Situating Ghana's New Media Industry
Liberalization and Transnational Entrepreneurship
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Introduction

In the last two decades, more countries have reached critical mass with the use of new information and communication technologies such as mobile phones, mobile internet, and broadband internet (ITU 2012). Between 2001 and 2011, global mobile subscriptions went from 15.5 to 85.75 percent, and individuals using the internet went from 8 to 32.5 percent (ITU 2013). In the UK, it took about 15 years for mobile phone subscriptions to exceed that of fixed lines; that crossover took 5 years in Tanzania (Vodafone 2005). The move to mobile phones happened rapidly relative to how long it took other communication technologies, such as the landline, to reach critical mass. In fact, in many parts of Africa, the landline did not reach critical mass before the mobile phone exploded onto the scene. Despite Ghana's low rankings globally, the International Telecommunications Union (ITU) describes Ghana as one of the most dynamic countries in terms of its ICT Development Index (IDI)[1], showing significant growth in the number of the country's internet users and rates of mobile-broadband penetration (ITU 2012).

In the 1990s, there was a global expansion of mobile or cellular service, and the internet and World Wide Web came to be. Broadly speaking, it was a time of economic and regulatory changes especially in the telecommunications sector around the world. In many cases, monopolistic state- owned entities were privatized in a deliberate attempt by governments to introduce competition into particular sectors (liberalization). For instance, a stated goal of the United States Telecommunications Act of 1996 was to promote competition in the telecoms sector covering radio, television, and the internet (United States 1996).[2] In Europe, the telecoms sector has "moved from a tradition of strong public service monopolies ... to one of increasing privatisation and competition" (EU n.d.). Many of the changes that were being made to the telecommunications sector were due to the fact that technologies were changing, and this was certainly true in other countries (Brock 2002).[3]

It is safe to say that no country was untouched by the innovations in telecommunication technology. The global nature of these new media technologies is easy to take for granted. However, relative to how long it took other technologies, such as the radio and television to become as ubiquitous as they are today, the mobile phone and the internet have evolved rather rapidly. While the level of development and sophistication of available tools is not uniform across countries, technologies used in any country are often available in similar forms in other countries. The global or transnational nature of communication technologies does not erase local adaptations and technological uses. As Robertson argues in his seminal essay on globalization versus glocalization, scholars have to be more "subtle about the dynamics of the production and reproduction of difference" when addressing the "global-local problematic" (Robertson 1994). In the discourse on globalization, scholars must consider the particular or the local as a force that is complementary and integral to broader global trends shaping societies today. In seeking to document and understand how new media technologies are being created and used in small countries like Ghana, it is necessary to consider how the forces that shape them operate at glocal levels.

In this chapter, I draw attention to how liberalization and return migration shape new media industries in Ghana. Policies (via multilateral and internal frames) and entrepreneurship (via international migration and the return of highly skilled laborers)

underpin the country's ICT development and shape the evolution of new media industries. I present a case in which internal policy decisions are informed by external/global forces but occur in response to internal/local histories. Policy decisions are distinct from the trend of emerging forms of entrepreneurial labor, although policies and labor patterns are intimately intertwined. I begin by addressing the historical and socio-political contexts of 1990s to present Ghana, discussing the ways in which policies laid the groundwork for what the country's new media industry space looks like today. I then discuss the return migration of highly skilled technology entrepreneurs who took advantage of the changing regulatory regime. While this return migration is connected to the larger context of the global movement of highly skilled labor, I address the specifics of Ghanaian migrations. The interaction of these key moments and their glocal parameters and their overall implications conclude the chapter.

I draw from a pool of 26 in-depth interviews conducted in 2010 and 2012 with some early investors in the new media and communication technology industries in Ghana. Almost all the interviews took place in Accra, Ghana, where I also attended industry events. In addition, I draw on textual evidence from policy documents, trade and industrial press materials, and publications that address policy and highly skilled labor in new media industries. Together, my interviews and textual analyses allow me to present a contextualized analysis of how Ghana's local specificities work in conversation with broader global phenomena to create a competitive marketplace of ideas in an emerging economy that is also a relatively young democratic state. Further, I argue that the tension inherent in trying to actively participate in a global economy while maintaining a unique local focus is what characterizes the growth of the new media industry in Ghana.

