2016

Public-Private Partnerships: Instruments to Enhance Education, Training and Employment Opportunities in the Republic of South Africa

Lynne Scott Jackson
CUNY City College

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Public-Private Partnerships

Instruments to Enhance Education, Training and Employment Opportunities in the Republic of South Africa

Lynne Scott Jackson
December 2016

Master’s Thesis
Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of International Affairs at The City College of New York

COLIN POWELL SCHOOL FOR CIVIC AND GLOBAL LEADERSHIP

Advisor: Nicholas Rush Smith, PhD
Second Advisor: Jeffrey Kucik, PhD
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>3</td>
</tr>
<tr>
<td>Abstract</td>
<td>5</td>
</tr>
<tr>
<td>Abbreviations &amp; Acronyms</td>
<td>7</td>
</tr>
<tr>
<td>Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Literature Review</td>
<td>13</td>
</tr>
<tr>
<td>Argument</td>
<td>24</td>
</tr>
<tr>
<td>Research Design</td>
<td>27</td>
</tr>
<tr>
<td>Evidence &amp; Analysis</td>
<td>32</td>
</tr>
<tr>
<td>Conclusion</td>
<td>71</td>
</tr>
<tr>
<td>Works Cited</td>
<td>75</td>
</tr>
</tbody>
</table>
Acknowledgements

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Je salue l’Institut Français: Alliance Française et le City University of New York Graduate Centre; merci tout spécialement au professeur Robert Diamond. Et à ma meilleure amie pour toujours Alicia Evans, merci pour la paix et la lumière au milieu de la lutte.
May we continue to collaborate and assist others in knowledge acquisition, enhancing our appreciation for diverse contributions that lead to an inclusive and well-informed society.
Abstract

Since the fall of apartheid in 1994, government, business leaders and non-governmental organizations (NGOs) are in a unique position to engage civil society and link educational institutions with industry-specific partners committed to stimulating economic development and employment options for citizens. This thesis explores the conditions under which public-private partnerships (PPPs) are likely to successfully generate sustainable youth employment and equip citizens with transferrable skills and the conditions under which they are likely not to generate opportunities.

The thesis argues that PPPs are most likely to be successful when there is grassroots buy in from local communities. Based on the literature and contemporary international development initiatives, the contention is the country’s current cyber caste system has created a digital elite that has left a swath of the population under age 35 with limited skills and training for jobs in the information, communications and technology sector. Recent advances in ICT, fostered by PPPs, could allow South African citizens to leapfrog forward and train for future jobs—expanding what is now a cloistered, technologically advanced sector for the privileged.

Evidence presented in this thesis shows PPPs are becoming more prominent as economic and development tools. PPPs help large numbers of South Africans break free from the shackles of Bantu education practices that have resulted in a new form of “digital apartheid” in which non-white youth have fewer opportunities to access the digital realm than white youth. These partnerships are tremendously important in a global, information and knowledge based economy. When closely aligned with schools, higher education, training programs and the community, PPPs have the opportunity to
strategically fit into the country’s economic development process and provide a mechanism by which South African citizens can earn economic equality. Microsoft, General Electric and PACE College are offered as case studies that reveal strategies transnational companies (TNCs) and small to medium enterprises (SMEs) can deploy or refine, resulting in mutually beneficial outcomes for citizens who crave transferrable, portable technology skills and employers who value and reward ICT ready talent.

**Keywords:** public-private partnerships, corporate social responsibility, social entrepreneurship, ICT and education, employment in South Africa
### Abbreviations & Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB or AfDB</td>
<td>African Development Bank</td>
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<td>AISA</td>
<td>Africa Institute of South Africa</td>
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<td>AMCHAM</td>
<td>American Chamber of Commerce in South Africa</td>
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<td>AU</td>
<td>African Union</td>
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<tr>
<td>BCI</td>
<td>Business Confidence Index</td>
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<tr>
<td>BEE</td>
<td>Black Economic Empowerment</td>
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<td>BPO</td>
<td>Business Process Outsourcing</td>
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<tr>
<td>CAT</td>
<td>Computer Applied Technology</td>
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<td>COSATU</td>
<td>Congress of South African Trade Unions</td>
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<tr>
<td>CRVS</td>
<td>Civil Registration and Vital Statistics</td>
</tr>
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<td>CSI</td>
<td>Corporate Social Investment</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<tr>
<td>DBE</td>
<td>Department of Basic Education</td>
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<td>DHET</td>
<td>Department of Higher Education and Training (RSA)</td>
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<td>DoE</td>
<td>Department of Education</td>
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<td>E&amp;T</td>
<td>Education and Training</td>
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<td>FDI</td>
<td>Foreign Direct Investments</td>
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<td>FET</td>
<td>Further Education and Training</td>
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<td></td>
<td>Grades 10-12 (includes career-oriented education and training offered in technical, community and private colleges)</td>
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<td>GCI</td>
<td>Global Competitive Index</td>
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<td>GDE</td>
<td>Gauteng Department of Education</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GE</td>
<td>General Electric</td>
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<td>GES</td>
<td>Global Entrepreneurship Summit</td>
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<td>GESAT</td>
<td>GE South Africa Technologies</td>
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<tr>
<td>GET</td>
<td>General Education and Training (Grades 0-9, includes Adult Ed)</td>
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<td>GIA</td>
<td>Global Information Age</td>
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<tr>
<td>GVC</td>
<td>Global Value Chains</td>
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<tr>
<td>HET</td>
<td>Higher Education and Training (undergraduate, post-graduate, Certificates and diplomas up to the level of doctoral degree)</td>
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<tr>
<td>HSRC</td>
<td>Human Sciences Research Council</td>
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<tr>
<td>HTMLS</td>
<td>HyperText Markup Language with Server-side</td>
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<tr>
<td>IADB</td>
<td>Inter-American Development Bank</td>
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<td>IB</td>
<td>International Business</td>
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<td>ICT</td>
<td>Information and Communications Technologies</td>
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<td>ICT4D</td>
<td>ICT for Development</td>
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<td>ILO</td>
<td>International Labor Organization</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IO</td>
<td>International Organizations</td>
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<td>IPE</td>
<td>International Political Economy</td>
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<td>IS</td>
<td>Information Society</td>
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<td>ITU</td>
<td>International Telecommunications Union</td>
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<td>LBSC</td>
<td>Local Business Service Center</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>LED</td>
<td>Local Economic Development</td>
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<td>LMIP</td>
<td>Labour Market Intelligence Partnership</td>
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<td>MDG</td>
<td>Millennium Development Goals</td>
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<td>MIC</td>
<td>Mineworkers Investment Company</td>
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<td>MNE</td>
<td>Multi-national Enterprises</td>
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<td>MOOCs</td>
<td>Massive Open Online Courses</td>
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<td>MOU</td>
<td>Memorandums of Understanding</td>
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<td>NEPA</td>
<td>National Education Policy Act</td>
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<td>NEPAD</td>
<td>New Partnership for Africa’s Development</td>
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<td>NDoE</td>
<td>National Department of Education</td>
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<td>NDP</td>
<td>National Development Plan</td>
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<td>NFE</td>
<td>Non Formal Education</td>
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<td>NGO</td>
<td>Non-Governmental Organizations</td>
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<td>NPA</td>
<td>National Prosecuting Authority</td>
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<td>NQF</td>
<td>National Qualifications Framework</td>
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<td>OBE</td>
<td>Outcomes-Based Education</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<td>PDoE</td>
<td>Provincial Departments of Education</td>
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<tr>
<td>PFI</td>
<td>Private Finance Initiative</td>
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<td>PiL</td>
<td>Partners in Learning (Microsoft)</td>
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<td>PNC on ISAD</td>
<td>Presidential National Commission on Information Society</td>
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<td>PPIAF</td>
<td>Public-Private Infrastructure Advisory Facility</td>
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<td>PPP</td>
<td>Public-Private Partnerships</td>
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<td>PSET</td>
<td>Post-School Education and Training System</td>
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<td>PSP</td>
<td>Private Sector Participation</td>
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<td>RSA</td>
<td>Republic of South Africa</td>
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<td>SACCi</td>
<td>South African Chamber of Commerce and Industry</td>
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<td>SACHED</td>
<td>South African Committee for Higher Education</td>
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<td>SAIIA</td>
<td>South African Institute of International Affairs</td>
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<tr>
<td>SARb</td>
<td>South African Reserve Bank</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goals</td>
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<tr>
<td>SEDA</td>
<td>Small Enterprise Development Agency</td>
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<td>SEP</td>
<td>Social Entrepreneurship Programs</td>
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<td>SETA</td>
<td>Sector Education and Training Authorities</td>
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<td>SEZ</td>
<td>Special Economic Zones</td>
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<td>SME</td>
<td>Small &amp; Medium Enterprises</td>
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<td>SMMEs</td>
<td>Small, Medium and Micro-Enterprises</td>
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<tr>
<td>SMS</td>
<td>Short Message Service (texts - 160 characters or less)</td>
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<tr>
<td>SOE</td>
<td>State Owned Enterprises</td>
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<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<td>StatsSA</td>
<td>Statistics South Africa</td>
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<tr>
<td>STEM</td>
<td>Science, Technology, Engineering, Math</td>
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<td>TAI</td>
<td>Trade Activity Index</td>
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<tr>
<td>TNCs</td>
<td>Transnational Corporations</td>
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<td>TVET</td>
<td>Technical Vocational Education and Training</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>USD</td>
<td>US Dollars</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WEF</td>
<td>World Economic Forum</td>
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<tr>
<td>WSIS</td>
<td>World Summit on Information Society</td>
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<tr>
<td>ZAR</td>
<td>Rand: South African Currency</td>
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</table>

(13.80 ZAR = 1 USD; December 2016)
Introduction

Since the fall of apartheid in 1994, government, business leaders and non-governmental organizations (NGOs) are in a unique position to engage civil society and link educational institutions with industry-specific partners committed to stimulating economic development and employment options for the citizens of South Africa. Together, these actors can leverage lessons learned, marry the practical with the theoretical and work to sustain local and regional economies. Stakeholders can collaborate to foster innovation, encourage entrepreneurship and build enterprises that result in economic stability and equip citizens with skills for a 21st Century globalized economy.¹

This thesis explores the conditions under which public-private partnerships (PPPs) are likely to successfully generate sustainable youth employment and equip citizens with transferrable skills and the conditions under which they are likely not to generate such opportunities. Evidence shows PPPs are becoming more prominent as economic and development tools throughout the continent, including the expansion of post-apartheid public policies in South Africa. These partnerships are tremendously important in a global, information and knowledge based economy. Trends indicate the existence of PPPs has a direct bearing on the country’s ability to compete and contribute in the digital era.² In keeping with global trends, the thesis specifically focuses on the information and communication technology (ICT) sector and its alignment with


secondary and post-secondary education initiatives catering to young people under the age of 35. This demographic represents South Africa’s future workforce, business owners and government leaders. Many were “born free,” unbridled by the vestiges of an oppressive regime. When closely aligned with schools, higher education and training programs, PPPs also have the opportunity to strategically fit into the country’s development process and provide a mechanism by which South African citizens can earn economic equality. As Vijay Reddy notes “The challenge for any government is to anticipate the skills that are needed for the current and future economy. This information can be used to plan the size and shape of the post-school education and training system.”

