A Robust University-NGO Partnership

Analysing school efficiencies in Bolivia with community-based management techniques

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Community-based research (CBR), also referred to as community-engaged scholarship, has become an integral part of academic pursuits in the business and management sectors as business scholars focus on 'doing good' and as the need for managerial techniques become increasingly recognised by not-for-profit organisations as necessary for organisational economic sustainability. The research literature on management for social responsibility provides many examples of managerial applications helping communities reach higher levels of sustainability, several of which this article makes reference to. Most of these articles focus primarily on the *content* of the research, that is, the benefits provided by the particular managerial technique to address a specific problem. Just as important as the *content* of the research is the *process* through which it is conducted because of the desirability to maximise community participation, tap community-based knowledge sources, use the research process as a conduit for community member empowerment, ensure that benefits from the research will be long-lasting and, perhaps most importantly, to offer the community the means to continue the initiative(s) after the academics are long gone.

The objective of the research described in this article was to examine resource-utilisation efficiencies in a network of primary and secondary schools operated by Fe y Alegría: Bolivia (FyA:B) in low-income communities. The research project proposed to achieve this through application of a time-tested managerial quantitative technique, Data Envelopment Analysis, the results of which were included in an article by Neiva de Figueiredo and Marca Barrientos (2012). This article complements that publication and has two main objectives. The first is to critically examine whether and how well descriptive managerial quantitative research techniques enable community-engaged knowledge development taking one case study as an example. The second is to document the importance of a strong university-non-government organisation (NGO) partnership for meaningful community-based management research. Thus, the article is an inquiry into factors affecting positive application of descriptive managerial quantitative research techniques within

the CBR context in a cross-cultural setting, with emphasis on the importance of the institutional partnership. Because the broad research project is still ongoing, the article's objective is to offer a structured description of the partnership's development and the research process to date, and to reflect on what seems to be working well and what can be improved.

Fe y Alegría (FyA) is a not-for-profit NGO operating over one thousand schools for the very poor in various countries, mostly in Latin America. In Bolivia, this organisation has been active since 1966 and now operates over four hundred schools in very diverse regions of the country. FyA:B national and departmental offices keep annually updated information on all schools managed by the organisation in Bolivia, which allowed for the development of a detailed database covering all schools in the network. This, in turn, led to a need for techniques that would help synthesise this quantitative data and also compare it with qualitative indicators. Among other objectives, FyA:B's national and departmental offices hoped such an effort would help identify schools which were making best use of extremely scarce resources and eventually allow for the identification and later dissemination of best practices among all schools in Bolivia.

The research project had several unique characteristics. First, the academic researchers and the communities were of completely different cultural environments. Second, there were essentially three categories of participants in the research: academic researchers; FyA:B national and departmental offices; and their community schools. Third, because FyA:B wanted an objective and reliable way to interpret information gathered, the research involved using quantitative managerial efficiency evaluation techniques to complement field observations. The nature of the research effort was eminently descriptive in the sense that it sought to provide insights into school efficiencies through quantitative methods in addition to qualitative observations undertaken on the ground. Fourth, the objective was to enable FyA:B to eventually proceed with research on their own, that is, with academic support only on an as-needed basis, particularly important because of the geographic distance between the communities served in Bolivia and the US-based academic institution, Saint Joseph's University (SJU). Fifth, the research benefited from an institutional partnership between SJU and FyA:B which already had been in place for several years. Sixth, as described below, empowerment of the individuals served by the schools (the low-income communities themselves) was just as important as empowerment of FyA:B, and indeed was one of FyA:B's stated objectives – as a result, there were sometimes several layers of cultural sensitivities to be recognised. Seventh, there were differences in *modus operandi* between FyA:B and SJU, and it was necessary to develop a set of attainable goals and a flexible timeline, including periodic reassessments, in order to maximise the benefits to the communities served by the schools – the ultimate objective of the research.

We believe this article, which is jointly authored by members of FyA:B and SJU, offers several contributions to the literature on the process of community-engaged scholarship. Perhaps the most important contribution is the account itself, with its examination of the strengths and limitations in applying a specific set of management research tools, namely descriptive quantitative techniques, within CBR frameworks. Second, this article seeks to contribute to the literature on partnerships between universities and community-based organisations, especially to the understanding of factors contributing to the sustainability of such joint efforts. A third contribution is to make explicit one example of an area in which management research can contribute greatly to community wellbeing, namely the area of primary and secondary education for low-income communities in a developing country. Fourth, the article includes a listing of features which helped set up this CBR project, which may be useful for other community-engaged management research initiatives.