Ghana in Context: The 1990s, Glocal Pressures, and Regulatory Changes

Historically, Ghana has played various symbolic roles within the African continent and in the eyes of non-Africans. Being the first sub-Saharan nation to become independent after decades of colonial rule, it was hailed as a "star" of Africa. However, it was also one of the first countries to be controlled by a series of military coups that went on for decades until the 1980s when the last military leader, Jerry Rawlings, transitioned the country to democratic rule under free elections. During that political transition, the country under-went fairly drastic economic changes. Due to loan agreements and pressures from the International Monetary Fund and World Bank, Ghana initiated *laissez-faire* policies and implemented a Structural Adjustment Program (SAP) that included the divestiture of State Owned Enterprises (SOEs). As a major exporter of gold and cocoa, this meant turning ownership of major government-controlled industries over to private hands, as well as restructuring other sectors of the economy such as welfare institutions and the telecommunications sector (Appiah-Kubi 2001; Alhassan 2005). This particular part of Ghana's history is not unique. In fact, deregulation was *du jour* around the world in the 1990s. For countries in the Global South, this was often a result of borrowing agreements with the World Bank and International Monetary Fund (IMF), which often came with conditions to liberalize sectors of their economies (Moyo 2009). Given the Global North's dominance of these two institutions, these measures were in line with what was going on in Europe and elsewhere. It became clear that telecommunications could be

much more than basic voice telephony and that it was increasingly inefficient for governments to operate telecommunications firms. For example, in Nigeria, the Communications Commission offered GSM mobile licenses before privatizing the national monopoly Nigerian Telecommunications Limited (NITEL) (ICC 2007).

In 1987, the government of Ghana started issuing private licenses for telecommunications equipment (Allotey and Akorli 1999), but it was during the 1990s that major restructuring took place in the media and telecommunications sector. The Post & Telecommunications Corporation was divided into two separate entities, Ghana Post and Ghana Telecom. Radio and television licenses were issued, and a regulatory body called the National Communication Authority (NCA) was created to regulate standards and issue tariffs (Allotey and Akorli 1999). The Ghana Broadcasting Corporation ceased to be the sole provider of radio and television, and in 1994, as part of the broad liberalization effort, the government agreed to license Joy FM as the first privately owned commercial station in Accra (GBC n.d.). With the new constitution, the state-run media became fairly insulated from state control and government censorship in its operations (Alhassan 2005). Since then, the country's media landscape has been open and very competitive. In 2002, there were 12 private television stations operating in the country and 49 FM radio stations broadcasting across the nation's 10 administrative regions (Avle 2011). In the early 2000s, Ghana Telecom, the then state-run telecom provider, was first purchased by Telecom Malaysia, and then Telenor, the Norwegian telecom provider signed on for a brief period to manage it. In 2008, the British global company Vodafone purchased 70% of the shares of Ghana Telecom for $900 million.[4] Other large multinational firms such as Luxembourg's Millicom (which operates under the name Tigo), South Africa's MTN, and India's Bharti Airtel all operated competitively in Ghana at the time of this writing in 2012.

This particular sector of the technology market sees active government involvement given the current and previous governments' focus on making ICTs a major driver of economic growth. Each successive government since 2000 has published major ICT policy documents and passed a number of bills in parliament focusing on communication policy. The ICT4AD Policy of 2003, the ICT Blueprint of 2004, the Telecom Policy of 2005, and the National Information Technology Agency Act of 2008 all explicitly state a desire to keep up with the rest of the world and to transform the Ghanaian economy into an information and knowledge-based society.

Stella Brown, director of a multilateral ICT center based in Accra noted that ICT regulation is the one issue where parliament tends to be bipartisan.[5] While one reason may be that there is a lot of room for investment and growth, it may also be that the government views the "big IT telecommunications environment as a cash cow" (David Gyewu),[6] regardless of which party is in power. Taxation and regulatory fees actually yield revenues because they have proven easier to enforce in this sector as the government keeps a keen eye on sector players. The licensing of various technologies along with the issuing of operation permits to put in heavy infrastructure such as submarine cables and terrestrial lines for fiber optic cables is lucrative for a government that has notoriously had trouble strengthening other public sector institutions.