The question is, however, under what conditions PPPs can be effective.

As economic development instruments, PPPs are most likely to be successful when there is grassroots buy in from local communities. This direct collaboration allows private entities to make the most effective corporate social investment. Since PPPs are highly influenced by regimes or social norms such as apartheid and the residual effects of Bantu education practices, they can face implementation challenges despite well-intentioned partners.

While not full-scale economic remedies, scholars and business leaders contend PPPs can be life-altering prescriptions to help populations move from the marginalized masses to working class citizens and ultimately, an expanded middle class. PPPs can therefore be transformative economic instruments created to support or advance specific community or business needs. Often, there are opportunities to creatively design and manage these partnerships. This thesis examines what works, considers programs that

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might be scalable to generate additional employment, and critiques PPP programs in the information and communication technology space that had less than successful outcomes. Monitoring and evaluation methods are analyzed, as well as potential reasons why success was not achieved to generate insights that may prove useful as industry, business and government collaborate to develop successful models for the years to come.
Literature Review

In that South Africa’s democracy is less than a quarter century old, public-private partnerships are also in their infancy and are likely to continue to evolve as innovative economic development instruments. This thesis will contribute to the understanding of how transnational corporations can assist in bridging what the literature terms digital apartheid, resulting from Bantu education practices that yielded separate and unequal education for African and colored populations, thus resulting in a digital elite. In addition to restricting the intellectual capacity and contributions of a generation, pre-democracy educational norms resulted in collateral damage that restricts South Africa’s progress on the world stage because citizens are often ill-equipped to compete for jobs in the ICT sector.

ICT is defined as a global network whereby ideas are exchanged and information, knowledge or financial currency is shared via cell phones and technology that connects people and institutions. Often, the term ‘ICT’ is used almost interchangeably with the Internet. South Africa’s Department of Education (DoE) set forth a goal whereby South African students and those who participate in training programs would be ICT capable by 2013. The state has embraced ICTs as a mechanism to help individuals develop the skills and knowledge they need to achieve personal goals and participate in the global


While technology is far from fully integrated into the educational landscape as of December 2016, advances now put more power and access to knowledge in the hands of educators, business partners and students. Rather than box individuals into categories such as “digital natives” (who have grown up with technology), Cheryl Brown and Laura Czerniewicz, prefer the term “digitizen,” referring to learners as citizens who exist in a global information age whereby digital expertise can often translate to skills development, access to industry training programs, economic parity and participation in the democratic process. State actors, business partners and civil society must be mindful that many South Africans have not come of age with the world at their fingertips like those who live in the West. The International Telecommunications Union has established a Connect 2020 Agenda that challenges governments to “strengthen their efforts in promoting and increasing digital literacy through targeted education and training programs … offering incentives for personal and professional development and enhancing social inclusion.”

In that RSA is part of the global political economy, The International Monetary Fund defines PPPs as instruments that involve private sector supply of infrastructure assets and services that have traditionally been provided by the government, including education and training. And, the IMF notes an infusion of private capital and management can often ease fiscal constraints on infrastructure investment and increase

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efficiency. Reflecting these advantages, PPPs are taking off around the world and can include corporate social responsibility, corporate social investment and social entrepreneurship programs whereby business stakeholders and philanthropists contribute to the public good of a given nation. However, it cannot be taken for granted that PPPs are more efficient than public investment and government supply of services. One particular concern is that PPPs can be used mainly to bypass spending controls, and to move public investment of budget and debt off the government balance sheet, while the government still bears most of the risk involved and faces potentially large fiscal costs. Thus, there is a potential danger that governments might be saddled with long-term costs that are actually higher, particularly if the PPP ends up failing because of oversight difficulties. This thesis explores this hypothesis and argues that PPPs can help expand ICT access—but only in the broader context of addressing socio-economic disparities for poor South Africans.

According to the Millennium Challenge Corporation, PPPs “are not a one-size fits all solution.” When compared with the public sector, PPPs can serve as efficient investment vehicles, allow for greater innovation and streamline operations and maintenance. Cliff Hardcastle and Kate Boothroyd agree, arguing that PPPs offer a long-term, sustainable approach that includes improving social infrastructure, increasing the value of public assets and better utilizing of taxpayer’s money. However, they are mindful that the public must carefully monitor projects to ensure performance standards


are met. According to these scholars, PPPs in the education, health and transportation sectors have gained the most traction globally since the 1990s. There is a considerable range in partnerships, from those dominated by the private or public sectors and include everything from prisons to major municipal public transport and water systems and public health initiatives.

PPPs have been particularly popular in South Africa where stretched government budgets co-exist alongside yawning economic and social inequality. In order to address such social inequities, Pippa Norris calls for transformative policies to help eradicate inequality in South Africa, whose citizens are besieged by the triple challenges of poverty, inequality and unemployment. Norris contends that while the present African National Congress government has made strides to promote inclusive innovation, the vestiges of apartheid prevent new social norms from taking hold. Great attention is being paid to PPPs in the fields of development, production and transformative social policies that can enhance innovation and build skills. While not without risk to government, PPPs offer solutions that could yield tremendous rewards: a workforce that is trained to connect, contribute and compete in the local, provincial, regional and global arenas.

For enterprising Africans, progressive global entrepreneurs and companies eager to expand their African tech footprint, the business case in support of PPPs and opportunities are clear. While Africa accounts for 14.1% of the world’s population, it represents only 1.6% of the number of global Internet users. Thus, there is tremendous

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room for expansion. The good news is millions of South Africans could potentially experience the life-changing benefits of technology garnered through public-private partnerships. In 2001, Norris made a thought-provoking prediction: “Given a high-speed backbone, and market liberalization of telecommunication services, African nations may also be able to ‘leapfrog’ stages of industrialization through new technology by investing in fully digitized telecommunications networks rather than outdated analog-based systems.” To achieve these goals, though, South African leaders must prepare students to compete in a knowledge-based, borderless international economy, thus improving their access to income and economic stability.

A bit less optimistic, scholar Bill Buenar Puplampu believes the oversight and regulation of PPPs require further enhancement to help eradicate the socio-economic challenges that exist for South Africans, particularly youth in need of technical knowledge in order to complete for employment. Puplampu argues, “In Africa, the regulatory regimes around PPP are rudimentary at best and nonexistent in places,” and the legal profession in particular can work with policy makers to move the continent forward by developing frameworks, in addition to improving contextual areas of trust and improved business relations. In my view, this indicates a strident need for ongoing monitoring of ICT PPPs conceived to work in the public interest, either by state actors or civil society.


There is also a need for public-private partnerships that enable South Africans to take control of their destinies, fully participate in government and push toward policy shifts that create economic parity. While there are ideological differences, most agree a partnership approach does have merit.\textsuperscript{18} Issues of concern include “a resort to loans, grants, aid, technical assistance, budget support, unfavorable trade deals and severe natural resource depletion through over exploitation (Arnold 2005).”\textsuperscript{19} Thus, scholars argue it is difficult for economic transformation and parity between classes to be achieved\textsuperscript{20} because of these intertwined, socio-economic issues.

In Reconceptualizing Development in the Global Information Age (2014), Manuel Castells and Pekka Himanen suggest advanced ICT technologies and innovative applications must lead to the growth sectors of Internet-based tourism, high-value added agriculture, technology-enhanced manufacturing and digital cultural products in order to effectively serve citizens and provide future jobs.\textsuperscript{21} This lends support to the previously cited predictions of Norris, Limb and Puplampu regarding the need to specifically train people for industry-specific employment. There are many questions to consider as the global knowledge economy expands to include viable career options for citizens of established and emerging nations. A review of scholarly literature calls for an increased understanding of the following questions and introduces the notion that multinational

business can play a more robust role in devising win-win economic solutions to ensure
the contemporary workforce is equipped with skills to supply future business needs, often
in science, technology, engineering and math.

While the ICT sector is among the boom areas for global job growth, it is only a piece of a country’s economic puzzle. In their paper “Africa and the Digital Divide,” Christian Fuchs and Eva Horak reveal, “solutions require more fundamental changes of society and cannot be achieved by technology alone.” They specifically looked at the countries of Ghana and South Africa, among two of the seven nations that signed the WTOs Telecommunications Agreement in 1997, requiring liberalization of their telecommunications markets, allowing for foreign direct investments. I agree that public-private partnerships could transform these global job challenges into opportunities by strategically linking ICT entities (corporate or SMEs) to specific educational institutions, business and community groups or municipal hubs such as libraries. The evidence section of this paper will rigorously test this hypothesis and unearth what has worked in this regard, and what has not, using the RSA as a country-specific case study. Robert J. Kauffman and Ajay Kumar contend “ICT impacts are felt at the individual, business process, firm, market or regional level … and include several variables that include economic growth, productivity, trade, health, education, freedom of speech, and access to information. I would argue these scholars are wise to analyze the impact of ICT from several theoretical perspectives including economic, socio-anthropological and knowledge-management. A separate approach would not be well grounded due to the integrated nature of contemporary global business. Kauffman and Kumar argue ICT can impact several areas simultaneously, including ecommerce, and is a powerful source of
information for spreading democracy or health awareness.\textsuperscript{22} This analysis supports the claim that technology can address a wide range of economic disparities and assist South Africans in moving from the ranks of the underclass to the upwardly mobile. An attempt to transform the educational system began in 2007 with the national qualifications framework (NQF), coupled with an outcomes-based education (OBE) model.\textsuperscript{23} Over time, educationists believe this will help create more inclusive industry-specific training systems on the road to a complete overhaul of the RSA learning and knowledge environment.