THE CONTEXT: BOLIVIA, FE Y ALEGRÍA, AND THE RESEARCH PROJECT

Education in Bolivia

Bolivia is a landlocked developing country in South America with a population of 10.2 million (2012 estimate) and an area of roughly 1.1 million km^2 (larger than Spain, Portugal, Italy and Greece combined). According to the World Bank, Bolivia has the lowest per capita income level among Iberian-colonised countries in South America. The main economic activities are mineral extraction, agriculture and services – Bolivia exports commodities, including natural gas, crude oil, soybeans and soy products, and tin. Bolivia's income inequality remains the highest in Latin America despite recent efforts to reverse this trend: the country's Gini index for distribution of family income is estimated at 53, fourteenth in the world (CIA World Factbook 2012). Furthermore, at 0.675, Bolivia's Human Development Index (2012) is among the lowest in South America.

Bolivia is the Latin American country with the highest percentage of inhabitants with indigenous ethnicity (roughly 55 per cent, excluding mixed white and Amerindian – *mestizos*). The most spoken languages are Spanish, Quéchua and Aymara – with 60 per cent, 21 per cent and 15 per cent of inhabitants respectively identifying each as their first language (CIA World Factbook 2012). These indigenous cultures have centuries-old traditions as Bolivia was home to several pre-Columbian civilisations, most notably the Tiwanaku and the Incas. With the discovery of the New World, Bolivia's original inhabitants saw the richness of their land almost exclusively benefit the Spanish conquerors. Bolivia declared independence from Spain in 1825, initiating a turbulent republican period, with almost 200 coup d'états at an average of over one per year (CIA World Factbook 2012). In December 2005, the country elected its first ever indigenous president, Evo Morales,

who had run on a platform based on empowering the native population (Mesa, Gisbert & Mesa Gisbert 2008). In December 2009, he was re-elected with 60 per cent of the vote.

Bolivia is a young country with a median age of 22 and a literacy rate of 87 per cent. Pre-university-level education in Bolivia includes two cycles, with the primary cycle comprising the eight years of elementary and middle school (ages 6 to 13), and the secondary cycle including the four years of high school (ages 14 to 17). Education is required by law for children under 14. According to the Bolivian Ministry of Education, roughly 50 per cent of children under 18 attend school exclusively, with almost 20 per cent combining schooling with herding and almost 10 per cent combining schooling with agriculture. Despite progress in recent years, educational opportunities are very uneven, with female, indigenous and rural populations less likely to be literate and to complete basic schooling (CIA World Factbook 2012). In addition, the Bolivian geography is very diverse with three categories of regions of comparable size and of very different climates, characteristics and ecosystems (the highlands, the valleys, and the lowlands). The various ethnicities comprising inhabitants of each of these regions have very diverse cultures due to many factors, including the vast geographic differences. This magnifies the importance of education to maximise opportunities, while at the same time valuing each individual's cultural heritage. Although recent public initiatives have done much to improve education in Bolivia, it still lags behind other South American countries in most pedagogical metrics.

Fe y Alegría

Fe y Alegría (FyA, 'Faith and Joy') is a Jesuit-sponsored not-for-profit organisation focusing on education and development of the 'poorest of the poor' in 19 countries (mostly in Latin America but also including Spain and Chad). In 2011 the organisation managed over 1200 schools and 2500 educational support service centres, reaching over one million students through formal education, special education, community development and other initiatives. The popular saying is that FyA's work begins 'where the pavement ends, where there is no running water, where the city loses its name'.

FyA was founded in 1955 and grew during its early years in Caracas and later Maracaibo, Venezuela. The original vision (which remains to this day) was to develop a network of elementary and secondary schools predicated on the belief that education can be a transformative force through *cura personalis* (care for the individual) to help rescue the excluded from ignorance, poverty and subjection. FyA has developed a unique approach to providing the managerial, administrative, pedagogical and developmental expertise for in-network schools, acting in each country through a small staff which leverages capabilities and resources across schools in each domestic network to train and develop faculty members, work with individual school personnel to establish and reach aggressive goals,

identify and develop best practices, and to ensure that these best practices are disseminated. In over 55 years, FyA has expanded persistently. By 1971 the organisation was present in all northern Andean countries, and it is now present in all of Latin South America with several categories of programs, including formal schooling, special education, distance and radio learning, technical education, adult education, teacher training, and community services (Fe y Alegría 2013).

As is true in other countries, since its inception in Bolivia in 1966, FyA's work has been directed to the most impoverished with the objectives of empowering them in their personal development and encouraging their participation in society. FyA:B operates in a decentralised structure with departmental (provincial) directors who provide local support and a central office that coordinates activities nationwide. In 2012 FyA:B was present in every Bolivian department or province, operating over 400 schools with over 7500 teachers and 200 000 students. FyA:B is now an integral part of the country's educational system, offering a wide range of educational services. The largest area is 'formal education', which manages a network of elementary and secondary schools ensuring community participation, including classes in the Quéchua and Aymara indigenous languages. Other services provided include special education for students with disabilities, secondary professional technical education, boarding schools for students in rural areas who live too far away to go to school from home every day, called Wisdom Houses (*Casas del Saber* in Spanish or *Yachay Wasis* in Quéchua), distance education through radio and also a large menu of community service activities (Fe y Alegría: Bolivia 2013). Recently, over 80 per cent of the funding has come from the Bolivian government, slightly over 10 per cent from donations and less than 5 per cent from revenue-generating initiatives.