In addition to liberalizing the telecommunications sector, successive governments of Ghana have tried, to varying degrees of success, to create an enabling environment for businesses in general. The Ghana Investment Promotion Center (GIPC) was created in

1994 under the Ghana Investment Promotion Centre Act, 1994 (Act 478) and mandated to promote investment and be the liaison between entrepreneurs and regulators in the country. Since the 1960s, specific laws dictated protocols and restrictions for set- ting up a business. The Companies Code, 1963 (Act 179), The Partnership Act, 1962 (Act 152), and The Business Name Act, 1962 (Act 151)[7] provide guidance on who may set up a business and how. According to The Doing Business Survey by the World Bank, which measures business regulations around the world, the country reduced the number of days and procedures it takes to start a business from 2008 to 2010. Other measures help to enforce contracts and strengthen the business environment in the country (World Bank 2012).[8]

While government policy may be necessary for opening up industrial com- petition in some countries, it is not sufficient to build a successful business climate in which entrepreneurs and big companies alike can thrive. Silicon Valley's success, for example, came out of decades of US military spending on Research and Development (R&D) that initially started in Boston's Route 128 corridor and then migrated to California (Saxenian 1994). Over time, the Palo Alto, Menlo Park, Cupertino, Mountain View, San Diego, and San Francisco areas developed a horizontal network-based system of entrepreneurship based on these military investments and the availability of highly skilled talent who had migrated from the East Coast and nations such as India, China, Israel, and Taiwan to Silicon Valley (Saxenian 1994). The combination of regional advantages, timing in the global movement of skills and laborers, and the US economy's support of private enterprise came together in ways that created Silicon Valley and continue to allow innovation to flourish there at the highest level (Saxenian 1994, 2002, 2006a; Wadhwa et al. 2008).

In a similar way, policy choices and the uptake of entrepreneurship in Ghana have specific timings and internal and external roots. In policy terms, multilateral pressures from the Bretton Woods Institutions are largely responsible for the choice to liberalize Ghana's economy. Dambisa Moyo points out that while independence created high hopes for many African countries in the 1950s and 1960s, by the 1980s and 1990s, most nations were once again dependent on the West due to falling trade income, increasing debt burdens, and high interest rates (Moyo 2009). In the 1980s, a shift in economic thinking toward neoliberalism and an embrace of the *laissez- faire* paradigm, which privileged private enterprise and devalued government involvement in the economy, became dominant globally. The Asian Tigers' success gave credence to that thinking, and free market apologists pushed for developing countries to borrow from multilateral institutions. Moyo shows that this led to an emphasis on stabilization and structural adjustment policies as part of new aid-based programs that both the IMF and World Bank encouraged developing nations to pursue (Moyo 2009). Trade liberalization and public sector reforms were core requirements of loan agreements between the World Bank and countries that received sup- port from the World Bank. Changes in Ghana's economy such as the liberalization of the telecommunications sector and the sale and divestiture of the P & T are directly attributable to these IMF and World Bank mandates. Efforts such as these allowed for the types of private investment that characterize the new media sector today.[9]

While one could argue that the government of Ghana could have independently decided to pursue economic liberalization at the same time that much of the world was

also doing so, the relationship between the country and the World Bank suggests otherwise. Prior to the period of aid-based relationship with the Bretton Woods institutions from the 1980s to the 1990s, Ghana had been non-aligned during the Cold War. While many members of the Non-Aligned Movement (NAM), largely developing countries from Africa, Asia, and Latin America, were in fact aligned with one super power or the other, Ghana was not evidently in the camp of either the US or the Soviet Union and tried to remain friendly with both. As a consequence, it did not receive as much capital investments as, say, the Asian Tigers did toward the latter part of the Cold War from the West, and the Soviet bloc's col- lapse meant a drying up of funds from that end as well (Konadu-Agyemang 2002). By the end of the 1990s, private capital flows had replaced aid to many developing countries (especially in Asia and Latin America) except for those in sub-Saharan Africa. Private capital flows operate in a much different way than multilateral or government aid, and a key characteristic worth pointing out here is that they do not come with the sorts of policy restrictions (or "incentives" as the World Bank calls them) that push government action in one way or another regardless of the need within the country.