In sum, government and business stakeholders must understand digital literacy (or illiteracy) does not exist in a vacuum; and there are multiple factors that contribute to the digital divide. Norris describes it as a “multidimensional phenomenon” that includes the global digital divide, the social divide and the democratic divide. The social divide is important, according to Norris, because it indicates those who can afford computer and Internet access and those who aren’t as fortunate. This insight is compelling because it substantiates the government’s need to be involved in the process regarding increased access for the public, perhaps via libraries or other community hubs. The mobility and portability of information networks in a 21\textsuperscript{st} Century environment also allows for the creation of innovative new models, with the assistance of industry and creative public-private partnerships.\textsuperscript{24} Another important point is an individual’s capacity to produce


\textsuperscript{24} Pippa Norris. Digital divide: 10. Print.
content for intellectual consumption by a local or global audience—as well as provide institutional access for those who don’t have computers at home. Access to ICT capabilities have larger consequences, though, ones that could allow for a more equal world. Norris and Jeffrey James contend the global digital divide is “an aspect of the economic divide because it concerns the difference in access to and usage of ICTs between rich countries and poor countries.” Poor countries are those endowed with little economic capital whose citizens have limited ICT experience and know how; thus, they are restricted from using and participating in institutions where technology is embedded. “Developing countries are not only economically excluded, but also deprived of political power and cultural skills needed for active participation in the information society.”

This results in what Fuchs and Horak term digital apartheid, which means that certain groups and regions of the world are systematically excluded from cyberspace and the benefits that it can create.” Globally, citizens are relegated to the following cyber caste structure: “1) Information Elite – those with high levels of education and income, the best jobs and nearly 100% access to ICTs; 2) Participating Majority – large part of the middle class and working class who do have computer and Internet access, but possess fewer digital skills than the elite (overall, they possess less information and strategic skills and use fewer and less diverse ICT applications); 3) Disconnected and Excluded – largely


excluded from participation in several fields of society and have no access to computers and the Internet, i.e. rural South Africa.”

I agree with the assessment of Jan A. G. M. Van Dijk on the subject of digital apartheid. He states this “structural inequality means that the disconnected class has less chances to access the labor market, less educational opportunities, and less chance of participation in politics and society.” Based on Van Dijk’s hypothesis, “For Africa this means that in the current form of the global network society the continent has fewer possibilities for participating in economy, polity, culture, and technology, i.e. economic wealth, global political decision making, worldviews and lifestyles that shape globalization, and technological standards and applications that are controlled by Western countries.”

As South Africa enters the third decade of democracy, there appears to be movement toward a “more technical, career-oriented system of education for all South Africans,” as reflected in the 1981 DeLange Commission report which included private industry representation and sought to de-politicize “Bantu Education,” and replace it with technical and artisan training. I argue that in order for South Africa to address digital apartheid, public-private partnerships must be enacted on a larger scale in harmony with industry. This action can create an environment to foster policy mechanisms to help move the Disconnected and Excluded to the Participating Majority. While Van Dijk contends


most Africans are part of the Disconnected and Excluded class,\textsuperscript{32} companies such as Microsoft, General Electric, Cisco, IBM, Intel, Phoenix International and other innovative companies have made inroads. This thesis hopes to refine understanding of how grassroots buy in contributes to positive changes in social norms that lead to policy shifts in support of PPPs which benefit South Africans. The evidence section of this paper will explore strategies and techniques deployed by multinationals, coupled with educational strategies that can be emulated en masse to move individuals from the ICT-deprived to The Participating Majority.

Argument

Based on the literature and contemporary international development initiatives, I argue that public-private partnerships can serve as economic development instruments to help large numbers of South Africans break free from the shackles of Bantu education practices that can result in digital apartheid. And, I contend the current cyber caste system has created a digital elite that has left a swath of the population under age 35 with limited skills and training for jobs in the information, communications and technology sector.

Government should take a developmental approach that empowers citizens, as opposed to supporting an environment that fosters political patronage and continues a welfare state mentality.33 I share the views of Nico Cloete and Alison Gillwald (2014),34 who argue recent advances in ICT allow South African citizens to leapfrog forward and train for future jobs—expanding what is now a cloistered, technologically advanced sector for the privileged who access global networks that expand the reach for a ICT capable few, while leaving larges swaths of the population behind.35 These digitally ready citizens are connected to others through a vibrant global network that can exchange information and ideas and trade goods and services 24 hours a day, 7 days a week, 365 days a year. However, if allowed to continue, existing employment models inhibit citizens’ ability to effectively compete for positions in the borderless global economy and transition to jobs at transnational corporations. Sub-par ICT education also prevents


young South Africans from joining the bustling entrepreneurial class who can use technology to provide innovative solutions to societal ills or create culturally relevant media and entertainment products.

This study’s working hypothesis is that 21st Century skill development of South African nationals is not only good business, but cements (or improves) the enterprises positive reputation in the community and provides desperately needed employment options, particularly for young people age 15-35. Residual economic benefits include educational advancement for the next generation of workers and improved regional and international political economic stability. It is important to note South Africa’s jobless rate of 25% is only outpaced by Spain and Greece, who respectively hold the second and first place slots, according to the International Labor Organization.36 While the situation is somewhat pessimistic, RSA has an opportunity to help stabilize the region—since paid employment opportunities elsewhere are extremely limited. To put this in a regional perspective, as of 2013 the unemployment rate in Sub-Saharan Africa stood at 77.4 percent, the highest of all African regions.37

There is a hint of optimism regarding the integrity of South Africa’s leaders and the creation of an economic climate receptive to PPPs and ICT4D, amidst long-standing political corruption charges. Finance Minister Pravin Gordham was recently cleared of fraud by the country’s National Prosecuting Authority (NPA). Civil society groups surmise Gordham was a target for corruption charges because of his strident fiscal responsibility. Richard Calland and others believe in the long-term, South Africa may be

able to move past nepotism and cronyism, issues that have plagued the 23-year-old
democracy. 38 With less corruption, South African can create an atmosphere whereby
PPPs have a greater chance for success. While other African states have fallen, the voice
of South African civil society has gained volume, calling for more government
transparency and delivery of public services, including education. This shift in thinking is
important because business leaders and potential investors want to ensure money spent on
public-private educational partnerships goes toward these important ICT4D services,
instead of lining the pockets of corrupt politicians.

Research Design

To make these arguments, I utilize case study research to ask why certain programs are successful, ascertain what has worked, and consider how areas of success can be scaled to assist other companies in joining the PPP employment brigade. Sources include academic journals, websites and insight from ICT writers and analysts as well as representatives from business development institutes and chambers of commerce. Areas I explore include: a) business/sector alignment with South African 2030 National Development Program initiatives; b) 2016-2030 funding and growth projections for business (i.e. PPP initiatives may not be the right fit for all companies who are willing to participate; the study must consider if the company has the will, staffing and financial footing to entertain a PPP initiative); c) vocational training, professional skills and certifications required in order to match business needs with existing educational programs that can serve as pipelines for success, and d) ascertain future business needs so educators and trainers can scale up personnel to meet those demands in the years ahead. I examine how nation states, the business sector and NGOs collaborate to specifically enhance apprenticeships and training programs as a way to bridge education and skills gaps, boost intellectual capacity and create sustainable pipelines for employment and income generation. Keen attention will be given to programs that include monitoring efforts that support continued learning aligned with future regional and global employment trends. Long-term, this could allow for expansion of initiatives whereby companies in similar sectors can implement and expand upon successful program models that have experienced positive outcomes and buy-in from multiple stakeholders. And, most importantly, this paper will focus on projects that have resulted in jobs for young
South Africans, arming them with transferrable skills that can be utilized for years to come.

The primary cases are Microsoft, General Electric and PACE College. These three cases were chosen due to the sustainability and scalability of their programs, and potential pathways to a range of employment options and ability to leverage global business trends that result in jobs. And, the case studies were selected as a result of access to data analyzing their marketplace contributions—or inability to achieve a successful outcome. While post-apartheid analysis of PPPs is not vast, this paper calls attention to efforts that have paid off for citizens and somewhat eased the burden of government to educate the masses, allowing the state to redirect resources and funding to other areas, including infrastructure development, housing, security or healthcare.

I selected the cases because they evidence three distinct outcomes and therefore enable me to investigate the conditions under which PPPs are likely to be effective and increase employment and the conditions under which they are unable to do so. In this regard, Microsoft represents a classic PPP, which also effectively created employment for South African youth. GE, by contrast, implemented an IT training program that largely bypassed the government and therefore represented something closer to a private sector initiative. Nonetheless, it effectively set up training programs that led youth to develop employable skills. Finally, I examine PACE College because it was not successful, having closed down shortly after being started, which allows me to track the conditions under which ICT programs are likely to fail.
The *dependent variable* in this study is the success of government agencies or companies with PPP apprenticeship/training programs that lead to gainful employment, while the *independent variables* are: a) contractual elements or policies (including informal agreements of memorandums of understanding [MOUs]); b) environment and receptivity for establishment of a PPP if none currently exists; c) incentives for businesses to participate in such programs; d) willingness of business sector to participate based on success experienced by enterprises of a similar size, structure or area of expertise; e) specialized needs or qualifications required by workers within various business sectors; f) perception / reputation of business among community stakeholders after launch of PPP initiative, and g) adequate monitoring of the training / employment practices by the state, NGOs or civil society over time to ensure training program goals are met; h) numbers of persons gainfully employed by ICT training programs over a sustained period of time (six months or more if this data is available) and i) endorsement of an outcome-investing approach to PPPs. Often utilized by USAID and other international organizations, an outcomes-based approach refers to “forming, operating and measuring the value of PPPs. By focusing on outcomes, partners define success early, build alliances more likely to generate significant value, and more easily measure and demonstrate results.”\(^\text{39}\) The goal is to deliver measureable results whereby partners or allies experience a higher value partnership that is more effective and efficient.

South Africa will be the primary case study for this research, in order to maintain a tight focus and best contribute to existing knowledge regarding the viability of PPPs.

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While South Africa’s vast business interests include solar, mining, tourism, arts/culture, education and agriculture, research and case studies will focus solely on the burgeoning information, communication and technology sector. ICT has the opportunity to serve as a platform for continued progress in the political, business and social infrastructure of South Africa. Research results and cross-sector analysis of areas that impact socio-economic conditions will serve as useful roadmaps as stakeholders launch initiatives aligned with the 2030 National Development Plan. Educational public-private partnerships do not exist in a vacuum. The research will focus on the employment needs of South African’s urban hubs (Cape Town, the Johannesburg/Pretoria region and Durban) where most businesses are concentrated. Urban centers also offer the widest range of talent (potential employees), as well as direct access to schools and training sites, inspiring multi-sector collaborations.