The Research Project
Because Bolivia is so resource constrained and because FyA:B operates in locations of extreme poverty, the organisation has worked hard to stretch funding sources, and an ever-present objective has been to raise network schools' efficiency levels. This has been achieved in many ways, including efforts to involve the school communities and use of novel pedagogical techniques. Effective resource utilisation is of paramount importance to FyA:B, so the request to rationalise and interpret data to verify individual school efficiencies was an opportunity to help the organisation and the communities it serves while also contributing to the academic literature on primary and secondary education management. At the same time, there was the opportunity to undertake a valuable example of community-based research, at least at two levels. The first was the level of the inquiry, that is, the request from FyA:B for help in synthesising the findings from the extensive surveys schools fill out every year in a descriptive research effort using a quantitative methodology to better understand resource utilisation. The second was the level of the local communities, that is, to

verify whether findings from the quantitative methodology were borne out by qualitative observations on the ground, and once opportunities to disseminate best practices were identified, to do so with the involvement of teachers and families in the localities.

The measurement of relative school efficiencies in Bolivia through quantitative managerial techniques helped the organisation identify and assess best practices among schools in the network and allowed for an objective comparison of FyA:B-operated schools with those not run by FyA:B. The descriptive quantitative technique used to determine school efficiencies was Data Envelopment Analysis (DEA), which has been used extensively in social settings including education applications (see Cooper, Seiford & Tone 2007 for a detailed introduction to DEA). Schools within the FyA:B network were indeed found to be more efficient than non-network schools. Furthermore, the technique allowed for the identification of highly efficient network schools, leading to further inquiries and identification of best practices (for a complete description of the content and results of this research, see Neiva de Figueiredo & Marca Barrientos 2012).

COMMUNITY-BASED RESEARCH

In this article the expression 'CBR' is used in the sense articulated by Strand et al. (2003), who suggested a model based on three principles. The first proposes that CBR should be a collaborative effort between academia and community members. The second is that CBR should promote and validate various sources of knowledge and methods of discovery. The third principle is that CBR should have the specific goal of achieving social change to foster social justice. The remainder of this article follows a similar structure in that, after this section on CBR, it first examines the partnership, then the process of joint knowledge creation, and finally the strengths and limitations of the use of descriptive managerial quantitative techniques to achieve social impact.

Since 2008, this research has been a collaborative effort between academia (SJU), FyA:B, and the communities it serves through education. Secondly, the research promoted and validated alternative sources of knowledge and methods of discovery implicitly and explicitly. Explicitly it did so in several ways such as the joint selection of variables to be included in the school surveys and the institution of open feedback mechanisms. Implicitly it did so throughout the whole research effort by adopting an open, receptive stance and a pace set by FyA:B, not by the academics involved. Lastly, the research had, and has, the specific goal of achieving social change to advance social justice, in that it has helped FyA:B and the local communities it serves by increasing their understanding of school efficiencies, thereby leading to fairer available resource utilisation.

In recent years the extensive literature on partnerships for community-engaged research has benefited from a lively debate on how to put ethically sound prescriptive visions of university-community engagement, such as that proposed by Garlick and

Palmer (2008), into practice. As Netshandama (2010, p. 72) articulately put it, '… there is a tendency in academia … to use the idea of engagement as an "aerosol" term sprayed over any interaction between a Higher Education Institution (HEI) and the community to give the relationship a politically correct facelift'. Onyx (2008) specifically defined engagement as a partnership between the university and civil society to co-produce knowledge. Civil society, according to Onyx, includes, among others, the non-profit sector and NGOs such as Fe y Alegría, as well as the communities themselves. The university may or may not have the initiative in a joint effort to create knowledge and may or may not have a leadership role, acting as mediator, synthesiser or facilitator as the case may be; in the author's words '… the creation of social capital is normally based on collaborative networks among equals' (Onyx 2008, p. 103). Boyer (1996) urged academia to become a more 'vigorous' partner in addressing social, moral and other problems. Silka et al. (2008) provided a thoughtful examination of factors that can help sustain healthy university-community partnerships in the face of the inevitable changes and transitions institutions face. Shea (2011) listed several factors affecting the sustainability of such partnerships and enumerated threats to each factor.