Internally, these moves were consistent with what the 1992 Constitution was trying to implement. The focus of the 4th Republic of Ghana was to build a capitalist democracy in an attempt to reverse the two decades of military mismanagement that had left the nation bankrupt. The government chose to borrow money to recharge the economy. In this way, perhaps, the internal agenda of the government at that time was in sync with external pressures from multilateral organizations and the dominant ideologies in the political economy of the world at large. Certainly the relationship is much more complex and requires more attention than is possible in this brief chapter. The main point here is that this interplay of global (financial flows, multilateral relations) and local factors (changing economic and socio-political landscape) help shed light on why and how liberalization became the regulatory choice in the 1990s for Ghana. This outlook toward democratic capitalism is built into the constitution and still guides policy direction today.

Further, the focus on building an information society and making ICTs a tool for development since the 2000s has encouraged the government to maintain a neoliberal attitude toward the ICT sector and continues to create policies aimed at developing the business sector and economy at large. As the Minister of Communication in 2012, Haruna Iddrisu, said in an interview, the "commitment as a government is to transform Ghana into a knowledge and information society where people can access, share information, and to use ICT as a leverage for social and economic development."[10] He indicated a commitment to expanding access to different kinds of technologies and stresses the policy that encourages "indigenous local participation" in the industry. While his ministry is also focused on contemporary problems like online data protection, the most important goal for him was " expanding access through the creation and establishment of robust infrastructure and then creating an enabling environment for private sector participation in the industry." In this way, Iddrisu demonstrates the close association of the pro- vision of services with the private sector, even as the government legislates and creates regulatory bodies to guide this development.

Transnational Entrepreneurship: Skilled Returnees and the New Media

Industry

The 1990s were not only pivotal in laying the regulatory groundwork for the current media technology environment, but the 1990s also mark a period of change in Ghana's migration patterns. Historically, various ethnic groups moved across the ancient kingdoms along the West African coast that make up modern-day Ghana and neighboring countries, going as far as North Africa along the Trans-Saharan trade route (Anarfi et al. 2003). The pattern of migration changed somewhat with the arrival of the Europeans along the coast and forced migration in the form of slavery took a Trans-Atlantic turn. Post-independence, Ghanaians moved both around the country and along the West African coast in response to increasingly difficult economic conditions, particularly in the 1960s and 1970s during the military era in the nation's history (Anarfi et al. 2003; Awumbila et al. 2008). Some of these migrations were to Europe and North America, with a mix of professional and semi- professional migrants moving internationally. During the 1980s, there was a fairly significant exodus to neighboring West African countries, precipitated by a drought, worsening economic conditions, and the formation of the Economic Community of West African States (ECOWAS), which made movement across national borders in the sub-region easier than before.

This trend started to reverse in the 1990s. Some Ghanaians who had left to seek greener pastures elsewhere and had been able to accumulate some capital started coming back. Capital considerations are important for migrants making decisions on when and how to return home. They may have made some tar- get earnings, or they may be in specific stages in life (Yang 2006). Arguably, these conditions matter most for what Majid Tehranian calls manual or intellectual migration, or immigration that "result[s] from market demand for labour and voluntary migration" (Tehranian 1990). Arguably, migrants who move "as a consequence of revolutions, civil wars, ethnic cleansing, and forced migration" (or political international migration per Tehranian's terms) have more difficulty returning, especially when the negative situation they left behind has not been resolved. A main reason for Ghanaians' return migration was perceived improvements in economic conditions and political stability (Anarfi et al. 2003; Awumbila et al. 2008)—a resolution for some of those who left and had the means to return.

Tehranian argues that global capitalism (or 'The Pancapitalism Regime') needs two different kinds of labor on either end of the international labor market: manual and intellectual labor (Tehranian 1990). Newly industrialized countries and recently rich ones need cheap manual labor for domestic work, farms, and manufacturing work that is routine and repetitive. On the other hand, global pancapitalism needs "highly skilled, intellectual labour" based on a dependency on knowledge and financial services industries. This kind of need is typified by the somewhat disproportionate number of immigrants in Silicon Valley and related industries (Wadhwa et al. 2008).