A primary component to the success of PPPs is relationship development (and ongoing maintenance of connections) in order to strengthen bonds, increase synergy and sector support for pipelines that begin with the educational system and lead toward brighter employment options. Business leaders and workers can benefit from sector specific gatherings, collaborating on training protocols and future business needs in tandem with NGOs and stakeholders who influence policy. It is important to note community engagement should be built into policy recommendations before contracts are awarded or collaborations begin. Ongoing collaboration between local stakeholders is an essential ingredient of a meaningful PPP. Constructive critique and thoughtful analysis

allows actors to benefit from effective strategies and experience success, and steer away from tactics that are less efficient.
Evidence & Analysis

The following documentation indicates corporations and institutions with significant South African PPPs and considers their impact and influence in the education and training arenas. We consider how these public-partnerships developed, various state and civil society actors, how collaborations evolved, evidence that shows program success, or challenges and areas that still need work in order for the partnerships to fully thrive. PPPs are most likely to be successful when partners obtain grassroots buy in from local communities at each phase of the development process. This enhances their ability to be practical and powerful as the programs evolve.

Microsoft

Microsoft’s PiL program was successful in creating broad-based ICT employment because the program effectively trained students for tech careers from a young age, offering pipelines to higher education and valuable certifications that are stepping stones to STEM careers. Successfully working with the South African government’s education and training departments, the PiL model has strengthened schools, providing teachers, principals and administrators with tools to ensure students are prepared for 21st Century employment. These tools help teachers integrate technology into the classroom, which captivates students and entices them to learn. Technological advances allow PiL and local educational partners like Schoolnet to efficiently network classrooms, significantly reducing costs for school districts and provinces. PiL best practices allow South Africans to benefit from knowledge sharing between educators and learners throughout the world. Students engaged in PiL work with organizations like the Smithsonian Institution, which help students and educators use technology to navigate challenges like climate change.
The program also helps mold young entrepreneurs who may one day launch SMEs or SMMEs, generating future jobs. An expanded entrepreneurial class provides an opportunity for citizens to create and export cultural products that reflect South Africa’s rich heritage, including films, music and multimedia.

Aspiring to help school leaders “connect, collaborate, create and share,” PiL was conceived to improve teaching and learning. Offering educator and student resources including hubs at libraries and community centers, PiL is a robust, corporate-led education initiative that has a history of accountability, sustainability and impact over an extended period.41 Created with a sensitivity to South Africa’s needs on the local level, PiL provides learners with foundational skills and works to “set a new high standard for digital inclusion for students and work with schools to prepare students for the digital workplace; empower educators to raise the level of ICT literacy in their institution and support teachers and schools in developing innovative cultures.”42 This PPP methodology is aligned with what the country needs in order to prepare young and mature alike for jobs in the tech sphere. The corporation has invested $500 million globally in PiL, which desires to empower students and advance achievement by “applying resources such as services, products and people at the local level” and “substantially raise the level of digital literacy with students, teachers and the wider community, build a culture of innovators and sustainable ICT model for education.”43


Due to Microsoft’s dominance in the tech, computing and philanthropic spaces via the software corporation and the Bill and Melinda Gates Foundation, these Seattle-based institutions are among industry leaders who set the ICT4D standard. This is important because of each organization’s contributions to ICT and global health, often serving as a catalyst to link cross-sector knowledge, talent and resources, including funding NGOs who can implement programs on a grassroots level.

**How PiL Works**

PiL is Microsoft’s flagship educational PPP. Since 2003, the South African program has benefitted from global implementation and provides lessons and tools citizens can use in and outside the classroom. PiL is three-pronged and includes donated computers (Fresh Start), a school agreement program (both offer technology access) and a grants initiative that helps educators and students use tech in the broader aspects of society. The grants program specifically provides ICT skills and curriculum training in tandem with provincial governments and educators. According to Zahra Bhanji, PiL program was created as a corporate social responsibility initiative, and is “primarily tied to their business interests to stimulate the commercial use of its software in schools.” Thus PiL serves a dual purpose: it enables Microsoft to contribute to local development while still pursuing its profit making goals.

Operationally, Microsoft has developed a worldwide PiL framework which has reached more than 8 million teachers and more than 190 million students in 114 countries. In South Africa specifically, Microsoft has trained over 31,000 teachers and

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school leaders in the area of ICT and skills development that benefits both teachers and students. The South African PiL program mirrors elements of the international effort and has three goals: 1) universal digital literacy; 2) a stronger workforce, and 3) improved quality of life (Schaffhauser 2009, 30).46 To date, nearly 4 million South African learners have benefitted from the Microsoft PiL PPP. This includes 800 trainers from the Department of Education and a wide range of education partners on the provincial level. These education specialists have been trained to sustain the PiL initiative, aligned with South Africa’s protocols for online learning and Guidelines for ICT Teacher Training and Profession Development.47

**Benefits to Teachers, Principals and Administrators**

The trainer model embedded in the PiL partnership is important because the professional development of school principals in inextricably linked to student performance, according to Isaac Mathibe (2007). Mathibe asserts, “Many schooling systems do not fulfill their mandates because of poor management and leadership. Similarly, the rigidity that one finds in schools does not only stunt schools’ capacity to develop, but also leads to schools that are dysfunctional and unproductive.”48 Conversely, Mathibe urges the professional development of school principals, resulting in better-trained teachers who can share knowledge with their students. Charged with expanding the intellectual capacity of teachers who work at their schools and influence young people, Mathibe states “a principal needs to set up mechanisms for nurturing and

46 Dian Schaffhauser. “Scale: Growing your innovative programs isn’t just about adding more users:” 30. Print.
unfolding of educators’ potential in order to enhance effective teaching and learning.” Mathibe adds, “For this reason, development and enhancement of an educator’s potential should relate to the work they are doing of not only nurturing the intellectual potential of learners, but also of moral formation and appropriate humanization according to national policies and goals.” Mathibe stresses “the quest for quality in education necessitates that principals be up-to-date with developments in the education and training fields.” In Mathibe’s view, programs should be continuous and ongoing, providing follow-up support for further learning and evaluated on the basis of its impact on school development and effectiveness.” PiL achieves these goals by using technology to assess student comprehension and progress. This provides a blueprint whereby principals and head teachers can chart success at the school, district and provincial level. These metrics allow administrators to access resources and deploy computer programs to improve comprehension and prepare students for more advanced courses or provide an invigorating digital curriculum for students who might be struggling. These types of progressive educational services were previously unavailable to many black schools prior to the PiL PPP. Ongoing dialogue with principals, teachers and students has allowed Microsoft to refine PiL practices in support of the communities it serves. Real-time local engagement increases the overall effectiveness of the programs.

This type of commitment is featured in Microsoft’s Memorandum of Understanding with the Republic of South Africa, including engagement by provincial leadership, policy and research groups charged with bringing innovative solutions to address the nation’s educational challenges. Following is an overview of Microsoft’s

goals that were developed in tandem with local educational groups. It includes details on how the PiL program works, Microsoft’s tactical rollout and tiered opportunities for young people to obtain technical certification, and importantly, why the PiL PPP achieved what it achieved. Thus, other principals, educators and tech companies have a comprehensive plan to enhance teacher training and improve students’ capacity to succeed in a global marketplace.

Appreciating the importance of research in developing scalable programs, educators first complete a survey that measures teacher training and student learning metrics. Microsoft then issues a report that provides baseline data that helps teachers plan their professional development and ways they can boost skills in order to better serve their students.50 In 2007, about four years after the PiL program started in South Africa, the country established the Center for Education Quality Improvement to identify evidence-based strategies to provide relevant and practical policy options for improving education, with emphasis on difficult delivery contexts.51 Assessment and analysis of student and teacher progress are key metrics for program expansion and provides other ICT businesses and NGOs with critical ammunition needed to start or expand PPP tech training at other schools. From a business standpoint, analysis of this data allows Microsoft to have baseline knowledge as to whether teachers and students are familiar with their applications. If the education community is familiar with Microsoft, they expand their knowledge. If students and teachers are not familiar, the company and the


NGOs devise programs based on community needs to heighten the corporation’s fast-growing monopoly in the ICT education and training space. This serves society, heightens effectiveness, makes business sense for Microsoft and has the residual benefit of providing a strategic roadmap for other tech firms considering ICT PPPs.

When metrics indicate under performing schools, teachers or principals, a blueprint for effective school change is created by looking at the educational process on a holistic level. PiL assessment areas include the head teacher or principal who trains educators, to instructors who teach students and help develop skills that will serve them well as they transition to higher education or the world of work. This process encourages school tech communities to tap into provincial resources and develop a customized program that works on a granular level. Yusuf Sayed, Anil Kanjee and Mokubung Knomo (2013), reveal that despite the “relatively small South African educational community where almost all academics and researchers and many senior policy-makers are known to one another, there was very limited sharing of experiences regarding the effective implementation of school intervention programs and their key lessons.”

Due to Microsoft’s leadership as an education and training PPP, the corporation is in a position to compile, organize and share knowledge with educators, increasing the opportunity for trickle-down impact of beneficial practices to learners. This positions Microsoft among corporate stakeholders who can contribute to important conversations about teacher training and student success in tandem with effective PPPs. This supports the contention that business, government and civil society can play equally important roles in South

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African educational reform. It also indicates Microsoft’s willingness to listen to partners and devise strategies that have a real impact instead of taking a one-size fits all approach.

At this point, the PiL Teacher Professional Development efforts continue.

Microsoft business leaders developed teacher-training materials that directly correlate to South Africa’s Department of Basic Education’s Guidelines for Teacher Training and Professional Development in ICT. The PiL program focuses on independent learning and meets instructors where they are in knowledge of ICT and how it can impact their students’ ability to learn and retain knowledge, using the power of robust multimedia applications that allow teachers and students to share what they know as digitizens. This level of the PiL program works to continuously develop a teacher’s ICT literacy, using Microsoft One Note and other applications. Providing valuable resources, Microsoft offers technical support for students and teachers via a help desk. In order to improve tech knowledge and enhance critical thinking skills to succeed in a global economy, teachers and students are introduced to WebQuest, which encourages learners to explore the Internet. Microsoft’s analytics allow teachers to evaluate and analyze material, customizing it for use at their particular school. In depth collaboration via “peer coaching” partners those with specialized expertise to train and develop educators at a particular school. Breaking down communication barriers through technology, Microsoft associates and educational partners can provide real-time analysis of subjects and issues that that are important to principals, schools and students on an individual level.