Implicit in Strand et al.'s (2003) second and third principles is the desire for academic community involvement with practical objectives, which may include the joint discovery of new ways to apply knowledge, as articulated by Boyer (1990). For Boyer, scholarship should mean not only the traditional notion of research in pursuit of new knowledge, but also integration of knowledge – indeed, he argued that scholarship of application was in many ways better suited to deal with societal problems. As Dewey (1938) had pointed out, the creation of knowledge should be linked with social experience and reality rather than isolated from action. The examination of school efficiencies in conditions of extremely scarce resources in a way that, through FyA:B and community representatives, takes into account unique characteristics of the communities served by the schools and produces information that leads to school management action is indeed an example of scholarship of application using integration of knowledge to improve social conditions. Such joint creation of knowledge has been exemplified in the literature in several areas of academy-community collaboration and in different cultural settings.

Also important as a foundation for the research described in this article is the literature on indigenous communities (as indigenous ethnicities comprise the majority of Bolivia's population) and, more specifically, the literature on education in the context of cultural diversity. Kovach (2009) linked epistemology with research methodology to underscore indigenous ways of learning and ways of knowing that are different from academic tradition. She pointed out the importance of research methods that allow for 'indigenous knowledges' to be expressed.

Other indigenous scholars have written about culturally unique ways of creating and transmitting knowledge, for example, Bishop (1998, 2005) on the Māori approach and Swadener and Mutua (2008) on the benefits of 'decolonizing' research. CBR validates and builds upon local cultural norms, as exemplified by Park (1992) on the advisability of following local cultural norms together with or, sometimes, in opposition to conventional research methods. When gathering data on nutrition and unemployment in Tanzania, he found that Q&A rigidity in instrument construction deriving from the need for replicability was less effective in obtaining the necessary information than relying on communal knowledge-sharing customs typical of the local culture.

Several models of CBR evolved within the context of education, such as the seminal work by Freire (1970), who linked education to the validation of one's cultural roots and the pursuit of social change, objectives to be reached through action, including both community and researcher participation. Kincheloe and Steinberg (2008) pointed out the transformation potential and the environmental preservation essence of indigenous knowledge and extolled the benefits of multiple research and pedagogical perspectives. They further noted the need to '… sidestep the traps that transform their [the Western scholars'] attempts at facilitation into further marginalization' (p. 141) and stressed the importance of using education and local knowledge for social change that ensures indigenous needs and interests are fulfilled. FyA's education work empowers the individual within his or her own cultural context as a means to achieve social inclusion and pursue social justice; therefore, although the management research project itself was quantitative and descriptive, we would argue that its end-result and impact stand the scrutiny of indigenous methodological examination.

Although most CBR research has fallen under the sociology, public health, anthropology and sustainability disciplines, there have been instances of management CBR that have had an impact. Recent examples of management application research focused on the marginalised include Cumbie and Sankar (2010), who used a community perspective to develop disaster-related preventive guidelines and measures involving stakeholder needs in stricken areas; Scarincini et al. (2009), who adopted a community-based participatory research methodology to develop an evaluation framework to reduce the disparity of cancer incidence between different ethnicities in southern US states (an example of community-based research in public health-care initiatives); Mihelcic, Zimmerman and Ramaswami (2007), who provided several examples in which indigenous knowledge and skills in managing and disseminating water and energy sustainability practices in Sub-Saharan Africa proved to be just as important as, if not more relevant than, imported methods; and Parras (2001), who showed that a co-management approach including all stakeholders was necessary to reduce destruction of

coastal resources in the Visayan Islands of the Philippines. These are just a few examples from the managerial academic literature describing community-based research initiatives. This article offers yet another example of the type of contribution that management research can offer to marginalised communities.

DEVELOPING A TRUST-BASED PARTNERSHIP

The partnership between FyA:B and SJU began over 10 years ago through the facilitation of an agreement between the Jesuit Provinces of Maryland and Bolivia to collaborate and share resources. The SJU–FyA:B research initiative on school efficiencies therefore was not created from zero. In 2001, SJU staff conducted two exploratory visits to Bolivia. At the conclusion of the second visit, while still in Bolivia, an in-person meeting to establish the next steps occurred between one SJU professional, the Jesuit Provincial for Bolivia and the National Director of FyA:B. A three-pronged initial approach for collaboration was identified for the path forward: (1) to explore the possibility of English Language Services for FyA:B staff; (2) to organise a periodic SJU faculty and staff immersion in Bolivia; and (3) to explore possibilities of workshops by SJU faculty for FyA:B. This meeting served as the basis for the partnership process, including collaboration driven by a common mission, open communication using culturally competent listening skills, and mutual respect through viewing the counterparty as the expert in their own respective professional and cultural context. Both organisations shared grounding in Jesuit education precepts, which offered a baseline shared vision of working towards a more socially just world where the needs of the marginalised were addressed through education. Moreover, this common vision included essential ideals of collaboration, such as reciprocity and focus on relationship-building, implying the need for each party to get to know the other: the more each institution understood the other's work, the higher the likelihood of an organic evolution of projects within the partnership.

