams, they did not have a political agenda. They were smart. They were good team players.*"	"*Very kind and smart but it was sort of like they were not required to be there.*" "*The trackers were not super determined.*" "*I'm not sure if they were good team players.*"
Communication and physical infrastructure	"*Internet was not a problem at all.*" "*The location was great … there was also a place for people to sleep, eat, walk around.*" "*A good room with perfectly running internet.*"	"*We were also surprised by how much unprepared the network situation was and the internet.*" "*The problem was failures, like major failures … enormous problems with the internet.*"
Financial resources	"*So there was not day-to-day interference from donors.*"	"*They could come at any time and observe … they were potential funders.*" "*In Nigeria, the key point was the stuff to be packaged for the donors and fancy people.*"
Local knowledge		"*There were definitely issues about local knowledge, we had a big debate about what is the penetration of data networks throughout rural Ekiti state. And, I said I don't know, I don't have the local knowledge, but I also said that you guys* [local project lead] *live in Abuja, you don't live in Ekiti state, you don't have it either … *"

discussed the interaction with other individuals from the university that were involved in the collaboration.

The surprise expressed by the interviewee indicates that a contradiction of collaborative norms occurred. Although the norm violation did not result in official sanctioning, the expression of surprise and the subsequent desire of the individual to point out the norm violation indicate a divergence in accepted models of behaviour between the individuals involved. It is also telling that the group to whom the interviewee desired to relate the incident was from the same organisation as the interviewee. This suggests that that the interviewee expected that fellow members of his organisation would understand and sympathise with the norm violation that had occurred. The choice to relate the incident to fellow group members may also indicate that the difference in norms observed during the incident may have been due to differences in the prevailing cultural norms of the collaborating organisations. Indeed, the interview subject was explicit in attributing the norm violation to cross-cultural differences.

Collaboration resources

The model contains four resource components: human capital and leadership, communication and physical infrastructure, financial resources, and local knowledge. The key interview excerpts related to resources are summarised in Table 4.

Human capital and leadership

Of the four resource components, human capital and leadership was the most frequently coded. In both cases, staff of the partner organisations were described as intelligent and technologically sophisticated. However, in the Nigeria case, the staff's dedication to election monitoring was questioned in three interviews. In response to a question asking the subject to characterise the staff from the local (Nigerian) partner organisations, a technical expert responded, "*It was sort of like they were required to be there, as opposed to being excited by monitoring elections over social media.*" Another technical expert responded, "*The trackers* [the local staff helping to monitor the election] *weren't super determined … you had to motivate them at points, they would complain through the day.*"

This characterisation is in stark contrast to descriptions of the local staff in the Ghana case. Describing the local partners' staff in Ghana, a software trainer answered, "*I would describe them as very dedicated and hardworking and easy to interact with*." The Lab Director, present during both collaborations, described the difference as follows: "*They* [local staff in Ghana] *were technically very skilled … They were smart. They were good team players. I am not sure if the Nigeria folks were good team players*."

There was also a stark contrast in respect to the manner in which the leadership (those in charge of the collaborations' component organisations) was characterised during the interviews. In particular, the interpersonal relationship between the leadership of the local project lead and the technical lead was described as amicable in the Ghana case and fairly discordant in the Nigeria case. This characterisation was mentioned in the majority of our interviews, suggesting that the relationship between the organisations' leaderships was evident to the leaders' subordinates. Indeed, the tense nature of this relationship in the Nigeria case was mentioned during two interviews as a likely cause of that case's relatively low collaboration outcome scores.

Communication and physical infrastructure

Infrastructure issues were mentioned in two interviews on the Ghana collaboration. In particular, both a software trainer and the University Lab Director noted that the physical location in which the tracking occurred was an ideal location for hosting election monitoring. In the Nigeria case, there were two coded references to internet shortage. Interviews reveal that one of the primary cross-case differences in infrastructure related to internet reliability. In the Ghana case, the internet was reliable or in the words of a software trainer, "*Not a problem at all*." In the Nigeria case, however, internet connectivity was unreliable and posed problems for the implementation of the Aggie system. A technical expert expressed this relationship stating,

> "Our expectation was that they would be having proper internet connection that not being the case you, could barely click through Aggie, you could not load pages. Then, from their side, they expected more from Aggie, we [the Aggie development team] had bugs."

Financial resources

A cluster of qualitative responses related to financial resources, in particular to the role of international donor funding, were observed. In the case of Nigeria, financial support appears to have had three distinct and negative effects on other features of the collaboration. First, dependence on international donor financing appears to have decreased the autonomy of the local project lead. One software trainer suggested that the local partner appeared to be concerned with funding, stating, "*She* [Director of the local partner] *was probably feeling the pressure from the international folks* [donors] *… They* [international donors] *could come at any time and observe. … They were her potential funders*." Second, tension regarding how donor-provided financial resources would be distributed among collaborating parties negatively affected norms (trust in particular) in the Nigeria collaboration. In particular, the University Lab Director expressed that the lab was never properly compensated for their contribution to the project. In response to a question regarding the process by which donor funds were distributed, the Lab Director stated, "*We tried to share money post-Ekiti* [the Nigerian election monitoring campaign] *but that went very badly and we did not even get paid. … Such that we ended up eating a bunch of debt*." Finally, the role of donors also appears to have affected the mutuality between the project lead and the technical lead. In particular, our interviews suggest that the project lead sought to prioritise monitoring activities such as data visualisation that they anticipated to be appealing to international donors. During one interview, the University Lab Director lamented this focus on donors, stating, "*In Nigeria, the key point was for the stuff to be packaged for the donors and fancy people*."