Management-level programs are also available to strengthen ICT administrative skills and suggest pedagogical changes that can ultimately lead to a better-trained workforce.53

Improving the Quality of Education

Sayed and colleagues find there is a “continuing need to address education quality”\textsuperscript{54} asserting that “Microsoft’s broad tentacles as a global powerhouse can serve to connect educational leaders and teachers that are part of South Africa’s disparate educational structure, centralized at the state level, with the minister of education coordinating activities with provinces.”\textsuperscript{55} Citing these measures took effect in 1996 under the National Education and Policy Act (NEPA), Sayed emphasizes the importance of education of all South Africans once the apartheid regime fell. To this day, NEPA is the central authority for all education planning, including staffing, coordinating, management, governance, monitoring and evaluation of the education system, including local governments, Provincial Departments of Education (PDoEs), state Department of Basic Education (DBE) and the National Department of Education (NDoE). Evidence of the evolution of South Africa’s education system, the NDoE was divided into two separate departments in 2009: the Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET), each headed by a separate minister.\textsuperscript{56}

Once educators are sufficiently trained, they’re eligible to access the Microsoft Learning Suite for Schools, a tool that includes Mouse Mischief, Auto Collage, Movie Maker, Microsoft Maths (sic), Songsmith and the Digital Literacy Curriculum. These


hands on applications are aligned with partners’ shared goals for universal digital literacy, a stronger workforce, and improved quality of life. The software applications include STEM components and humanities related programs that help youth and citizens experience elements of the country’s unique heritage. Once students become proficient in these popular computer programs, knowledge can transfer to family-related peer coaching sessions outside the classroom. Learners of all ages are then in a position to generate and share knowledge, digitizing information for local or global consumption. This represents an opportunity for educators and corporate leaders to engage learners of all ages and reiterate the value of their products—as opposed to other marketplace options. All PPP stakeholders are potential customers, employers or business partners and suppliers. This is an example of Microsoft’s grassroots, community-based approach that increases school effectiveness and cements allegiance from PPP stakeholders. However, since the educational system is rife with needs, the trade-off seems worthwhile and to the benefit of students and educators. Sayed reveals there has been limited analysis of educational PPPs; thus, the jury is still out regarding long-term ramifications.

**Expanding the Learning Community**

Once trained and knowledgeable of programs, tools and applications, participants obtain access to the extensive Partners in Learning Network. This links teachers throughout South Africa and beyond, who can share case studies, lesson plans and content, making the learning environment more interactive for students and educators. PiL participants can join subject-specific communities and forums that enhance the overall learning experience. An example of a cross-border collaboration is a partnership between Microsoft, the Smithsonian Institution and TakingITGlobal. This education
trifecta developed Shout, a program that uses tech to study environmental issues like global warming. Sayed and other scholars found that when trained educators are in a position to make learning relevant to schools, students and teachers were more likely to contribute to the global knowledge economy. Similarly, citizens throughout Africa as well as other continents can benefit from educational advances in RSA. Advanced learning options include Innovative Teacher Forums where educators talk tech and learn in a workshop environment. Once teachers and students master the fundamentals, they can progress to free training and valuable certification offered by the Microsoft IT Academy. Passing the Microsoft Certification exams is the next step; this provides necessary skills and a direct path to employment in the ICT sector. The wide range of certifications offered includes: cloud computing, advanced solutions, server exchange, project management, communication, messaging, planning and managing enterprise devices, server installation and configuration, visual studio, network infrastructure and design of business intelligence solutions, HTMLS programing, implementing big data analytics and office suite dynamics. And, the classroom and school cohorts are introduced to the Microsoft Virtual Academy, which brings the power of the web and those with a wide range of expertise to students throughout South Africa via free online learning.\textsuperscript{57}

Microsoft has indelibly made its mark as a shrewd corporate citizen by offering free, hosted, co-branded communications platforms for South African students, educators and school alumni using the popular Outlook application and other tools. Long-term, faculty and administrators can improve their access and analysis of data through

document sharing, instant messaging, video chat, mobile email and other services. Thus, Microsoft has successfully allowed students, teachers and schools to successfully leapfrog and narrow the skills gap, offering corrective measures for Bantu Education policies introduced under apartheid in the outdated era of landline communication. This is not to say, however, that these benefits have been shared uniformly across the country. Those in major metropolitan areas (Cape Town, Johannesburg / Pretoria and Durban) will undoubtedly attain tech skills at a higher pace due to their access to corporations willing to initiate education partnerships. Those in more rural communities that are not part of the current pool of 31,000 teachers and 4 million learners participating in the South Africa PiL program will not experience the benefits of this multi-tiered PPP.

Taking technology one step further, system advances have provided schools access to the 2011 Windows MultiPoint Server, which expands a schools tech capacity by allowing a number of users to share one computer. According to Microsoft’s website, this “means schools around the world can boost achievement and global competitiveness” and experience access to technology for citizens through shared policy development and governance. Working with educational partners, the PiL program includes school agreements with provincial departments of education in the Western Cape, Free State, Northern Cape, North West and Eastern Cape. In cases where an agreement has been signed, the province pays the licensing fee. This demonstrates the seamless collection of data pertaining to education-related best practices and development of learning modules that enable young South Africans to benefit from teachers and knowledge that originates elsewhere. Pricing plans are available for public and private schools, even if provincial

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agreements have not been signed. On a countrywide scale, educators and students are encouraged to benefit from The School Technology Innovation Centre (STIC), a partnership with Schoolnet South Africa. Launched in 2007, this Microsoft sponsored center is based at Sci-Bono Centre in Newtown, Johannesburg. STIC’s goal is to enhance education and improve the performance of South Africans, so “the performance of learners will be improved and that they will leave school with the 21st century skills they require to study further, find meaningful employment and support the economic growth in their country.”

Seeking to integrate aspects of education and technology in partnership with local education providers, STIC is a showcase of solutions, relaying ways educators can successfully integrate technology and learning. Importantly, STIC “conducts pilots to test and evaluate innovative education solutions and assess their relevance and scalability for the South African context.”

**Scaling Education Innovations**

In partnership with government, Microsoft is sealing its monopoly-like status, with a stamp of approval by the RSA government. However, the benefits to South African citizens seem to outweigh major concerns. While the PiL program is robust, the South African government should be sensitive to issues of scale. Christopher Dede cautions, “The difference between education and other industries is that every educational situation is different.” He cites factors such as “how the teacher prepares content, what

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61 Dian Schaffhauser. “Scale: Growing your innovative programs isn't just about adding more users;” 30. Print.
pedagogical style is used and even classroom or school culture." Conceding that few programs operate to scale, Microsoft has funded a research project to specifically focus on how to apply technology to scaling education innovations. This corporate-sponsored research is a direct outgrowth of the PiL initiative. Dede and Allyson Knox work with grantees in order to examine issues of scale and determine if bigger is always better. They caution, “you have to factor in steps that must be taken to address different circumstances and challenges faced by users in different environments.” Instead of merely looking at metrics, they encourage administrators and PiL grantees to look at other dimensions that include depth, sustainability, spread and shift and innovation. While the core of their research was to bolster the US PiL initiative, African and global educators have access to shared research through the learning network. Thus, in partnership with scholars worldwide, South African educators can benefit from pedagogy advancements in other countries and use the data to adjust their individual PiL initiatives.

When analyzing the progress and impact of the PiL program, Dede and fellow researchers chart growth and scale using the following dimensions: “Spread: Diffusion of the innovation to a large number of users; the traditional way of thinking about scale; Depth: Producing deep, transformative, consequential changes in instructional practice, leading to improved educational outcomes for students; Sustainability: Maintaining changes in practice over a substantial period; Shift: What happens when districts / provinces, schools, and teachers assume ownership of the innovation and spread its

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63 Dian Schaffhauser. "Scale: Growing your innovative programs isn't just about adding more users:" 30. Print.
impact; and finally, Evolution: the ongoing revision of the innovation by those adapting it.” According to Dede, the PiL program has successfully met the five dimensions.

Echoing the United Nations Declaration of Human Rights, Microsoft’s background on the PiL program states “education is the single most important investment in the future of individuals, communities, nations and the world—that it is vital to sustainable social and economic success. It is also a fundamental human right. The reality is that education globally faces a crisis: a crisis of resources, of time and of support.” Microsoft has set the industry standard with respect to providing students with skills for a fast-changing ICT world order. While the benefits of Microsoft’s PiL program appear to outweigh the disadvantages at this time in South Africa’s development, the long-term danger could be a monopoly of services in the important tech space.

**General Electric**

General Electric (GE) was chosen as an exemplary public-private partnership for its ability to largely bypass government and develop education and training programs that employ South Africans, are innovative, increase efficiency and contribute to the company’s bottom line. This is due to GE’s unique position as a global, multi-sector digital industry leader. Headquartered in the US, the company has been doing business in South Africa for 118 years. Based on this solid connection, GE has helped train skilled tradespersons and the professional class, including engineers. Because of the country’s vast holdings in the rail, gas, electric and solar energy sectors, GE has also powered

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64 Dian Schaffhauser. “Scale: Growing your innovative programs isn’t just about adding more users.” 30. Print.


SMEs through expansion of local and regional business supply chains. With a commitment to source parts and labor inside the country, they have received accolades for a job well done and serve as a model for other TNCs to emulate. GE builds on more than a century of relationships, strengthening its contributions and commitment as an economic force. Replicating success strategies used in previous PPPs, GE can leverage efficiencies and enhance effectiveness, passing this valuable insight to other partners in their extensive, multi-sector supply chain. This contributes to South Africa’s economic stability and growth, resulting in an increase of employment options for its people, particularly those under age 35 who are predisposed to securing and generating jobs in a global knowledge economy.

GE is a longstanding strategic partner in building South Africa’s infrastructure and holds a unique position as a corporate with significant ICT PPP expertise tightly integrated with the country ICT4D goals and CSR initiatives. Primary stakeholders have experienced mutually beneficial relationships and include partnerships between government, TNCs, SMEs and citizens, including workers and youth. Helping to power the Rainbow Nation, GE also provides water and wastewater treatment technology and is on board to help solve the nation’s tremendous power challenges. Power, or lack thereof, is directly interconnected with business success, future development, domestic and foreign investment. With power generation technology for electric, oil and gas holdings, GE has positioned itself as a reliable corporate citizen and continues to energize the ICT sector. Founded by Thomas Edison, GE is one of the largest digital technology companies in the world; the Johannesburg office opened in 1898 and was the first outside the continental US. Divesting its holdings during the 1970s, the MNC re-invested in the
1990s and has maintained a commitment to strengthening the new democratic South Africa.\textsuperscript{67} Other global companies with South African offices are privy to GE’s Business Procurement Outsourcing (BPO), a practice GE pioneered in 1984 which includes software-defined machines and other business solutions. Recognized as “the first leader of shared services” GE is organized around a “global exchange of knowledge” that can improve a company’s efficiency and scalability in the age of globalization.\textsuperscript{68} GE supported ICT training has “massive potential for helping the industry become a gateway to Africa for overseas and domestic companies” allowing individuals to have a service advantage in the burgeoning BPO sector.\textsuperscript{69} Training and skills building extends to the transportation sector. Between 2008 - 2015, GE South Africa Technologies (GESAT) delivered 450 locomotives that include 55 percent locally sourced parts. In partnership with other businesses and the Mineworkers Investment Company (MIC), GESAT hopes to work with Transnet SOC to supply and export additional trains that will strengthen regional transport hubs, stimulate trade, produce manufacturing jobs in the short term and bolster long-term opportunities.