The ability of skilled labor to move internationally benefits not only the developed country as the brain drain perspective suggests. In fact, it has been argued that restrictive migration policies of countries like the United States serve as a boon to developing countries as skilled professionals are increasingly taking their higher education and expertise back home (Wadhwa et al. 2009).[11] One way of viewing this return movement is as "brain circulation," an alternate to the brain drain/gain debate. In this perspective, migration is rightly viewed as a contingent process that is linked to the

pursuit of opportunities. As long as the wave of globalization that we are observing continues, global competition will force firms to place a premium on highly skilled labor no matter where skilled individuals call home. Given the increased ability to maintain social, cultural, and economic ties with one's home country through the internet, capital flows, and business activity, migrants are finding that dual engagement in home and host country work to their advantage (Patterson 2007). Indeed, the premise of brain circulation is that this talent obtains "some of this socially produced cutting-edge knowledge, genius, and talent (i.e., human capital); gain high compensation for mobilizing that intellect (i.e., economic capital); penetrate social and business networks to sustain further access (i.e., social capital); then bring some of this complex of capital back to their homeland via different modalities" (Patterson 2007, 3).

Some Ghanaians who left earlier in the 1980s to pursue their education in Europe and North America started returning to Ghana in the 1990s, as did the children of some of those who left earlier in the late 1960s and 1970s. Bowditch indicates that many returnees went into business, and from 1992 when the country's new constitution was put in place onward, these returnees started setting up relatively small companies like SoftTribe (a soft- ware company), and DataBank (an investment Bank) (Bowditch 1999, Avle 2011). Decisions to return to Ghana were explained by individuals interviewed for this paper as being fairly simple. The more established entrepreneurs (who have been working in Ghana for longer than 5 years) all said either that they had known they would return before they left or realized soon after arriving at their new destination. For instance, Herman Chinery-Hesse indicated, "I was packing up my bag three days after I went to America. ... There was never a time when I was never coming back." Some, like Keli Gadzekpo, emphasized that they saw a window of opportunity and decided to take it. In his words, "when I was leaving it was a basket case ... it was pretty bad when I was leaving. But [I] came back 4 years after and it looked hopeful. And I remember very, very, well; I said to myself, this thing is either a window of opportunity which might shut, or it's going to be open for a long while. In any case, it's a window. I took note of the fact that a good wind was beginning to blow."

Eighteen of the 26 people interviewed had lived overseas at some point; either because they were born there, went to school there, and/or worked there for some period. Of the rest, about half had visited another country either because of their current business or on a prior professional trip. Certainly, the average Ghanaian has not left the shores of Ghana, and so these individuals are in the minority.[12] This international experience came mainly from the United States and United Kingdom, with a few having lived in other African countries or other parts of Europe in their childhood. The returnees in the new media and communication technology sector started returning home in the 1990s, with the earliest of those interviewed being Herman Chinery-Hesse and Kofi Dadzie. The most recent returnee to participate in this study, Steven Randolf,[13] had only been in Ghana for 3 months, following a few months on holiday in previous years.

These returnee entrepreneurs differ somewhat from those Bowditch (1999) calls "trade entrepreneurs." Characterizing the Ghanaian society as entrepreneurial and trade oriented, he differentiates between small-scale traders and retailers who populate the informal market in Ghana from the returnees who have varying degrees of international expertise and experience. His broad generalizations and characterizations of these two groups of Ghanaian entrepreneurs (and his overall interpretation of Ghanaian culture in

general) tend to be problematic in tone.[14] However, Bowditch quickly hit on the returnee trend and the tendency of such people to be business oriented and entrepreneurial. From radio to finance, entrepreneurs who took advantage of the changing regulatory environment of emerging economies in the 1990s in Ghana and elsewhere showcase "brain circulation" in Ghana. They are crucial to the story and timeline of the development of the vibrant new media and communication technology industry in the country and help us to understand how innovation that mirrors the kind we see in Silicon Valley, but without the endless capital flow and regional advantage, can also create network effects. For sure, it takes an entrepreneurial spirit and a fairly risk-tolerant attitude to see and seize opportunity in politically volatile times such as the 1990s in a country with considerable infrastructural challenges. However, the very nature of the new media and communication technology industry is also significant for how the industry has grown to now include various kinds of technologies and services.

Unlike other industries, only a small portion of products and services requires huge capital outlay or large physical locations to start operating. Sometimes all a business endeavor or startup requires is a laptop and network connectivity. However, business endeavors often require some knowledge of industry, technical skills, and management experience—skillsets that are easily acquired overseas where technology industries are better established. Furthermore, in today's globalized world, local knowledge and expertise is key to successfully building an enterprise. In all the cases examined for this chapter the entrepreneurs had firsthand knowledge of the markets they were going into (having either been born there or educated there at some point), and even where the principal actors were transnational in origin, they worked closely or partnered with others who had either a purely local or global expertise or both. These "glocal" partnerships were crucial at the early start-up stage and continued as the firms grew.