Relationship-building Steps

The vast differences between Bolivian and US cultures were acknowledged early on, so the initial objective in attempting to collaborate was to build trust, which was achieved through the series of relationship-building steps described below.

1 *Effective communication through active listening.* It was essential that all voices be equal in dialogue. This required learning the nuances of each individual, dialectical language differences and distinct cultural customs. For example, the US culture oftentimes listens towards a task orientation. In the Bolivian setting, it was desirable to respect the cultural imperative of open-ended listening – listening to deepen understanding and increase knowledge, in contrast to listening to determine impending action. Furthermore, active listening is a way to reflect back ideas and clarify language usage – very important when all parties are using two languages, one of which is not a

native tongue. Effective communication has improved over the time of the partnership, and with successful programming in response to each other's expressed needs or desires, trust was built gradually.

2   *A strengths-based approach*. From the beginning, the partnership sought to recognise each institution's strengths and to share expertise whenever possible, which contributed substantially to trust-building. For example, FyA:B's strengths as a pioneer in special education programs for the marginalised in Bolivia was highlighted for SJU immersion participants as a model program, while SJU's financial and networking resources across disciplines provided fertile ground for sharing of expertise. The early dialogue included the understanding that each party was the expert in their own context. FyA:B professionals knew their network of schools and country best. The SJU professional responsible for the partnership knew the context of US higher education, with its slowness to adapt to change, the academic demands on faculty and the existence of departmental resources available to SJU professionals. As an example, this understanding was employed very practically in the planning process of the first immersion when, at FyA:B's request, SJU selected two goals for the trip, goals which by design crossed over both institutions' mission statements: (a) for participants to have an intentional experience, deepening their understanding of the needs of the marginalised in the developing world; and (b) for participants to deepen their understanding of the Jesuit mission in the global context. The explicit identification of goals crossing both mission statements allowed for FyA:B to showcase the many strengths of their organisation within a framework familiar to SJU participants.

3   *A deep respect for cultural characteristics*. One of the great contributions to the process of building trust and rapport within the partnership was the gift of the Bolivian culture to focus on the whole individual. Thus, collaboration typically began with a check-in on staff member personal situations. Weddings, births and deaths were all expressed and well wishes shared. Furthermore, recognising that the partnership was far from the only occupational responsibility of FyA:B and SJU staff members, deadlines and schedules were informed by and sometimes changed because of other activities fundamental to the respective institutions. This flexibility in understanding as well as dedication to the partnership allowed for an open communication environment.

Significant Milestones

Significant steps in deepening the partnership prior to the research described in this article occurred in the 2002–2003 academic year and in 2006. In 2002, the year in which the partnership was operationalised, the participants of the first SJU Faculty

and Staff Immersion Program were selected. Additionally, the National Director of FyA:B attended SJU for a six-week language training session. Room and board were provided by the Jesuit community and tuition was covered by the university and English Language Services, while the National Director provided his own transportation. Then, in 2003, SJU Education Department faculty presented workshops in Bolivia for FyA:B personnel. In the first year of partnership implementation, both parties planned and received a deliverable. While by no means did this establish the obligations of a reciprocal relationship, it was an investment of time, talent and financial resources by both parties.

In 2006, the partnership took other steps towards reciprocity. While previously SJU immersions had occurred annually, it was agreed that FyA:B professionals would participate in an immersion trip to the US, the first such FyA:B delegation to visit SJU and an opportunity to enhance mutual benefit. Goals defined by FyA:B at the time included understanding the US educational context and the educational mission of the Society of Jesus in the US. Similarly to the goal development of SJU's immersion, FyA:B selected goals that crossed over the missions of both institutions and allowed for further integration. Funding for this immersion was provided by SJU and the Society of Jesus. Additionally, an informal financial donation drive by SJU immersion program past participants was formalised with the Office of Development and Alumni Relations. This partnership eventually allowed for SJU employees to select payroll deduction as an option for donation and for all donations to be tax-deductible. Also in 2006, the first student academic immersion began. Students at SJU enrolled in a full academic course in which they studied the Bolivian context and participated in a week-long trip to the country over the spring break. With the inclusion of this student immersion, all sectors of the university were involved in the partnership: faculty, staff, administrators and students. FyA:B also had a wide spectrum of involvement: US immersion visits were coordinated by the National Office staff, 2006 immersion participants were selected from each department in Bolivia and workshops provided by SJU faculty were presented to staff across the country. After 2007, immersion trips became biannual events with an FyA:B delegation visiting SJU on odd-numbered years and an SJU delegation visiting Bolivia on even-numbered years. Although there had been several faculty collaborations for the benefit of FyA, a long-term research project had not yet been developed, which the authors attribute to several factors, among them geographic distance and language barriers. In 2008 the partnership took a further step towards augmented reciprocity.