With this strong tradition of innovation, GE recently opened the Africa Innovation Centre in Johannesburg (June 2016). The R500 million facility is a testament to the company’s ICT expertise and is an opportunity for Africans to enhance infrastructure and transportation throughout the continent and improve aviation services, and access to


\textsuperscript{69} Leslie P. Willcocks, Mary C. Lacity, and Andrew Craig. "Case Seven: The Value of South Africa’s Shared Service Centres:" 156. Print.
energy, healthcare, oil and gas, and power. Approaching issues comprehensively, the company also made a commitment to invest R200 million in supplier development. Jay Ireland, President and CEO for GE Africa said, “GE is committed to driving innovation in Africa for Africa through supporting skills and development of small and medium enterprises (SMEs) … We are looking to impact and enhance the career aspirations of over 100 engineers from previously disadvantaged backgrounds. These are young people who will come through the center and share their innovative solutions whilst learning from some of the best GE minds in their respective fields. They will work across GE’s product portfolio and deliver simplified world-class products to GE customers.”

**Award-Winning Strategies**

In 2014, the South African government presented GE with the inaugural Siyabonga Business Award for Economic Impact presented to US businesses and individuals who make significant contributions to the country. According to Polity, “Since first establishing a presence in South Africa more than 100 years ago, GE has been committed to driving local innovation, investing in South African talent through training and skills development programs, supporting and scaling small and medium enterprises (SMEs) and uplifting communities through corporate social investments. Through its transport, healthcare and energy infrastructure projects, the company has helped to create a more sustainable future for all South Africans.”

The Siyabonga Award presentation took note of GE’s liaison with MIC, the corporation’s Black

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Economic Empowerment (BEE) partner and their important work in the railroad and transportation sectors. Another partnership is GE’s collaboration with Transnet Engineering to build and export trains at a factory near Pretoria. “To date, GESAT has worked with Transnet to up skill its employees through 150,000 hours of skills development training worth more than R480 million. In addition, the company has invested R1.7 billion over the last 3 years in preferential procurement as part of a competitive supplier development program.”

According to the former Ambassador of South Africa to the US, Ebrahim Rasool, “GE transforms the workforce in South Africa.” He validated the corporation’s pioneer approach to localizing manufacturing efforts that lead to business expansion and said other companies contact the government and merely want to sell trains or other services without investing in the country and its people. This supports the notion that GE is a MNC with a corporate social investment mindset that fosters supplier development and expansion of SMEs.

**A 360 Approach to Education, Training and Entrepreneurship**

This synergy connecting young African talent and a leading digital industrial company serves as a model to assist South Africa in providing opportunities for the best and brightest minds to excel—without having to leave the country of their birth.

Adopting a 360 approach to education, training and entrepreneurship, the company adds a business development incubator model, which significantly improves an individual’s ability to use their skills and training to start and maintain a business. Thus, GE and other TNCs are helping to shore up South Africa’s employment infrastructure. The GE Africa

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Innovation Centre will also serve as the headquarters for GE Healthcare, which includes an initiative to reduce infant and maternal mortality in Gauteng Province. The center provides jobs and health technology training and offers an opportunity for South African families to experience positive advances in medical technology. This is important since many families lost loved ones to the HIV AIDS crisis. Culturally sensitive corporate engagement meets citizens where they are, and can stimulate an interest in the health technology field as an employment option and bolster the local economy. According to BizTech Africa, the center will aid in skills and SME development throughout the continent and serve as the basecamp for the Londvolota Enterprise Development Trust, which launched in 2015 with a commitment to accelerate supplier development in South Africa specifically and to equip SMEs to participate in the GE value chain.74

GE’s example supports Sharlene Ramlall’s findings that “a strategic partnership-based approach to corporate social responsibility” is usually experienced if all parties enter the relationship with commitment and a collaborative spirit.75 And, Michael Porter and Mark Kramer suggest CSR can serve to create a competitive advantage when businesses take a strategic look at partnerships and alliances, such is the case with GE, as opposed to a generic approach whereby corporate investments are not directly aligned with business goals and objectives. Porter and Kramer corroborate GE’s position that the company has successfully helped train and employ South Africans because they have not looked at “the relationship between business and society as one that does not treat


corporate growth and social welfare as a zero-sum game.” According to the scholars, “They introduce a framework that individual companies can use to identify the social consequences of their actions; to discover opportunities to benefit society and themselves by strengthening the competitive context in which they operate; to determine which CSR initiatives they should address; and to find the most effective ways of doing so.” Porter and Kramer urge business leaders to “perceive social responsibility as an opportunity rather than damage control.” Their research also supports the premise that GE’s thought processes reinforce an environment where residents, government and businesses all win.

This comprehensive and strategic support of the country where they do business is in addition to GE’s grassroots, community support. In 2014, the country donated R10 million to the Nelson Mandela Children’s Fund to improve healthcare for the country’s youth. The corporation meets people where they are in ICT training and skills building, and provides state of the art, tech-ready classroom containers and other services to the Kromdraai community. While the neighborhood is near the urban hub of Johannesburg, this corporate social investment shows the ongoing need for direct, essential services. This exemplifies GE’s comprehensive CSR efforts that range from multi-province services, like the rail program, to meaningful PPPs that provide transformative basic education to supplement what the local government can offer its citizens.

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**PPPs and the National Development Plan**

Government leaders contend GE’s community-based efforts can help bring South Africa’s National Development Plan to life. “GE is making a tremendous contribution to our competitiveness as a destination for global investment,” said Simon Barber when presenting GE with the 2014 Siyaboga Business Award. Barber and colleagues shared case studies with other corporates who wish to make a sustainable impact in the country and improve the lives of citizens.  

It is important to consider the significance of GE’s role in helping to strengthen the country’s youth, worker and entrepreneurial classes. Wilma Mayhew and G.E. Chiloane have researched challenges faced by SMMEs, focusing on black women business owners in particular. They find Gauteng province’s Small Enterprise Development Agency (SEDA) “provides only limited training in assisting potential entrepreneurs to start and grow their businesses.” The research finds the smaller entrepreneurial class is due to South Africa’s long period of colonialism, apartheid and the inability of women to own property or enter into contracts. In 1996, South Africa’s Small Business Act No. 106 was passed to create an atmosphere that allowed women-owned, SME and micro-enterprises to thrive. According to the country’s policy statement, SBA #106 “declares the intention to promote the economic and social welfare of South African citizens through entrepreneurial and economic innovation. However, it is not enough to recognize these measures: it is also important to find out how effective

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SEDAs training programs are in influencing women entrepreneurs to start and grow their businesses. Effective policy implementation on the part of government is critical, since creating an environment that is conducive to the flourishing of women in business, to the eradication of poverty and to gender balance lies at the heart of policy-making in South Africa."82

GE’s contributions are important because “entrepreneurship is a cross-cultural phenomenon with cultural specific aspects … accepted as universal determinants of entrepreneurial behavior. They emanate from the socio-economic characteristics of an individual, such as age, education and work status, and are sometimes influenced by subjective perceptions such as perceived skill, fear of failure, motivation and perception of unexploited opportunities. Further factors which influence entrepreneurship among women can be attributed to work status and socioeconomic factors.”83 Because of limited opportunities, Mayhew and Chiloane emphasize women turn to the informal entrepreneurial sector as a viable alternative to generate income. Because of GE’s emphasis on 21st Century digital technology, this provides an opportunity for citizens to leapfrog their learning curves through the corporation’s business incubator, education and training pipelines. This allows enterprises to expand and results in potential employment for others over time.

Chiloane and Mayhew’s research finds a miniscule amount (0.08%) of information about SEDA training programs for entrepreneurs is obtained through LBSC, “the agency that is supposed to disseminate information on government policies and


programs,“84 including state supported training. Most people learn about training programs through newspapers, media or friends. Thus, those who have experienced success in GE’s PPPs or other corporate initiatives are likely to share positive info and encourage others to join business incubators and future training cohorts. The scholars thus reject the hypothesis that SEDA is effective and conclude, “SEDA does not really supply to the needs of entrepreneurs,” as nearly half (48 out of 111 persons surveyed) had no knowledge of any material being shared about training programs. There is a glimmer of hope in their research. The age group 20-29 had attended training programs, whereby most people over the age of 40 had not. This is a direct correlation to a post-apartheid society whereby once citizens have received a basic or Grade 12 education, they can access skills to improve their standing in society. Younger citizens, once afforded opportunities, are receptive to training programs. Some may even choose to empower themselves and others through entrepreneurship. Again, knowledge and ability access to ICT training programs varies from individual to individual and can include things such as knowledge of programs, ability to travel with ease or location of training programs. The convenient location of GE’s training center in Gauteng province allows potential access for millions.

Mukhove Masutha and Christian M. Rogerson agree that incubators, training programs and, small and micro-enterprises are critical to RSAs long-term ICT4D. “The SMME economy is considered a vital element for addressing several of the major objectives for post-apartheid reconstruction and development, including economic restructuring and poverty alleviation. In addition, the promotion and support of small

businesses and micro enterprises is seen as an important vehicle for job creation particularly in the context of the slow growth of new employment opportunities taking place in large formal enterprises.\textsuperscript{85} According to Masutha, South Africa’s National Planning Commission set an ambitious goal of 11 million new employment opportunities by 2030; 90 percent are slated to come from the SMME sector.\textsuperscript{86} If residents aren’t trained for these opportunities, they cannot be realized. This is why GE’s PPP and other innovative community-based corporate initiatives are necessary.

**PACE College**

PACE College was a PPP supported by NGOs and American businesses operating in South Africa. The institution was selected as a case study because it was conceived at the dawn of democracy and the beginning of the global tech era. At the height of the apartheid struggle and corporate divestiture, PPP collaborators sought to build their reputations as exceptional corporate citizens helping to educate black South Africans. Business leaders and global investors feared Bantu education practices could have a devastating impact on the country’s ability to train a future workforce. To counteract this, PACE intended to train students for jobs in industry. The first step was to help students pass matriculation exams that offered access to universities. Business leaders surmised this would expand the professional class. Results were lackluster. PACE failed to listen to the community and successfully link with educators sensitive to student needs, resulting in many students not passing the exams. Rather than developing a future talent pool, PACE put even more attention on the country’s inferior education for black


\textsuperscript{86} Mukhove Masutha and Christian M. Rogerson. "Small enterprise development in South Africa:" 143. Print.
citizens. PACE represents a case whereby stakeholders did not avail themselves of community resources, opting for a familiar western worldview that served to be ineffective. And, given the timing of its implementation as apartheid was collapsing, a robust public-private partnership was not really possible, no matter how well intentioned the founders of the college may have been.

