CASE STUDY

NIGERIA’S ‘NEW OIL’: FUELING THE GROWTH OF THE MUSIC INDUSTRY IN LAGOS THROUGH ENTREPRENEURSHIP

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Nigeria’s ‘New Oil’:
Fueling the Growth of the Music Industry in Lagos through Entrepreneurship
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This case study is dedicated to Bolaji Finnih, passed away unexpectedly in December 2017. He was a true example of the ways in which entrepreneurship can have impact. He will be remembered by all and in particular through everything he did for the MIT community as well as across the African entrepreneurship community, particularly his home city of Lagos, Nigeria.

Bolaji was a 2015 MIT Sloan School of Management Fellow, 2015 MIT Legatum Center for Development and Entrepreneurship Fellow, and Team Champion of the MIT Regional Entrepreneurship Acceleration Program, Team Lagos. More than that he was a true champion of African entrepreneurship, working relentlessly to support our community, increase MIT’s engagement in Africa, and raise the profile of the African continent. Through his company, Techpreneur, he established a home and support platform for thousands of entrepreneurs across Africa.

Bolaji’s dedication, optimism, and passion created a powerful dynamic both within MIT’s ecosystem and in the broader global innovation community. We celebrate his legacy by continuing to build this global community, by strengthening our commitment to developing innovation ecosystems, and by showcasing and celebrating the greatest examples of entrepreneurs, like Bolaji, doing what they do best—turning challenge into opportunity.

Introduction

In June 2017, Bolaji Finnih had just returned to his native home of Lagos, Nigeria after completing the second of four workshops at Massachusetts Institute of Technology (MIT) as Team Champion of the Lagos team participating in MIT Regional Entrepreneurship Ecosystem Acceleration Program (MIT REAP)². As founder of both Techpreneur Africa and ImpactHub Lagos³, he was part of a strong entrepreneurial community in Lagos. But in his role as Team Champion he was also gathering perspectives from other stakeholders including representatives of corporations, risk capital, the Lagos State Government, and the University of Lagos.

Finnih revisited the strategic plan the MIT REAP Team Lagos was developing in order to accelerate the innovation ecosystem in Lagos, reflecting on the debates and daunting questions over the strategic choices that the team must make. Having identified a key challenge in the system around human capital in tech and creative industries, they decided to focus Team Lagos activities on the popular music industry which was clearly brimming with talent, energy and opportunity, yet somehow not reaching its full potential.

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² The MIT Regional Entrepreneurship Ecosystem Acceleration Program is a multi-stakeholder program, whereby regional teams convene, learn and develop programs and policies to help foster growth through innovation driven entrepreneurship in their regions http://reap.mit.edu/
³ Techpreneur Africa (http://techpreneurafrica.com/) and ImpactHub Lagos (https://africa.impacthub.net/) are supporting systems for entrepreneurs in Lagos
Even though the focus was clear, questions remained: How best could the team amplify and accelerate the ecosystem to support entrepreneurs and innovators in the music industry? Did they need a specific program to support entrepreneurs? What should it be: An incubator, education, funding? Did these entrepreneurs even want to scale their enterprises? And what would the Team Lagos and other industry stakeholders need to do to support the formation and rapid growth innovation-driven enterprises in the sector?

Having grown up and attended university in Lagos, Finnih knew his city and its music industry well. He knew that nearly every musician thought of themselves an entrepreneur. Usually they were self-employed or else created a small enterprise. Finnih’s experience in the United States at MIT as a Sloan School of Management Fellow and Legatum Center for Development and Entrepreneurship Fellow had taught him that it was innovation-driven entrepreneurship that could really change the fortunes of his city. He had learned the critical distinction between small and medium sized enterprises (SMEs) and innovation driven enterprises (IDEs)⁴, and he had learnt the tools for entrepreneurship.

Although the potential for IDE growth in the music industry was expansive, he carefully considered what role he should play as an individual. And he wondered how he could leverage the collective expertise and networks of his Team Lagos colleagues to build a supporting ecosystem around the burgeoning music industry in a way that might benefit the entire nation.