It is worth underscoring the breadth of the collaboration dimensions that were affected by issues surrounding donor financing in the Nigeria case. Tensions regarding financing were found to

negatively affect autonomy, norms, and mutuality. In the Ghana case, donor financing was not found to negatively influence any of the collaboration dimensions. One interviewee suggested that this difference might be attributable to the fact that the local implementation team in Ghana comprised a higher proportion of volunteers than in Nigeria, thus obviating potential tensions regarding financing.

Finally, donor financing reveals a disparity in power between local and US actors. The University Lab Director was asked whether power hierarchies existed between the local and Western organisations, and responded that they did and cited the fact that the Western agencies had greater access to donors as an example of such power disparities. Summarising this power dynamic, they stated, "*if we* [someone from a US-based organisation] *have to ever put on a suit and go a meeting then I can command the end of the conversation if I had to*".

Local knowledge

We find evidence that local knowledge contributed to collaborative outcomes. In particular, local knowledge arose in two distinct ways. We define local knowledge as information particular to the location in which the development project takes place that might have some bearing on the collaboration processes or outcomes. First, we found evidence that local knowledge influenced the collaboration as anticipated: as a critical resource to which the non-local party did not have access. In this case, the non-local party's awareness of their ignorance regarding data network penetration allowed for simple resolution of this resource constraint. The University Lab Director described the process by which local knowledge was attained,

> "I said I don't know [the extent of data network penetration in Ekiti], I don't have the local knowledge, but I also said [to the local partner] that you guys live in Abuja, you don't live in Ekiti state, you don't have it either so let's ask Person A, our mutual friend. So I just emailed Person A and … he responds."

We did not anticipate the second manner in which local knowledge affected the collaboration. According to the Lab Director, local knowledge was occasionally used during the Nigeria case as a rhetorical technique to shift negotiating power towards the local party. That is, the local partner would appeal to their local knowledge as justification for administrating the project according to their preferences. In describing this use of local knowledge, the Director noted,

> "When they [local partner] wanted to press a point about how they wanted to do it [implement the election monitoring campaign] the way they wanted to do it, they would say, 'we have the local knowledge about this particular incident or issue'."

Conclusion

We began by explaining that donors increasingly require the utilisation of local actors in the implementation of economic development projects. This collaborative approach is thought to serve a capacity building function and increase access to local knowledge and local networks. In this study, we have attempted to further understanding of the nature of such collaborations. We have improved upon the work of earlier scholars by developing a conceptual model of collaboration that is sensitive to the role that various resources play to collaboration processes within a development context. Our validations process suggests that the proposed conceptual framework is able to capture much of what occurs in distinct empirical settings.

There are at least three practical applications to this finding. First, confirming the salience of the prevailing (organisational behaviour) model of collaboration to a North–South development setting, suggests that existing conceptual and evaluative tools may be, without significant modification, effectively employed in such a context. For example, the instruments that have been developed by Thomson, Perry, and Miller to evaluate collaborative processes (Thomson, Perry, and Miller 2007) and outcomes (Thomson, Perry, and Miller 2008) might be useful in assessing collaborations involving organisations from developing countries.

Second, the role played by resources within the process phase of collaboration suggests that effective North–South collaboration requires parties to address resource disparities and resource shortages early in the collaborative relationship. Appropriate actions to address the potential of resource-based process failures will depend on the character of the resource in question. For example, a breakdown in process caused by a shortage of ICT infrastructure may be addressed through technical solutions (e.g. through ex ante development of alternative means of undertaking ICT-dependent project components).

Finally, we observed a breakdown in collaborative processes based on North–South power disparities. This finding supports research that finds intra-group power disparities to be associated with greater group conflict (Greer and van Kleef 2010). Because implicit power disparities are likely to exist in North–South collaborations, it may be appropriate for donors or collaborators to take preventative measures to avoid conflict. For example, in the cases considered here, the observed collaborative process breakdown based on the distribution of donor financial resources might have been effectively managed by increasing transparency (e.g. through early donor or inter-party disclosure of the process by which funds were allocated).

Notes

1. One interview respondent summarised the instrumental role that these factors have in development collaboration during her experience with Ghana collaboration: "*I have a good relationship with the Ghana folks, I still email them since we have the same interest in open data, open government, and stuff.*"
2. The two corresponding questions posed were: (1) You, as a representative of your organisation in the collaboration, understood your organisation's roles and responsibilities as a member of the collaboration. (2) Partner organisations (including your organisation) agreed about the goals of the collaboration.
3. We avoid using a regression-based framework given the limitations of the sample size. However, the Pearson correlations coefficients presented in Table 2 enable us to compare the salience of factors in the interviews and survey.
4. Cross-coded references – text that is coded for more than one category – were rare. When considering the five Thomson, Perry, and Miller dimensions, there were only 10 instances of cross-coded references.

Disclosure statement

No potential conflict of interest was reported by the authors.

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