PACE College was a business-oriented secondary school in Soweto that did not have a successful outcome as a PPP. No longer in operation in its initial form, the acronym PACE denotes Planned Advancement of Community Education and was founded in 1979 by the American Chamber of Commerce in Johannesburg, South Africa (AMCHAM). Officially opening in 1981 as a commercial high school, PACE Vice-Principal and poet, Oswald Mtshali, said the school’s primary goal “is the creation of a highly qualified, motivated and employable student.”

PACE was conceived to develop a future black management class that could have been poised to take advantage of jobs in the ICT sector, which was in its infancy. Following the Soweto student uprising of 1976, the education of Black South Africans increased in priority as a US foreign affairs policy objective. In order to implement change, the US Agency for International Development (USAID) tested the waters with an educational mission to South Africa in 1981. This was a follow-up to Assistant Secretary of State for African Affairs Chester Crocker’s part in a conference held at Georgetown University’s Center for Strategic and International Affairs entitled, “Furthering Higher Education of Black South Africans: How Can the United States Best Help?”

Lawrence Eagleburger put forth initiatives that included scholarships, entrepreneurial and union training programs and a university prep program for black high school students, known as PACE College (Davies 1985, 171). While an interesting concept, PACE could not free itself from “the legacy of inferior education inherited from ‘Bantu Education’ ” with a focus on manual labor. Despite significant foreign partnership investments on equipment and infrastructure, many students failed to pass matriculation tests. The educational PPP was also met with the deeply rooted activism rife with student uprisings and boycotts against “American Imperialism.” IBM, Minnesota Mining and Manufacturing, Xerox, Burroughs and National Cash Register were early PACE supporters; that number reached nearly 200 corporations over time. Karen Paul’s research found the institution was hastily established, without regard for a long-term strategy or clear goals. Financial support from US corporations grew to about R10 million (about $4 million US dollars) in the mid 1980s. “The budget called for 85% of the operating expenses to be provided by companies and 15% to come from student fees.” There was a sliding scale for fees based on household income and students went through a rigorous application process.

PACE has been described in numerous ways: as a commercial high school, community college, commercial college or industrial school where students gained skills that prepared them for the workforce. Research finds PACE’s initial structure was similar to American charter or magnet schools. The first class included 140 Form I South African

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students (comparable to Grade 8 in the US). Enrollment grew to about 600 by 1985. “The aim of the school was to prepare Soweto youth for careers in business.”91 Subjects included English, Afrikaans, Mathematics, Economics, Accounting, Business and Typing. US companies hoped the school would assist young South Africans in securing office jobs or obtain further education on the university level. American companies opted for a US high school format that included Grades 8-12; South African head teachers better understood their students’ shortcomings and were in favor of a curriculum that championed student success. With donors offering resources in the form of administration and planning, Paul’s research indicates “They valued rapid action over deliberation and community representation.”92 Faced with numerous operational challenges, the school was located in the gang-laden Jabulani neighborhood, with students and teachers facing harassment and violence just trying to enter the building. Security was tremendously difficult, especially since the entire Soweto neighborhood was at the height of political action, protests and civil engagement.93 Corporate donors neglected to feel the pulse of the neighborhood. “The tribal language spoken in the homes of the students were not used as a medium of education at PACE;”94 school organizers opted to follow the status quo and conduct classes in English and Afrikaans, the languages of South African business. However, this created severe problems, as noted by Paul: “In elementary schools, Soweto youth received only the most rudimentary instruction in English, poor preparation for commercial courses which assumed

competence in English. Thus, learning and examination results were distorted by the students’ need to master the language of instruction at the same time they mastered the subject material. … Not surprisingly, the standardized tests threatened the image of the school as an exemplary educational setting.”

While a noble goal on behalf of corporates, students were ill equipped to achieve South Africa’s Joint Matriculation Board status (Form I to Form V or Grades 8 - 12 / US model) and move on to university studies or be ready for the workforce. Falsified test scores on behalf of the administration further discredited the school during a time when violence in Soweto was erupting on a daily basis. Perhaps overly ambitious, business leaders and citizens likened the PACE experiment to Sowetans obtaining private school education, or at the minimum, an education similar to what white children were obtaining in white public schools.

**Skills Shortages, Vocational and Technical Education**

Linda Chisolm said leaders were grappling with how a new education system should be constructed in light of “skills shortages” and an expanded interest in vocational and technical education. These findings were from an education inquiry called the de Lange Report, launched by the Human Sciences Research Council. In the 1980s, RSA leaders were grappling with worker strikes, student campus unrests and other organized civil disobedience—efforts eerily similar to South Africa’s 2016 state of affairs. The report said, “For economic growth to be maintained … education would have to be revamped to enable the necessary education and training of some categories of blacks. A mass of statistics about the precise number of shortages in each sector and the shortfall in black educational qualifications was produced, flooding popular consciousness with its

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urgency.” The Anglo-American Chairman’s Fund reported that the educational shortfall of black citizens “strain South Africa’s social fabric more than any other factor.”

On a basic operational level, PACE had tremendous obstacles to overcome from the start. In the area of teacher training and sensitivity to issues pertaining to African education, the first headmaster was a well-connected retiree from a prominent white South African prep school. Respected among whites, he had no experience in black communities and selected associates to help run the school who had little or no training. The result: infighting among faculty, staff and corporate supporters, often drawn among racial lines. On an operational level, for something as basic yet necessary as attendance at administrative meetings, black PACE board members were subjected to township curfews, something business donors or white supporters of the institution did not experience. These public policies restricted free movement of blacks and were enforced; failure to comply was not worth the risk. While committed supporters of educational improvements, black board members’ participation was often limited. Conditions significantly deteriorated through June 1986 when AMCHAM pulled support due to township violence and the resignation of white teachers who feared their safety. Due to the commitment of black teachers and staff, the school refused to stay shuttered and reopened with a highly respected black headmaster. Despite limited finances, equipment or supplies, PACE struggled, but stayed open, amidst ongoing difficulties. “The new headmaster appealed to foreign embassies and companies for funds in order to enable the school to continue. After many struggles, some new support was attracted, primarily from


diplomatic sources. The school functioned for several years despite practically non-existent supplies, shoe-string budgets and revenue streams and teachers who seldom knew for sure that they would be paid.99 By 1992, PACE had been taken over by the Gauteng Department of Education (GDE), and was categorized as a special school. Struggling, but still surviving, reportedly a white liaison served as an advisor between donors and the school, helping to manage expectations and finances. Because of PACE’s deep community connections, the school was able to maintain operations under the new generation of black leadership while “other township schools were virtually non-functional,”100 for many months prior to the historic April 1994 elections that ushered in democracy. “The turnaround at PACE came only after initial sponsors washed their hands of any responsibility for the project, and only when it became truly a part of the community it sought to serve.”101

Paul sheds light on organizational issues that led to PACE’s demise as an educational PPP supported by corporates. She compares and contrasts how AMCHAM and American donors supported PACE, as compared to South African businesses and their support of Funda Centre, an initiative grounded in community support and an educational institution that evolved over time. Paul reveals the PACE PPP initiative had three goals: to expand educational opportunities, show the global business community that American presence was a benefit to local communities and serve as a mechanism to stop the vocal call for sanctions and divestiture.102 From 1980 - 1992, AMCHAM

companies donated $350 million. PACE College was an early PPP developed under the auspices of the ‘Sullivan Principles’, which focused on community development and economic empowerment. Likewise, South African businesses provided support to Funda Centre, which offered educational and community empowerment programs to Sowetans. Paul finds, “The demands on multi-national corporations, arts and cultural groups, academic institutions and development agencies to become more involved in South Africa will grow as the country’s problems shift from the political to the economic.”

Engagement on behalf of educators, students and concerned citizens demonstrates South Africans commitment to local organizations that help youth gain employable skills and contribute to society.

**PPPs as Social Justice Tools**

PACE supporters were largely wed to US business interests aligned with “promoting the social justice agenda demanded mainly by US constituencies,” which grew more vocal, encouraging companies to divest of South African holdings. “In this respect US corporate philanthropy in South Africa has been quite different from corporate philanthropy as exercised in less politically volatile settings.” Due to global pressure, progress was often publicized. PACE founders expected students to have outstanding performance and test results. When results didn’t meet the very public expectations, everyone lost: donors pulled out, students’ confidence sagged and overall, the PACE experiment was seen as a failure to the business community and residents of

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Soweto.\textsuperscript{106} Faced with divestiture, many corporate members and supporters of AMCHAM experienced pressure to relinquish support of PACE and other country holdings. According to Mzamo P. Mangaliso, “The modern corporation has come to be regarded as a dynamic force for subverting traditional norms in repressive societies. However, the role that MNCs can play in transforming the socio-political landscapes of most host countries is largely circumscribed by the actions that host governments can take. In the case of South Africa, the vast disparities and inequalities created and maintained by many years of apartheid rule are limiting factors to the “trickle-down” effect that would normally take place.”\textsuperscript{107} Mangoliso also found withdrawal of corporate support and global divestiture of South African holdings were effective tools that ultimately transformed the country and led to the democracy we know today.\textsuperscript{108}

Conversely, South African businesses that supported the Funda Centre took a more methodical, low key and diplomatic approach and served to educate a wider range of students and adults, not only traditional, school age children. Based on more of a community-center model, this measured approach involved Soweto community leaders and teachers. In addition to commercial courses, the curriculum focused on arts, culture, and a humanities-based curriculum that celebrated South African heritage. Importantly, many adults involved were mentors to Funda students, thus education was reinforced outside the school. Even the location of Funda Centre, on the outskirts of Soweto, allowed teachers and donors greater access and safety. For PACE, transport to classes


and work and included navigating a more unsettled urban terrain that often included protests and violence due to the quest for educational rights. The Funda Centre’s approach allowed South African businesses to maintain relationships and authority over time, “cultivating indigenous leadership” and deploying the merits of “leading from the middle” and often working behind the scenes, allowing informal community leaders to take authority in order to achieve mutually-beneficial goals. In contrast, the AMCHAM and the US corporations, guided by the ‘Sullivan Principles’, had oriented their goals toward the monitoring system which gave companies Sullivan ratings. The objective of the companies who established PACE, besides contributing to black education, was to gain points on a rating system that graded on input rather than output.

Based on the evidence, the PACE model was not beneficial to South Africans struggling to achieve and gain access to universities or jobs.