**Why the music industry?**

The popular music industry was a prime candidate for entrepreneurial innovation and acceleration. In 2016, the entertainment and media industry in Nigeria was estimated to be worth US$3.6billion, with projections from PricewaterhouseCoopers (PWC) anticipating that by 2021 it would be worth US$6.4billion making it one of the fastest growing music and entertainment industries in the world⁵.

Within the entertainment sector, music industry revenue was estimated to be US$62 million, rising 9% from the previous year, with much of this growth fueled by sales of ringtones and digital sales more generally (Exhibit 1). And with the growing internet presence of artists, Nigerian music penetrated beyond Africa. Yemi Alade's hit single 'Johnny' was rated the most viewed Nigerian

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⁴ The definition of innovation driven enterprises (IDE) was proposed by Bill Aulet and Fiona Murray (2013): start-ups whose competitive advantage and growth potential is driven by innovation, as distinct from small and medium enterprises (SMEs) which required little startup capital, and are unable to grow quickly due to a lack of clear competitive advantage. See the Appendix for an illustration of the MIT definition of an innovation driven ecosystem supporting the IDE

music video on YouTube with over 80 million views by 2017\(^6\), and Wizkid reached the top of the US singles chart in 2016 becoming the most streamed Afrobeats artist on Spotify, drawing 136 million streams from across the globe\(^8\).

This growth, and the comparative advantage that Nigeria had in this industry globally, had not gone unnoticed by the government, with the Minister of Culture and Information describing Nigeria’s creative industry as the ‘new oil’ in early 2017\(^10\). Most of the talent was found in Lagos: the largest city in Nigeria and home to over 21 million people in 2016. With the wealth of talent, a huge young population, popularity of Nigerian music internationally, as well as growing digital penetration, this was an industry to watch.

The music industry had uplifted economies across the world through job growth, tourism, branding, tax revenues and direct revenue: the 2013 Nashville Music Industry Report found that the music industry created 56,000 local jobs\(^11\), contributing US$5.5billion to the local Nashville economy. In Melbourne, Australia, the 2012 census found that the live-music sector alone generated over US$0.75 billion in spending and supported the equivalent of 116,000 annual full-time jobs. Similarly, UK Music estimated that in 2013 music directly contributed over US$5billion to the UK economy and employed 111,000 people\(^12\).

Nigeria was no stranger to cultural success. ‘Nollywood’ – the Nigerian film industry – was the second largest film industry in the world (after Bollywood) with revenues of around US$600million in 2016 (Financial Times)\(^13\). The majority of revenue came from the estimated 15

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\(^{6}\) For reference, a handful of global music videos (Justin Beiber, Ed Sheeran, Katy Perry, Taylor Swift, amongst others) have reached 1 billion views, but the average views for a music video is 26,000, and the Justin Timberlake song ‘I’ve got the feeling’ published around the same time as ‘Johnny’ had around 10x the number of views of Johnny by 2017

https://www.telegraph.co.uk/technology/0/most-watched-youtube-videos-of-all-time/

\(^{7}\) Again, the most streamed songs overall on Spotify have over 1billion streams, but the top 50 streamed songs on Spotify have just 5x the number of streams of Wizkid

\(^{8}\) ‘Wizkid breaks new record as the most streamed Afrobeats artiste on Spotify’


\(^{9}\) For reference, a handful of global music videos (Justin Beiber, Ed Sheeran, Katy Perry, Taylor Swift, amongst others) have reached 1 billion views, but the average views for a music video is 26,000, and the Justin Timberlake song ‘I’ve got the feeling’ published around the same time as ‘Johnny’ had around 10x the number of views of Johnny by 2017

\(^{10}\) https://www.premiumtimesng.com/entertainment/artsbooks/236963-creative-industry-nigerias-new-oil-lai-mohammed.html

\(^{11}\) many of these jobs in the industry were attractive, high wage jobs

\(^{12}\) http://www.clustermapping.us/region/msa/nashville_davidson_murfreesboro__franklin_tn/cluster-portfolio#wages

\(^{13}\) For reference, Hollywood had estimated revenues of US$36billion USD in 2016, and Bollywood had estimated revenues of US$2.32billion

https://www.statista.com/topics/964/film/


million members of the Nigerian diaspora around the globe\textsuperscript{14}. As the second largest employer in the country after agriculture, it was key part of the Nigerian economy\textsuperscript{15}.