JOINT KNOWLEDGE CREATION

It was with the benefit of the relationship already developed that the seed for the descriptive management research project on school efficiencies in low-income communities was planted in 2008, leading to a process of joint knowledge creation. The research

project is descriptive because it seeks to understand *observed* school efficiency levels rather than identify possible *ideal* efficiency levels. Due to the large number of schools and the consequent need to synthesise information to allow for a 'first cut' at understanding school efficiency levels, a quantitative managerial technique was desirable. Two important consequences of creating an environment of joint knowledge creation were the need for extreme caution in analysing results and the need for extreme care in providing input data. Any quantitative results on a given school (whether encouraging or discouraging) needed to be compared with qualitative information obtained on the ground from the school itself, with input from personnel very familiar with the particular situation. In addition, the raw information on schools needed to be reliable and accurate to avoid distortions. These two consequences inform the process of joint knowledge creation (in which SJU, FyA:B and community schools are joint agents in the research process), as evidenced in the description below of the project's five phases.

Phase I: Exploration (May 2008 to March 2009)
It is apparent to anyone visiting FyA:B-operated schools that resource utilisation is top of mind. There is no waste. Children are engaged and show a unique desire to learn. Teachers clearly are giving their all despite scant infrastructure (some schools unfortunately do not even have basic amenities). Children clean classrooms at the end of the day. Everyone takes care of materials and supplies. Results are noteworthy as abandonment rates in FyA:B schools have been very low. As had been the case with prior visitors, SJU staff members walked away from the May 2008 immersion trip extremely impressed with the sheer magnitude of achievements under very difficult conditions. This led to a period in which SJU researchers investigated FyA:B methods and tried to understand what was unique about their approach. The immersion trip marked the beginning of the joint research project as it became apparent that, if the perceived superiority of FyA:B schools could be quantified, this perhaps could be helpful in FyA:B's fundraising. Data from the Bolivian Education Ministry was obtained, which led to a search for an appropriate tool to compare school performances, and prototype runs confirmed that FyA:B schools indeed seemed to operate at higher efficiency levels than non-network schools. In March 2009 these results were shared with FyA:B, which showed strong interest in deepening the study to include comparisons of schools within the network as these could provide further insight on FyA:B schools because of the vast amount of data the organisation had collected on its own schools.

Phase II: Feasibility (March 2009 to May 2010)
Given FyA:B's interest in pursuing a joint descriptive management research project, Phase II consisted of (a) FyA:B making explicit certain requests and objectives regarding functionality of a quantitative tool for performance evaluation; (b) understanding the necessary conditions for success; and (c) building support in

both organisations (SJU and FyA:B) for proceeding. First, it was necessary to verify whether information was available and to select variables for analysis. During a trip to Bolivia by SJU in June 2009, FyA:B confirmed interest, the necessary conditions for an ongoing project were established, and FyA:B's National Office explicitly asked for a tool that would allow for comparing data collected across schools. Several preliminary DEA models were subsequently run with academic software to verify the appropriateness of the methodology and to incorporate FyA:B's research questions with those already being analysed: the stage was set for joint analysis of variables and procedures. Lastly, the feasibility of FyA:B using DEA in a sustainable manner was verified. This period was one of project design and of exploring whether SJU could provide support for use of DEA, including necessary human resources. By early 2010 it was clear that the proposition was feasible, that is, the conditions for a successful joint project were deemed present and financial support for travel and local data analysis expenses was obtained from SJU's Office of the Mission. However, the most important condition, in the researcher's opinion, was obtaining consensus at different levels of FyA:B of the project's usefulness. As mentioned above and described simplistically, FyA:B's structure includes three levels: the La Paz National Office, the provincial offices called *oficinas departamentales*, and the individual units where the teachers work. It was important that representatives from all three levels understood both the potential and the limitations of the descriptive research project. It was also important to have input and support from each of the three levels of FyA:B. The main finding from this phase was the realisation that proceeding with the project was feasible and desirable from financial, technical and structural standpoints.

Phase III: Initial Adoption (May 2010 to August 2011)

Phase III began in May 2010 when feasibility of the project had been ascertained within both SJU and FyA:B. Through the Office of the Mission, SJU provided funding for travel, purchase of DEA software (DEA-Solver by Kaoru Tone of Japan's Graduate Institute of Policy Studies) and for additional manpower for data entry and analysis. Additionally, six laptops were donated to allow for analyses to be performed locally. In August 2010, a third 10-day research trip to Bolivia served to jointly establish the parameters of the initial DEA adoption, analyse model structure and potential variables, select variables to be added to annual surveys and included in system-wide DEA runs, create an augmented database through the addition to and adaptation of questions in the survey the National Office sent annually to each school in the network, and to execute DEA runs for analysis of the specific research questions. Results pointed to the superior performance of FyA:B schools when compared to out-of-network schools and also allowed for the comparison of efficiencies among FyA:B schools in helping identify and disseminate best practices.