More importantly, they are key figures in continuing the pattern of brain circulation: They focus on hiring successors with international experience who can bring best practices into the Ghanaian market. Ehi Binetti (Rancard) pointed out that they continually hire top talent from internationally recognized schools such as Harvard in conjunction with top talent from the University of Ghana (UG) and the Kwame Nkrumah University of Science and Technology (KNUST). It appears that the preference for hiring foreign- based Ghanaians happens most at the management and strategic levels, at least for the more established technology companies. Binetti argued that his company hires Ivy League MBAs because they tend to have the skills that he and his business partner Kofi Dadzie value, skills that are most beneficial to building a globally competitive business. He said the tipping point for hiring foreign trained managers is "just money when you can afford them, because you're competing with everyone else for them."[15] This point about afford- ability was also mentioned by Ostec's CEO, Jonathan Tawiah:

> [T]he key difference for us now is that we have the resources to go out and compete outside of Ghana for the best. ... [T]he standards that we demand are very high of all our managers. We do compete with the largest industries for the best candidates and we will pay them well. Absolutely. We compete on money and you know, the way I look at it, let's get quality in here and our customers will pay for it.

This appears to be a practical move because a purely local enterprise is nearly impossible given that the mobile and internet products and services they offer are used by both the international firms that wish to operate in Ghana as well as the local firms in other industries that need these services. It is also a strategic move as it enhances not just the image of the company but also helps to increase productivity by way of management and innovation. For Ostec and Rancard, and also for other establishments like SoftTribe, once you get to the point when you can compete for global talent you go out and attract the Ghanaians in the market. These technology entrepreneurs could simply hire expatriates, as is the practice for the larger telecommunications firms; however, they all seem to hold strong opinions on using Ghanaian talent. It is plausible that foreigners are reluctant to move to Ghana without intimate knowledge of the country, but it is just as plausible that Ghanaians are increasingly found in top schools around the world, and anecdotal evidence suggests there is a growing desire for many of them to return home and throw their professional lot into the mix.

The Ghanaian returnee entrepreneurs in the new media and communication technology industry were very emphatic about not merely taking advantage of opportunities in Ghana. They are acutely aware of challenges in financing and education, and some actively work to make changes. One complaint heard from those interviewed, both those who were educated in Ghana and those who went to school abroad, was that the local universities do not give practical training to graduates. Computer science courses tend to be highly theoretical, and even though students do independent work, limited infrastructure means they have limited exposure to sophisticated tools to hone their skills outside the classroom. Whereas students at Caltech may have access to huge servers on which to test their latest inventions, students at KNUST need to compete with their entire class for a smaller server and are thus limited in the scale of projects they can embark on, both as course requirements and pet projects. Even then KNUST is better equipped, technically, than the University of Ghana or the University of Cape Coast. Locally trained technology entrepreneurs like Ehi Binetti, Anne Amuzu, Badu Boahene, Eyram Tawiah, and Jojoo Imbeah appear more tech-savvy than the average entrepreneur because they are trained engineers who attended that premier technology university in the country. Seth Akumani and Robert Lamptey who have technical training from their respective universities and also the Meltwater Entrepreneurial School of Technology (MEST) felt that their strengths are better utilized in the CEO function and allow their co-founders who are from KNUST to take the technical lead.

Eyram Tawia, co-founder and CEO of Leti Games, one of a handful of gaming companies in West Africa, thinks technology skills at the university level need some fine-tuning. A self-proclaimed geek who taught himself the computing aspects of graphic design at an early age, Tawia takes a more proactive role in preparing university students for the ever-evolving world of technology creation. He and his Kenyan partner started an internship program in which they simultaneously mentor approximately 10 interns in different aspects of game building. Not all of these interns are residents at his office at MEST where he is also an instructor. They Skype with him on a weekly basis, and each person brings a unique set of skills that make the game company work well. One returnee entrepreneur (not interviewed for this project), Patrick Awuah, set up a private university, Ashesi University, styled after the liberal arts college in the United States, with an emphasis on STEM fields. Some of those interviewed, such as Jonathan Tawiah (Ostec)

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and Kofi Dadzie (Rancard) put an emphasis on training for their local talent.