Nigeria also had a strong history in popular music and was described as 'the musical heartbeat of Africa' (Servant 2003: 5)\textsuperscript{16}. Known particularly for its distinctive Afrobeats sound, which combines jazz and traditional Ghanaian and Nigerian music to give a unique style based on chanted vocals, complex rhythms and percussion, several Nigerian acts had achieved global success in the past: Fela Kuti was a name and a sound known around the world in the 1970s, the eldest son of Fela, Femi Kuti won the African Artists of the Year at the KORA Music Awards in 1999 and received three Grammy Award nominations. P-Square (and his catchy dance moves) became a pan-African sensation winning African Artist of the Year in 2010.

**Full potential not realized**

Despite this opportunity and creative talent, most who knew the industry agreed that its potential was not fully realized because of two interconnected issues: weak distribution channels and poor regulation that left it vulnerable to piracy.

A June 2017 New York Times article ‘Nigeria’s Afrobeats Music Scene is Booming, but Profits are going to Pirates’\textsuperscript{17} highlighted the problem of piracy. With intellectual property rights rarely enforced, money was being lost to illegal sales of music in unregulated markets such as the huge Alaba market\textsuperscript{18}, making it difficult for artists to get return on album releases. According to a World Bank study, ‘for every legitimate [movie DVD] copy that is sold by the producer, another five to 10 copies are sold by pirates’\textsuperscript{19} \textsuperscript{20}. Studies of the actual cost of piracy to the music industry were limited, but as a point of reference the film industry was estimated to lose over US$2billion per year\textsuperscript{21} \textsuperscript{22}. This issue was deeply embedded in Nigeria, and in the 1980s many major record labels left the country. Rampant piracy, combined with the high production costs for recorded music, meant that live music was really the principal form of revenue in Nigeria’s music industry. But the industry and its associated challenges were changing.

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\textsuperscript{15} https://www.usitc.gov/publications/332/erickeh_nigerias_film_industry.pdf
\textsuperscript{17} https://www.nytimes.com/2017/06/03/world/africa/nigeria-lagos-afrobeats-music-piracy-seyi-shay.html
\textsuperscript{18} Alaba market was the largest electronics market in Nigeria, located in Ojo, Lagos. Known for the informal nature of stands, no barriers to entry or exit of sellers, and proliferate pirated goods
\textsuperscript{19} https://www.theguardian.com/global-development/poverty-matters/2012/dec/14/nigeria-entertainment-industry-pirates-sea-change
\textsuperscript{20} For reference, a survey at the end of 2015 found that 35% of music buyers in the USA reported getting at least one song from an unsanctioned source https://www.statista.com/statistics/216260/music-piracy-in-the-united-states/
\textsuperscript{21} Professor of Political Economy and Management Expert, Pat Utomi.
\textsuperscript{22} https://www.vanguardngr.com/2014/04/nigeria-loses-2bn-piracy-annually-utomi/
The changing structure of the music industry

Starting in the 1990s with the advent of the CD, the digital revolution changed the entire global music industry. While CDs still comprised the majority of music sales in the early 2000s, by 2015 their sales were dwarfed by subscription and streaming models, track downloads and album downloads. Disruption of distribution channels due to this digitization resulted in an increase in technology-based business models (advertising and digital distribution) and long tail marketing. Where the supply chain prior to digitization had been dependent on recording companies who physically produced music content, and retails store distributing it, the supply chain in a digitized world was more diverse, with the potential for different actors to play a role in the industry (Exhibit 2). The value in the industry shifted from the record labels to the artist’s brand and network, and revenues began to come more from sponsorships and licensing. The profit and cost structure of the industry also shifted, with recording and distribution costs decreasing, and marketing and promotion costs increasing.

In Lagos, this change was a significant opportunity: the previous industry model which relied on expensive recording studios (using imported equipment and dealing with poor electricity infrastructure and associated challenges) and weak physical distribution lines had left the music industry in Lagos with less profit and opportunity than many other places around the world. The decreased reliance on large record labels, recording studios and retail stores spelled opportunity: in a city ripe for digitization, a huge young population (estimated at 17.5million in 2016), and over 32 million smartphones in the country in 2015, the industry had more opportunity than ever to transform itself and benefit from new models that were emerging worldwide.