Paul’s research reveals the following issues that led to the success of the Funda Centre, yet yielded very different results the ultimate demise of the original PACE College. Supported by American business, PACE’s challenges included: “publicly stated goals subject to external, objective verification; generous corporate support subject to annual reassessment and termination; leadership imported from corporate community based on social connections; administrators chosen for cosmopolitan credentials; equal representation of blacks and whites on board of directors and staff; high visibility of corporate sponsors; physical location vulnerable to violent attack; corporate donors oriented toward short-term goals, well defined schedules and measurable achievements;"


little concern for drawing out potential of mid-level staff for leadership and program development; little incorporation of recipient culture and tradition; focus on that of donors."\textsuperscript{111} The Funda Centre, supported by South African business, set goals that weren’t subject to as much scrutiny and included: “diffuse and general goals not subject to public, external verification; steady corporate support evolving to independent fundraising; leadership recruited from surrounding community based on previous activities; numerical superiority of blacks over whites on governing boards and staff; low visibility of corporate sponsors and staff; physical location of school building minimized likelihood violent attack; corporate donors oriented toward long-term goals, flexible schedules, and evolution of programs; mid-level staff and program leaders exercise considerable leadership and program initiative; celebration of culture and tradition of recipient community.”\textsuperscript{112}

While PACE College did not have a successful long-term outcome as it was originally conceived, the American Chamber of Commerce remains an active NGO and business advocacy organization that fosters USA-RSA investment. AMCHAM represents 250 American companies in South Africa, including Coca-Cola South Africa and Massmart Walmart. A 2014 survey of 89 companies revealed AMCHAM’s PPP efforts directly or indirectly benefitted 221,400 residents. And, AMCHAM members support programs that impact 885,600 children in the areas of education, nutrition and supply basic necessities such as clothing. The group works with the US Embassy in South Africa and US Commercial Service, as well as other partners and stakeholders to ensure South


Africa remains a competitive business destination. In October 2015, AMCHAM launched an ICT forum in response to “member demand” to increase involvement in South African information, communications and technology issues and have a voice regarding policy and other important areas that might have an impact on RSA legislation and impact on US companies.\textsuperscript{113} Paul’s research urges educational or training partnerships to be firmly rooted in the community rather than to receive financial support without sustainability or scalability. “Donors should be prepared both to provide ongoing loose oversight and to encourage the maximum possible community participation,”\textsuperscript{114} and suggests donors practice wise issues management rather than ignoring issues until they reach crisis status and become public. This damages the reputations of the all partners, impacting students, and educators and can harbor resentment between various actors and stakeholders.\textsuperscript{115}

Education and training reform through PPPs requires donors to have an “ongoing commitment … to maintain liaison with projects in communities such as Soweto requires them to move outside the donor organization and its culture. Generally, managers are inclined by temperament and by training to look for concrete results, and to want to achieve certain goals within a given time frame. However, this may not be a helpful orientation when community needs are actually considered paramount in importance, and when community support is required.”\textsuperscript{116} Issues of integrity and respect are critical; Paul encourages those interested in PPPs to “accept the expertise and counsel of community


leaders for mobilizing community support.”

Despite its shortcomings, PACE paved the way for successful educational partnerships launched in the early mid-1990s; many PPPs gained significant momentum after the fall of apartheid in 1994. Responding to industry’s wish to employ a more “stable and skilled” workforce, “Employers are looking for a quality of ‘steadiness’ that is not the same thing as skill but may be achieved by a process of ‘training’. There has always been evidence that jobs with training made for more stable workers than jobs without and it now seems that employers are ‘skilling’ jobs, adding ‘training’ programs as a form of work discipline.” This seems to be a direct effort to thwart union and worker rights movements popular in the 1970s and 1980s as South Africans steadfastly moved toward a democratic society. For example, in 1982, The Star newspaper convinced several companies to act as foster parents to schools; 20 schools in Soweto alone had corporate partners. A 1982 article stated, “The program is not just one of signing checks. It is involvement and caring. It is also caring and concern. It is not paternalism, but vital partnership. … We hope that it will become a campaign for upgrading the entire quality of life, for creating just that opportunity on which our future security and well-being depends. … The most practical solution (to the expense to the state of training skilled workers) appears to be the establishment of a private educational organization(s) … The purpose of this body would be to funnel the contributions from industry to establish ‘model’ vocational schools in different communities who want these


schools. The schools would be planned to meet the urgent needs of industry.” Chisolm theorizes schools and industry are linked “and the process of co-option has begun.”

**South African Educational Reform**

Therefore, PACE College is an example of an early PPP training program that served as a foundation for today’s community-centric education reforms and multi-tiered skills training programs embraced by contemporary TNCs like Microsoft and GE. PACE College was conceived in the midst of several transitions in South African society: the education of a previously disenfranchised African populous, the move from industrialized worker class to a knowledge society and changes in the racial division of labor. This included engineering unions and other groups opening up membership to Africans, the eventual lifting of international business sanctions and civil strife, which paved the way for democracy. Changes in the nation’s political infrastructure resulted in teachers and academics losing their hold on the educational process.121

Echoing shades of South Africa’s current economic downturn and the need to increase training in the skills development and tech arena, corporates and celebrity business moguls have taken more of a leadership position. Most notably, the Oprah Winfrey Leadership Academy for Girls, founded in 2007 and Richard Branson’s

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Centre of Entrepreneurship, founded in 2005.\textsuperscript{123} These are among many programs that have been able to benefit from the history of PACE College, the Funda Centre and the work of other tireless, yet lesser-known educators and programs founded to reverse the remnants of Bantu education. GE, Microsoft, business leaders, educators and philanthropists interested in South Africa’s progress have benefitted from lessons learned in the PACE College experiment. PACE and other educational PPPs serve as a foundation for today’s public-private educational partnerships that will educate South Africans and build an ICT workforce for years to come. A lasting tribute to the initial experiment, PACE Commercial Secondary School continues to exist as a high school that is part of Gauteng Department of Education, whose motto is “Together, moving Gauteng city region forward.”\textsuperscript{124}


Conclusion

The argument put forth in this thesis is that ICT public-private partnerships in the education sector can provide South Africans with transformative skills they can use to compete in a 21st Century technologically driven society. Evidence shows a trained workforce will assist in provincial and countrywide development and strengthen the country’s position as a global business hub. Long-term, technical expertise allows South Africans to not only seek employment at TNCs, but also launch SMEs that generate jobs. And, citizens can create micro enterprises that produce culturally relevant ICT products to showcase the historical significance of the county, offer potential export opportunities and support the travel and tourism sector. In that educational resources are scarce in many communities historically left behind, PPPs often fill the gap by creating a triad between corporates, NGOs and government. This has proven to be a successful model that affords school-aged youth and adults under the age of 35 with skills to not only catch up, but leapfrog over the separate and unequal “Bantu Education” practices and take full advantage of digital telecommunications and online learning. While experiencing varied levels of success, South Africa’s ICT PPPs offer roadmaps for tech firms and educators interested in assisting this relatively new democracy survive the recent economic downturn and generate financial stability for its citizens.

While President Jacob Zuma’s administration is faced with multiple socio-economic challenges, South Africa’s present and future leaders must include technology regulation as part of their public-private partnership policy portfolio. Based on international norms, this is necessary as South Africa works to leverage digital capital that can lead to employment and business expansion. To support this claim, David Adler
discusses the dangers of the ANC’s decline and states the once-powerful party is faced with growing opposition from the Economic Freedom Fighters. The EFF has “attracted the support of many young people who are leaving the ANC to seek more radical solutions to the country’s 50 percent youth unemployment rate; since 2013 the party has captured hundreds of posts once held by the ANC.” Intraparty friction and unwillingness to accept stagnant worker education programs and inefficient and ineffective public services exploded into violence resulting in a slow deterioration of democratic gains. Protests in cities and on college campuses throughout South Africa have resulted in the deaths of five protestors and assassination of 12 ANC candidates running for office. In early November 2016, the public protector’s office, a group established to investigate political misconduct in South Africa, suggested the Zuma regime be “officially investigated for possible corruption.” Thulisile Mandonela, the first woman public protector, is touted as someone who is shaking up the status quo. While ANC turmoil and a defection of party leaders add to the country’s instability, leaders like Mandonela are working to institute policies that could help the next generation with desperately needed education and employment options. Complicating the process is that the ANC was part of an alliance with the Congress of South African Trade Unions; worker rights and the potential for advancement were integral pillars in dismantling apartheid. PPPs offer economic potential in the age of globalization and can serve as a powerful way to attract and train people for industry-specific jobs. However, cronyism and charges of corruption in the Zuma administration do not help with the


perception that the public sector, populated by black South Africans, is ill equipped to tackle the nation’s tremendous challenges. News reports from The Daily Maverick, BBC and other media support this claim.127

It is clear PPPs such as Microsoft’s Partners in Learning program can help the South African government, educators, students and citizens access the tools and training they need to compete in a globalized world. These CSR and talent development programs are known as “effective altruism,” popular with many US philanthropists and gaining global traction.128 There is also an opportunity for educational stakeholders to embrace Silicon Valley’s “problem first, tool second” methodology. The financial resources and multi-sector reach of the tech sector allows those with an interest in South Africa to contribute expertise such as networking and training—contributions Microsoft, GE and others currently provide. These PPP elements could be expanded with support from additional ICT corporate partners, with the goal of making a significant impact in the lives of youth, educators and administrators, one school at a time. PiL South Africa exemplifies advice Gates Foundation founders obtained from trustee Warren Buffett, who encouraged philanthropists to “take on the really tough problems.”129 Global support of Microsoft’s PiL program supports Bill and Melinda Gates’ wish for philanthropy to “make bets on promising solutions that governments and businesses can’t afford to make.”130 The structure of PiL whereby data is analyzed and shared with the masses


contributes to improvement of the central challenge: integration of STEM education in basic, elementary and secondary schools, bolstered by ongoing access to tech training and certification for future jobs. In this case, it means providing young South Africans, teachers and administrators with skills that underscore the philosophy that Microsoft is a socially responsible global tech leader who invests in people and economic development. According to the Gates Foundation, “… as we learn which bets pay off, we have to adjust our strategies and share the results so everyone can benefit.”

By sharing strategies, public-private partnerships offer life-changing benefits of technology to the masses. Effective PPPs allow African nations to “leapfrog” stages of ICT development. This allows nationals to more fully participate in democracy as digitizens and compete as digitally ready, contributing citizens. Armed with information, communications and tech skills, larger numbers of South Africans can participate in and contribute to provincial, regional and global ICT networks where people exchange information, knowledge and financial currency. Thus, PPPs help citizens of the Rainbow Nation fully experience the transformative benefits of ICT as tools to extract and contribute intelligence. This assists South Africans in experiencing the economic advantages of a highly skilled and technically capable 21st Century information based democratic society.

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