In this way, these returnees are no different from the technology entrepreneurs who relocated to Taiwan, China, and India after working in Silicon Valley for years (Saxenian 2006b). Saxenian argues that they did not merely return to tap low-cost labor in their home countries for their new companies. In all three countries the author examines, returnees "also trans- formed the local environment for entrepreneurship by addressing immediate obstacles to success, ranging from capital markets and telecommunications regulations to the educational systems and research institutions. In each case, they have contributed to the rapid creation and improvement of local capabilities" (Saxenian 2006b, 9). However, unlike their counterparts in California or even Taiwan or India who could expect to tap into a strong network of professionals,[16] these early Ghanaian (and other African) entrepreneurs did not have venture capitalists and angel investors to rely on to fund their dreams. They returned early to invest in start-ups in a period where there was more hope than infrastructure to support big ideas.

Despite the attention given to them in this chapter, it is inaccurate to assume that it is only returnees (those with global education and expertise) that are successful entrepreneurs. However, preliminary evidence from this study suggests that a large proportion of those in new media and communication technology[17] have this migration pattern in common, and this is indicative of the global connection that new media technologies bring. Locally based individuals also take advantage of global trends and more often than not, it takes collaboration between the two groups of entrepreneurs to grow a business start-up, be it in technology, finance, or other industry. Familiarity with market conditions, however necessary, is not sufficient to build the kind of internationally focused and globally competitive firms that these returnee entrepreneurs have in mind.

Building an industry in a place that is considered a challenging environment, by dint of its status as a developing country, shows how local and global tensions play together. The international expertise and local success of entrepreneurs who match the capabilities of their counterparts in other countries show how migration and "brain circulation" dovetail with local knowledge. As we saw in the examples above, it is not only the individuals with global education and expertise that make their firms successful. They have to collaborate with partners who are familiar with the business terrain and who can complement their specific technical, financial, or strategic know-how. It is the specific combination of "glocal" factors that is highlighted here.

Conclusion

Glocal factors are specifically made manifest through the multilateral influences on Ghana's decision to liberalize and the return of highly skilled technical Ghanaians. In the globally linked infrastructure of technological development and policymaking, timing and the history of a specific location like Ghana provide context for understanding how the contemporary new media industry arises globally. The particular site may be in the technology industry, but the mix of glocal transformations underscore larger shifts in the Ghanaian society, toward an envisioned knowledge society that is connected to the rest of the world.

In Ghana, as elsewhere, socio-political and economic conditions are crucial to situating the local new media industry within the larger global transformations in

communication technology. I have pointed out that the country was undergoing changes when these businesses began, and over the years the government of Ghana has paid special attention to building an information society. Further, the transnational movement of highly skilled personnel may be linked to broader migration trends, and they also highlight the characteristics of technology industries around the world. As AbdouMaliq Simone argues, "Africa is a space of intensified movement, of movement in a very broad sense that encompasses migration, displacement, and accelerated social mobility." But,

> movement also has little sense if it is not set against a process of staying still. Who migrates and who doesn't remains a tricky difference, even when both parties face common economic and cultural situations. Simply raising this issue introduces a necessary complexity in how we characterize particular local fields, forcing us to recognize the intricate interweaving of access to social networks, gender, age, physical location, asset holdings, and political voice in migration decisions.
>
> (Simone 2004)

The international experiences of returnee entrepreneurs thus merge with the government's focus on keeping a liberal economic environment that privileges ICTs, enforcing an ongoing relationship between internal and external forces.

Overall, this chapter points out that the history and contemporary characteristics of the emerging industry in Ghana hold elements of the global via brain circulation and the local in terms of the specific challenges unique to Africa in relation to other localities. Together, they reveal an aspect of an industry that is still growing and holds much promise. The concepts discussed above are but one possible framework within which one can view industrial and socio-economic change. Such a framework should be considered with other frameworks and characteristics in order to give a more holistic and practical view of how new media industries emerge in the Global South.