By 2016, the majority of domestic revenue in the Nigerian music industry came from internet and mobile penetration, particularly through partnerships with telecommunication companies (Exhibit 1). MTN, the country’s largest telecommunications company, announced revenue of US$70million from African artists in the first half of 2016 through streaming services, ringback tones and subscriptions to music services. Nigeria had 150 million mobile phone subscribers, and was adding a further 6 million new internet users per year. Telecommunications and other music industry stakeholders were keen to capitalize on the digital distribution boom.

Technology-based entrepreneurship along the value chain

Since the first phonograph allowing for recording and re-playing of music was invented by Thomas Edison in 1877 (Exhibit 3), technology and the music industry have gone hand in hand around the world creating a wealth of opportunities for entrepreneurs. At the start of the new millennium, a

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23 https://www.digitalmusicnews.com/2017/08/26/10-years-music-industry-change/
24 http://allafrica.com/stories/201607080930.html
26 where a mobile phone subscriber pays to have a song play to a caller while waiting for the subscriber to pick up the phone
27 https://www.musicinafrica.net/magazine/mtn-reveals-earnings-70m-african-music-year
29 http://d1i53wesras4r4.cloudfront.net/reports/GlobalStartupEcosystemReport2017.pdf
plethora of companies were founded that not only took advantage of digitization and the music industry’s changing landscape, but also contributed to the changes. Technology-based companies such as Pandora, Spotify and SoundCloud became the backbone of the industry, and as the first decade of the millennium came to a close, there was no shortage of new start-ups, particularly app-based ones, filling gaps and creating opportunities in the industry, from talent scouting to distribution to payment to predicting concert demands.30

The new digital music industry was emerging in Lagos too. Artists started recording at home on home computers and cellphones. Distribution was taking place digitally, mainly through cellphones and telecommunication companies got involved in the industry. Revenue increases in Nigeria reflected these changes (Exhibit 1), as did the number and variety of new entrepreneurial businesses across the value chain leveraging the enhanced relationship between technology and music (see Exhibit 4 for a select sample of technology-based entrepreneurial businesses in Lagos).

**Talent sourcing, management and content creation**: New technology provided the opportunity to source creative talent from a wider variety of places, and a number of entrepreneurs established companies to source, organize and manage the talent.

In 2016 D’banj, a Nigerian musician and personality, partnered with MTN and the Bank of Industry to launch the CREAM platform – a subscription-based digital platform that encouraged people to sell creative content. They picked winners from the platform and mentored them to become artists. By early 2017 this platform had over 3 million subscribers and was valued at US$100 million.

While it was now possible for artists to become YouTube stars from their bedroom, there was still plenty of space left in the industry for international and local record labels. International record labels set up shop in Lagos in the early 2000’s, and local labels such as Storm Records and Kennis Music were founded in the same period, finding great success and hosting a number of internationally successful Nigerian artists. Beyond content creation, full service media enterprises sprang up to represent artists, help them navigate the industry, and advise them on technology strategies. The best known full-service enterprise in Nigeria was the Chocolate City Group founded in Nigeria in 2005. The founders were lawyers who developed the company in response to a market gap for performers, enabling artists to build the business aspect of their careers.31

“Technology has changed the entire structure,” said Yahaya Maikori, co-founder of Chocolate City. “You cannot have selling records as your business model any more, if you do you are bound to fail. Music has become a promotional tool; you do the music and get it out there with the intention to build a brand and then make money from related sectors like acting, brand endorsements and ambassadorships.”32 By 2017, the company had offices around the world, covering almost every aspect of the entertaining industry from recording to talent management to event planning and film distribution. The company also received several awards over the years, including the International Young Music Entrepreneur of the Year award in 2007, a British Council award going to one of the co-founders, Audu Maikori.

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**Aggregators:** Aggregators operated in the space between the artists (or record labels) and telecoms and offered value-added services to the telecoms. Although the companies did not always exclusively work in the music industry (working also in other entertainment sectors such as lifestyle or movies, or in other digitized sectors), music generally became a large proportion of their offerings. Aggregators tended to buy content from artists or record labels directly, and package it along with technology or novel applications, selling to the telecommunications for distribution. Large companies such as Spice Value Added Services (VAS) Africa\(^33\), who developed the music app ‘Mziiki’ (amongst others) in 2014 for mobile users, and smaller, home-grown entrepreneurial companies such as MTech (founded by a group of young Nigerians in 2001) became an integral part of the value chain.