Phase IV: Continued Adoption (August 2011 to mid-2015)
Phase IV represents FyA:B's sporadic use of the DEA methodology to help organise and analyse information obtained from annual school surveys, FyA:B's *Quality Enhancement Initiative* (a worldwide process that is undertaken every five years by the organisation to determine the impact of their work) and from other sources. Phase IV also involves a period in which the National Office of FyA:B will perform analyses, together with other stakeholders, which will deepen understanding of the data, divulge analyses and preliminary conclusions regarding school efficiencies, engage in dialogue with the provincial offices and the individual schools, and through this process identify, assess and disseminate best practices across schools.

Phase V: Consolidation (expected after mid-2015)
Phase V is projected to follow Phase IV and is expected to comprise the steady-state *modus operandi* in which FyA:B will conduct desired research, with SJU's help, when necessary. In this phase, FyA:B will determine the research questions, which will then be formalised, detailed and answered by FyA:B itself in a process in which SJU will participate on an as-needed basis.

DISCUSSION: ACHIEVING SOCIAL CHANGE
There is no question that FyA:B's work achieves social change, as is apparent to any outside observer or visitor. As such, it is the contention of the authors that the partnership with SJU and the knowledge creation generated by the research project has helped FyA:B in its objective of contributing to social justice and empowering indigenous communities. The partnership satisfies Boyer's (1996) call for vigour and the desire for continuity in the face of change (Silka et al. 2008), in that joint actions and impact have grown over time even in the face of more than one leadership change in each organisation. Shea (2011) cites three main sustainability factors – trust, participation, and commitment – for successful partnerships and identifies threats to those factors, which she classifies in three categories: asymmetry threats, inadequacy threats, and divergence threats. Most threats identified, such as lack of focus, differences in power, asymmetric information, insufficient resources and different priorities either were non-existent throughout the history of the SJU-FyA:B relationship or were addressed early on. As described in the previous section, the very nature of the research project itself implied use of technology and resources which had not been available to FyA:B at the beginning of the process, so there indeed was a period in the project during which academics and FyA:B members were exchanging information and tool-specific knowledge – a period, for lack of a better word, of capacitation. Indeed, the final phase of the research project is expected to be FyA:B applying the analytical tools to the organisation's and the communities' needs, with academic involvement only on an as-needed basis.

The SJU-FyA:B partnership, as it has evolved over 10-plus years, also seems to satisfy Netshandama's (2010) four findings regarding what community stakeholders value. First, over the years the stated objectives of each party seem to have been met. The initial phase of 'discovering one another' has given way to a phase of 'joint discovery of possibilities' and an evolution in the explicit joint set of objectives. There has been transfer of knowledge and experience, with effective gap-bridging on both sides. Second, the partnership has been unexploitative. SJU has coordinated and shared experiences among the many members involved with the partnership thus avoiding 'community fatigue' and both parties have had a genuine desire to address the communities' needs above their own interests. Third, the shared values and strong institutional commitment from both SJU and FyA:B has led to a partnership of equals (Onyx 2008) in which power and control are jointly exercised. Lastly, and linked to the discussion in the previous paragraph, the partnership has had continuity and over time has instituted effective formal and informal maintenance and monitoring mechanisms.

The CBR effort has resulted in knowledge-building and knowledge transfer: as mentioned earlier in the article, results of the research project have been described in Neiva de Figueiredo and Marca Barrientos (2012). The first research question was answered in the affirmative: comparing in-network school efficiencies turned out to be helpful to better identify, understand, examine and disseminate best practices across the organisation. The second research question was also answered in the affirmative: schools operated by FyA:B were found to be on average more efficient than out-of-network schools.

The DEA-based managerial techniques used in the research project were helpful to FyA:B at several levels. Here, we single out features which we believe were important in achieving positive results, hoping to identify criteria which may help CBR initiatives in general. First, it is necessary to **build trust**. In the context of this research, the beginning of the trust-building process preceded the actual research project as recounted earlier. Most often the trust-building process begins with the first stages of the research project itself because oftentimes there is little or no previous relationship with the community, a timing consideration which adds layers of complexity to the endeavour. In the research described in this article, perhaps the main elements helping to build trust were mutual respect and a clear confluence of objectives between FyA:B and SJU.

Second, it is desirable to have **awareness of cultural differences**, whether explicit or implicit. It is important to be accepting of different customs and, especially within the context of a different cultural reality, to be willing to learn every step of the way, that is, to constantly compare observed counterparty behaviour with previously held notions of expected counterparty behaviour. To complicate matters further, most cultural differences are not readily recognisable, as pointed out by Sathe (1985).