Notes

1. The ITU's ICT Development Index (IDI) is "a composite index combining 11 indicators into one benchmark measure that serves to monitor and compare developments in information and communication technology (ICT) across countries." This includes multi-country comparisons on ITC readiness, use and impact, as well as levels and evolution of time. For more details on this index, see http://www.itu.int/ITU-D/ict/publications/idi/material/2012/MIS2012_with out_Annex_4.pdf.
2. A consequence of this, however, was a mergers and acquisitions frenzy and increased conglomeration.
3. For an overview of the European Union's regulatory history in telecommunications, as another example, see http://ec.europa.eu/information_society/policy/ ecomm/doc/history/index_en.htm.
4. See http://bit.ly/O9849N. Accessed July 25, 2012. Vodafone's considerable resources quickly made it the dominant firm in the country with this purchase.
5. Pseudonym. Interview conducted February 20, 2012 in Accra, Ghana.

6. Former Deputy Communications Minister. Interview conducted April 11, 2012 in Accra, Ghana.

7. More from the Registrar-General on these processes can be found on the GIVC site here: http://bit.ly/M2RdUq

8. See more about the Doing Business Survey here: http://www.doingbusiness.org.

9. For details of "policy incentives" and stipulations of the loan agreement see World Bank. 1987. *Ghana - Structural Adjustment Program Project*. Washington, DC: World Bank. http://documents.worldbank.org/curated/ en/1987/03/741979/ghana-structural-adjustment-program-project For an internal World Bank report on the program, see World Bank. 1992. *Ghana - First and Second Structural Adjustment Program Project*. Washington DC: World Bank.
http://documents.worldbank.org/curated/en/1992/05/7021921/ghana-first- second-structural-adjustment-program-project.

10. Interview conducted April 20, 2012.

11. US work visas are notoriously difficult to procure, and in terms of the H1B cat- egory, quotas and very specific rules surrounding their issue and reissue leaves a large number of skilled immigrant workers with tough choices. See (Wadhwa et al. 2008) and (Wadhwa et al. 2009) for more on this.

12. Interview participants are from the formal sector.

13. Pseudonym.

14. For instance, he characterizes the 'trader' entrepreneurs as "captives of their culture" (of which religion appears to be prominent) and returnees as "captives of capitalism," by dint of their engagement with commerce in other countries.

15. Interview with Ehi Binetti, Co-founder and director for product and marketing, Rancard. June 23, 2010.

16. For instance, Saxenian describes how ethnic associations in Silicon Valley pro- vide financial assistance and professional training to their members who wish to start new companies. These opportunities exist side by side with extensive financing via established systems (banks, venture capitalists, private equity, etc.) that supports Silicon Valley. These systems have also developed in technology industries in the home countries of the migrants in Silicon Valley, particularly Taiwan, Israel, and India.

17. Generally speaking, communication technology firms in Ghana produce all sorts of goods: software, hardware, and technology enabled services, etc. From the sample of participants interviewed for this study, these firms are mostly small (5– 19 employees) or medium-sized (20–99 employees) privately held entities. Only the large multination telecommunications firms hire more than 100 people (and these also hire senior management from the returnee pool), which is indicative of the size of the Ghanaian market. Most of them are based in Accra and only a handful of them have offices in other parts of Ghana or West Africa. All technology entrepreneurs interviewed for the project were based in Accra, but there certainly are technology firms in Kumasi and elsewhere in the country. The limitation to Accra is in part because of practical research constraints of doing fieldwork and partly because Accra is both the business and administrative capital of Ghana and has a higher concentration of institutions relevant to the project. Future work in Ghana will broaden the location scope to other regions in the

country.

18. All participants signed an informed consent form and were given the opportunity to indicate whether or not they wished to remain anonymous.

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Appendix

Interview Participants and Companies[18]
Badu Adu-Boahene - Saya (mobile chat)
Seth Akumani - ClaimSync (insurance claims processing)
Anne Amuzu - Nandi Mobile (mobile customer relations)
Ehi Binetti - Rancard (mobile and software)
Stella Brown* - National Technology Institute* (technology and policy resource institute)
Herman Chinery-Hesse - SoftTribe (software)
Kofi Dadzie - Rancard (mobile and software)
Keli Gadzekpo - Databank (investment bank/financial services)
David Gyewu - Fiberco (Fiber optic cable company)
Haruna Iddrisu – Ministry of Communications (Government of Ghana)
Jojoo Imbeah – Suuch Solutions (localization software)
Robert Lamptey - Saya (mobile chat)
Steven Randolf* - Mobile Elite* (mobile payments)
Eyram Tawia - Leti Games (gaming)
Jonathan Tawiah - Ostec (data management)
* Names marked with asterisk are pseudonyms as requested by interview participants.