**Streaming and data platforms:** Digitization opened the doors for novel forms of music distribution. While the telecommunications companies (with the support of aggregators) dominated mobile distribution, there was room for entrepreneurs to develop new websites and other data platform companies. Founded in 2010, iRoking was one of the most popular digital music service (which also offers online Nollywood movie streaming services) in West Africa by 2017 and had attracted US$8 million worth of investment. As a website initially based on YouTube, and later as a mobile application, it carried thousands of African (mainly Nigerian) tracks. For a subscription fee, users had access to all of its content at the push of a button. Just 15 months after its launch it had 500,000 users, and was boasting over 16 million views a month\(^34\).

**Digital payment platforms:** As the last point in the music value chain, digital payment platforms enabled distributors such as mobile and other data platforms to receive payment for the services they provided. While the telecoms had been able to capitalize on the use of airtime as a form of payment, other distribution platforms required a secure payment system. In Nigeria this was not as simple as it sounded: around half of the population in Nigeria did not have a formal bank account in 2017\(^35\), and even those in the population with a bank account struggled to use credit cards and non-cash payment methods as the banking system was fragmented, slow and unreliable. These issues provided an opportunity for entrepreneurs to develop such payment systems and work together with distribution platforms to enable access to products for all. Flutterwave, the company behind the digital payment service Moneywave, was founded by Nigerians in 2016. Their product made it easier for banks and businesses to process payments all across Africa from a variety of banks. Initially designed as a business-to-business service, they expanded it to include customers. Selected to participate in the esteemed Y Combinator accelerator program in the US, the company was noticed and supported early on by US financial backers, raising over US$10million in 2017\(^36\). By 2018 it had processed 10 million transactions across a variety of sectors\(^37\).

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\(^33\) an offshoot of the parent company: Spice India which was founded in around 2000, was established in Nigeria in 2011


\(^35\) https://techpoint.ng/2017/01/17/financial-inclusion-nigerian-unbanked/


\(^36\) https://medium.com/@theflutterwave/flutterwave-series-a-funding-3708259dc830

Unique challenges for these entrepreneurial companies

Despite these success stories, as Finnih began to talk with the entrepreneurs in this space, a set of common challenges emerged.

Consider, for example, investment opportunities. In many countries, innovation-driven enterprises in the music industry did attract investment. In the first half of 2017, over US$900million in funding was available to music technology companies globally, with 75% of this reportedly going to streaming services (Exhibit 5). This looked similar to 2016, which saw over US$2billion total invested (an increase of over double from 2014), with the streaming company Spotify attracting US$1billion investment and SoundCloud US$70million.

However, in Nigeria these opportunities were less common. A lack of funding, access to funding or even knowledge of funding was deemed a big problem by creative industry entrepreneurs in Lagos. Banks tended to need collateral to provide loans, and while intellectual property would be a traditional form of collateral in this industry, this was not really an option in Nigeria with its persistent weak regulation. In addition, there was very little data on successes in the industry, making it a seemingly risky and unattractive investment prospect for the banks.

While the opportunities were still sorely lacking there was, thankfully, a growing number of angel investment and venture capital available more generally to Nigerian entrepreneurs, both from within Nigeria and from around the globe. Partech Ventures annual funding report found that VC funding in Nigeria in 2017 reached over US$114 million, representing more than a 50% growth year on year. This was exemplified through Mark Zuckerberg’s US$24million investment in Lagos-based startup, Andela, in 2016, and his highly publicized visit to Lagos to explore its entrepreneurship ecosystem. Meanwhile, the number of VC firms in Nigeria was growing, and some of the largest VC firms in 2017 included the Lagos Angel Network, which invested US$250,000 in two startups in 2017, and the EchoVC Partners. In addition to the local firms, internationally based VC firms were looking into Nigeria for talent to fund. In 2017, Techstars searched for Nigerian talent to invest in and take to its incubation program in the US. So how could the creative sector entrepreneurs tap into this growing pool of investors available to Nigerian companies?