The literature on conceptualising and understanding cultural differences, such as Hofstede (1980), Ronen and Shenkar (1985), Hall and Hall (1990) and Trompenaars (1993), can be very helpful in this regard. Each of these proposes a unique framework for synthesising cultural characteristics in a way which can be useful when dealing real-time with a set of customs different from one's own. Working together is the best way to gain this familiarity, a process which is linked to the previous point on trust to the extent that it is helpful to feel the freedom to make unwarranted cultural mistakes or blunders with the knowledge that they will be pointed out by the counterparty.

Third, there is a need for **consensus-building** at various levels of the community. It is necessary to avoid the natural instinct to engage in directive top–down research based solely or mostly upon what the researcher assumes might work best for the community. Any CBR initiative should involve an element of grass-roots energy, bottom–up initiatives, to be added to the necessary top–down orientation usually present in academic research. In the research project described in this article, this involves including in the process all three levels of the FyA:B organisation. This consensus-building helps sustain beneficial project outcomes and ultimately leads to transformed communities.

Fourth, because often there is the need to gradually build trust and consensus with communities having different sets of cultural norms (as was the case in this instance), a **gradual approach** is recommended. This can be accomplished by establishing various stages for the research project and ensuring that necessary conditions to advance to the next stage include input from all stakeholders and consensus regarding objectives and methodology. The desirability for a gradual approach in and of itself may imply a willingness to operate under a loose timetable: more important than achieving certain milestones at set points in time is doing so when there is confidence that the necessary conditions to move forward have been met.

Lastly, it is necessary to keep in mind that, because the ultimate goal is lasting benefit for the community, **success is determined locally**: the community is the only entity that can determine whether the research objectives have been reached. In Goethe's words: 'Knowing is not enough: we must apply; willing is not enough: we must do.' If success expectations are built through consensus early in the project, then successful outcomes are attributed to the community, that is, to all stakeholders, which results in lasting transformation. If the community is in charge and is perceived as such, change is sustainable.

The criteria listed above are counted as strengths in this particular CBR project: they were present to a greater or lesser degree, as described in previous sections. It is also important to identify limitations in using descriptive quantitative management research techniques in a community-engaged setting. One limitation inherent to this type of research is its **complexity**.

While research results and knowledge-building are always subject to the test of reality, that is, to empirical cross-checking ('the proof is in the pudding'), it is also true that a clear understanding of the mechanisms behind the methods is very helpful. Because DEA is based on sequential application of Linear Programming techniques to various decision-making units and because efficiency results can vary widely when different input and output variables are chosen, significant time was invested in capacitating FyA:B practitioners on tool usage, and in educating academic researchers on the particulars of the Bolivian environment, in an ongoing mutual growth process. This does not mean top–down 'colonizing', but rather a joint discovery of the pros and cons of using such a quantitative technique, balancing the tool's characteristics against those of the environment in which it was being applied.

The second limitation is the difficulty in carefully and precisely accounting for **input and output variable integrity**. It was necessary not only to join time-tested techniques with on-the-ground specific knowledge in choosing descriptive variables for school efficiency estimation, but also to ensure proper measurement and reporting of those variables. This was achieved through various measures such as improving the annual school survey, altering selected variable measurement criteria, cross-checking for variable accuracy, establishing data-verification procedures and instituting feedback loops to enable timely corrective action when necessary.

The third limitation is the temptation to 'jump to conclusions' or, expressed in a different way, the **need for patience** when applying a quantitative descriptive technique in a new environment. Significant knowledge creation occurs during cross-verification of quantitative results against qualitative observations on the ground, as school efficiency findings are compared with the experiences of the communities they serve and of FyA:B personnel directly involved. This 'verification loop' needs to be put in place before any definitive conclusions are drawn from the descriptive research effort. Establishing such verification mechanisms takes time because they require a maturation period in terms of understanding intrinsic limitations of the methodology and they also involve buy-in from the communities themselves.

CONCLUSION

The objective of this article was to reflect on the process of community-based management scholarship as applied to research conducted to improve the efficiency of schools operated by Fe y Alegría in low-income communities in Bolivia within the cross-cultural context of the SJU-FyA:B partnership. It is intended that it will contribute to the literature by providing a critical account of the application of quantitative descriptive managerial techniques in a cross-cultural community-based research setting within the context of a strong university-NGO partnership. The article's main conclusion is that the pros far outweigh the

cons and that, despite the difficulties and limitations described herein, quantitative descriptive managerial techniques have an important role to play in helping foster social justice even where significant cultural differences are present. Further, there are several mechanisms which can and should be put in place in order to mitigate those limitations, perhaps the most important being the existence of a strong and gradually built academic-community partnership based on mutual trust and respect, open-mindedness and willingness to learn. It is our hope that this account will encourage management academics to pursue community-engaged scholarship opportunities, with the objective of making lasting and sustainable contributions to the lives of those who need them most.

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