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41 According to Partech Ventures, the African startups raised US$367 million dollars in VC funding in 2016, and US$560million in 2017, representing a 33 percent year-over-year growth
42 https://vc4a.com/blog/2017/05/03/africa-is-the-next-frontier-for-vcs/
44 https://vc4a.com/blog/2017/05/03/africa-is-the-next-frontier-for-vcs/
46 https://techcrunch.com/2017/05/03/africa-is-the-next-frontier-for-vcs/
In the US and the UK, as well as around Europe, music tech accelerators played a large role pulling in the investors for the entrepreneurs. Accelerators such as SCSW Music Startup Spotlight, the Midemlab Accelerator and Techstars Music boast helping to communicate the value proposition of music tech companies to investors, bringing investors in to pitch days. Nigeria, and particularly Lagos, had no shortage of accelerators and incubators for entrepreneurs44, but one thing was clear to Finnih and the team: none of the pre-existing hubs had an exclusive focus on the creative sectors. Despite this, there must be pockets of expertise and information across these numerous hubs, and the question of how that could be leveraged was pressing.

Most people that Finnih spoke with noted an absence of entrepreneurial community cohesion in the industry, as well as inadequate mentorship and peer systems for creative industry entrepreneurs. Entrepreneurs thrive from mentorship and celebration of their peers, and an absence of this can lead to fragmentation, travel down futile paths, and ultimately abandonment of projects45.

Again, incubators and accelerators around the world have been vital to generating communities of mentors and entrepreneurs in the creative industries. The Abbey Road Red incubator program in London, UK, provided six months of mentoring to participating startups and leveraged its network of its parent, Universal, to provide the startups with industry feedback on their companies or products, relationships and customers, as well as its reputation of the Abbey Road Studios to raise the profile of the startups involved. One startup in the second intake at Abbey Red, The Audio Hunt, reported that the mentoring aspect of the incubator had been the most useful piece, and chief executive of The Audio Hunt, Stephen Bartlett reported that “Being involved with Abbey Road is a great way of giving your business legitimacy. After just a couple of weeks I’ve found the most useful thing is having access to experts who ask all the right questions to ensure I get down on paper what’s in my mind, so I can build a strategy and get my product right.”46

Many of Finnih’s conversations also centered around the lack of expertise of employees and entrepreneurs, particularly in the area of business skills. With no formal training options tailored to the creative industry, there was very little opportunity for those in the creative industry to gain those skills, and many of the more successful companies, like Flutterwave, had been started abroad. While the universities and other educational institutes in Nigeria were gradually absorbing entrepreneurship training into their core curriculum47, there was very little in the way of formal entrepreneurship training for those in the creative sectors. Despite the revenue that Nollywood generated for the country, there was not even a film school in the country.

Around the world, universities and incubators were beginning to run training programs specifically tailored to music and creative arts entrepreneurship in order to foster entrepreneurial mindsets and prepare participants for a career in the industry. For example, the Berklee College of Music in Massachusetts, USA, opened the Berklee Institute for Creative Entrepreneurship in 2014. It offered

44 https://techpoint.ng/2017/03/06/list-tech-hubs-across-nigeria/
47 for example, the Yabatech’s Centre Entrepreneurship Development opened in 2003
an academic curriculum for its own students (with a minor in creative entrepreneurship option) (Exhibit 6), publicly available online courses, as well as an incubation environment with events open to anyone, student trips to Silicon Valley, and research initiatives joint with neighboring universities. It even engaged with high school students during its summer program.

Support for these entrepreneurs

With the government waking up to the economic and social potential of a cultural industry\textsuperscript{48}, and awareness of the challenges, particularly for entrepreneurs, growing, there was potential to really make a difference for the entrepreneurs in the industry. But the question of what support would be feasible and make the largest impact was a source of debate for Team Lagos. As experience in other countries had illustrated, the range of options the team had uncovered was endless: from incubators\textsuperscript{49} to training and mentorship programs to support with regulatory procedures and network facilitation.

Team Lagos debated the options thinking through their feasibility and whether they would adapt appropriately to the particular conditions in Lagos. Finnih encouraged the team to stop and consider what they had learnt in their first year of the REAP program and how they could come up with a solution that had the buy in of all the relevant stakeholders and at the same time had potential for impact in the growing Lagos music industry ecosystem.

\textsuperscript{48} The Lagos state government, through the Innovate Lagos project, had already made strides in this area, and partnered Nollywood Workshops, a global coalition of film-makers that supported the Nigerian film industry, to create the Nollywood Upgrade Project. It was designed to combat the impact of piracy by improving the production quality and formal distribution of movies.

\textsuperscript{49} Other countries had had success with developing incubators for music technology entrepreneurs, such as Abbey Road Red in the UK
EXHIBITS

Exhibit 1: music revenue projections in Nigeria

<table>
<thead>
<tr>
<th>Category</th>
<th>Historical data</th>
<th>Forecast data</th>
<th>CAGR %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>24</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Digital</td>
<td>15</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Downloads</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mobile</td>
<td>15</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Streaming</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total recorded music</td>
<td>39</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Live music ticket sales</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Live music sponsorship</td>
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<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total live music</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total music revenue</td>
<td>47</td>
<td>48</td>
<td>50</td>
</tr>
<tr>
<td>YOY growth (%)</td>
<td>2.7%</td>
<td>2.8%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Note: Figures for 2010-2014 have been updated to reflect the most recently available financial information.
Source: PwC, Ovum


Exhibit 2: changing value chain in the global music industry

Exhibit 3: The first phonograph

Drawing by Norman Bruderhofer via Wikimedia Commons
Exhibit 4: A sample of technology based entrepreneurial companies in the Nigerian music industry

<table>
<thead>
<tr>
<th>Company name and website</th>
<th>Company founding year</th>
<th>Founder(s) name</th>
<th>Any known VC funding?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREAM platform <a href="https://cream.ng/">https://cream.ng/</a></td>
<td>2016</td>
<td>D’Banj (and MTN Nigeria and Bank of Industry)</td>
<td></td>
</tr>
<tr>
<td>Chocolate City</td>
<td>2005</td>
<td>Audu Maikori, Paul Okeugo, Yahaya Maikori</td>
<td></td>
</tr>
<tr>
<td>MTech</td>
<td>2001</td>
<td>Sheri Williams, Mr Lateef Belo-Osagie, Mr Chris Ubosi</td>
<td></td>
</tr>
<tr>
<td>iRoking</td>
<td>2010</td>
<td>Jason Njoku, Bastian Gotter</td>
<td>Y</td>
</tr>
<tr>
<td>Flutterwave</td>
<td>2016</td>
<td>Iyinoluwa Aboyeji</td>
<td>Y</td>
</tr>
</tbody>
</table>

Exhibit 5: Distribution of Music-Tech Funding Globally by Sector in 2017

### Exhibit 6: Required courses for the minor in creative entrepreneurship at Berklee Institute for Creative Entrepreneurship

<table>
<thead>
<tr>
<th>Required Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses (take four courses; 9 credits):</strong></td>
</tr>
<tr>
<td>• <strong>ICE-125</strong>: The Creative Entrepreneur Mindset: Music Thinking (2 credits)</td>
</tr>
<tr>
<td>• <strong>ICE-225</strong>: Business Fundamentals of Creative Industries (2 credits)</td>
</tr>
<tr>
<td>• <strong>ICE-325</strong>: The Startup of You (2 credits)</td>
</tr>
<tr>
<td>• <strong>ICE-425</strong>: Startup Lab (3 credits)</td>
</tr>
<tr>
<td><strong>Electives (choose one; 2 credits):</strong></td>
</tr>
<tr>
<td>• <strong>MB-435</strong>: Innovators' DNA (2 credits)</td>
</tr>
<tr>
<td>• <strong>ICE-435</strong>: Music + (2 credits)</td>
</tr>
<tr>
<td><strong>Five courses for the minor; 11 credits total</strong></td>
</tr>
</tbody>
</table>

Source: [https://www.berklee.edu/minors/creative-entrepreneurship](https://www.berklee.edu/minors/creative-entrepreneurship)
APPENDIX

Exhibit 7: MIT REAP Innovation Driven Entrepreneurship Innovation Ecosystem Stakeholder Framework