



UNIVERSITETET I AGDER

**INVESTIGATING MARKET POTENTIAL FOR
STREAMING SUBSCRIPTION MODEL IN
EMERGING ECONOMIES**

A CASE OF NIGERIA

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DEDICATION

This work is dedicated to God and my passionate friends whose unflinching support is
immeasurable

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ABSTRACT

Building on two marketing theories: the product and marketing concept, this study conceptualizes how music sampling, consumers' income and attitude affect streaming subscription in Nigeria. The aim is to test whether efficient market for streaming subscription could be developed in emerging economies and contribute to growth in the world digital music markets. The study used a binomial logistic regression to analyse 230 observations obtained from a survey data to estimate a conceptual framework. Results show that music sampling positively affect streaming subscription. Conversely, consumers' income and attitude are both not significant. Subsequently, sensitivity analysis shows that, employed young consumers (18-24 years of age) may not adopt subscription service, but young unemployed consumers have the tendency to embrace the model to cushion unemployment effect on their wellbeing. The implication is that subscription model seems inefficient and yet lucrative for streaming business in Nigeria. A similar research results in other emerging economies may indicate that expected level of revenue growth in the world digital music market is not yet feasible. Hence, a focussed and efficient copyrights management organizations may be required for a potential future.

Keywords: consumers' attitude; consumers' income; logistic regression; marketing concept; music sampling; streaming subscription service.

Table of Contents

ABSTRACT.....	iv
LIST OF FIGURES	vi
LIST OF TABLES	vii
CHAPTER ONE	1
Introduction.....	1
1.1. Introductory background.....	1
1.2. Motivation of study.....	3
1.3. Problem definition	4
1.4. Purpose of the study.....	4
1.5. Research problem.....	5
1.6. Research gap	5
1.7. The structure of the thesis	6
CHAPTER TWO	7
Theoretical background	7
2.1. Theories and theoretical framework	7
CHAPTER THREE	11
Literature review, research model and hypotheses development.....	11
3.1. Background to the meaning of streaming	11
3.2.1. Streaming and the Nigerian digital market	13
3.2.2. Internet access and mobile technology in Nigeria	16
3.2.3. Copyrights and Collective Management Organizations in Nigeria	18
3.3. The streaming business model and service mode	19
3.4. Insight into a profile of the Nigerian consumer	22
3.5. Research model.....	23
3.5.1. Assumptions.....	23
3.6. Premium or subscription service.....	25
3.7. Music sampling.....	26
3.8. Consumers' Income	26
3.9. Consumers' Attitude	27
CHAPTER FOUR.....	29
Research methods	29
4.1. Research design and instrument.....	29
4.2. Population of study and sample frame.....	29
4.3. Data and sources	29

4.4. Variables and measurement	30
4.4.1. Premium or subscription service.....	30
4.4.2. Sampling	30
4.4.3. Income.....	30
4.4.4. Attitude	30
Control variables	31
4.4.5. Internet access and digital technology	31
4.4.6. Awareness	31
4.5. Methodology	31
CHAPTER FIVE	33
Data analysis and results.....	33
5.1. Analysis of the respondents' demography	33
5.2. Reliability test and validity assessments.....	34
5.2. Results and interpretation	36
CHAPTER SIX.....	39
Discussion, concluding remarks and implication of study, limitations and suggestion for further research.	39
6.1. Discussion.....	39
6.2. Concluding remarks and implication of study	42
6.3. Limitations and suggestions for further research	43
REFERENCES	44
APPENDICES	51
Appendix A.....	51
Detailed estimation results.....	51
Appendix B	58
The questionnaire.....	58

LIST OF FIGURES

Figure 1. Combined revenue for Internet market in Nigeria.....	14
Figure 2. Combined revenue for Internet and advertising market in Nigeria.	15
Figure 3. Growth in fixed broadband households in Nigeria.....	15
Figure 4 Conceptualised streaming consumption model for Nigerian music consumers	24
Figure 5. Standardized Pearson residuals	35
Figure 6. Standardized Pearson residual	35

LIST OF TABLES

Table 1 Summary of the demography of the respondents.....	33
Table 2 Statistical values and correlation matrix for variables	35
Table 3 Regression results for the effect of sampling, income and consumers' attitude on premium subscription service in Nigeria.....	36

CHAPTER ONE

Introduction

1.1. Introductory background

Today, the global recording industry is revolutionizing in the fast-evolving digital market place. It evolved from the traditional models of music ownership to the new fast-growing model of music access [International Federation of the Phonographic Industry (IFPI), 2015]. Majorly driven by the consumers, this evolution, is characterized by the fast growth of music streaming. According to Magennis (2018), music streaming is a technology that allows a consumer to enjoy videos or online music streaming. It is the delivery of data over either a wired or wireless connection, which is facilitated by the Internet. This data gets to its destination in sequence and that sequence must be uninterrupted. For instance, Bluetooth is one of the most widespread ways to stream audio music. It is a secured, low-powered wireless technology that can be used to send audio from mobile phones, tablets or laptops to headphones or speaker docks (Magennis, 2018). For some business representatives, streaming represents just a part of the “music industry's digital revolution” (IFPI, 2015). This business model differs from the music industry's traditional business model because it allows music consumers to access a complete library during a subscription period, instead of buying individual music products, for example, CDs or downloads (Wlömert & Papies, 2016). Streaming services is a revenue source from two perspectives: the advertising-based model and the subscription-based streaming model. However, this paper tries to concern itself mainly on the value proposition of the subscription-based streaming model.

With respect to music distribution, the emergence of the Internet has created an "on demand" market through music subscription services. These subscription service platforms include channels like iTunes, Spotify, YouTube, social media platforms etc (Freelease, 2018). According to IFPI (2015), in 2014, the industry's global digital revenues increased by 6.9% to 6.85 billion dollars. As reported, the industry for the first-time derived equal proportion of revenues from digital channels (46%) as physical format sales (46%). From this revenue, music subscription services were the main driver of digital growth that sustained the upward trend and revenue rose by 39% in 2014 to 1.57 billion dollars. Also, in 2014, revenue from music subscription made up 23% of digital revenues globally compared to 18% in 2013 (IFPI, 2015). Specifically, as a product, the offering of music to consumers is growing and transforming

from physical to digital, personal computer (PC) to mobile and download to streaming. Thus in 2014, there is worldwide increase to 41 million people who pay for music subscription service (IFPI, 2015). This figure rose to 28 million in 2013 by 8 million when the data was first collected in 2010 (IFPI, 2015). The increase in patronage is traceable to how the consumers viewed and valued streaming subscription as a product in terms of its quality, accessibility, mobility and cost. While online music downloading has been steadily replacing traditional offline record sales in the recent time, music streaming is becoming an alternative business model for many online music services (IFPI, 2016). This emanates from the introduction of innovation in mobile devices such as smartphones, which increased the convenience of subscription services (IFPI, 2016).

Streaming allows consumers' unrestricted access to a massive library of content at a fixed monthly payment. In 2015, it was the single largest source of music industry revenues in the United States (Friedlander, 2016). Using song-level digital sales, Aguiar and Waldfogel (2015) show that streaming displaces ownership-based downloads. Despite the growth of the streaming subscription, it was not relatively able to compensate for the two other key elements of the industry's current transition: a global decline in both physical format sales (-8.1%) and download sales (-8.0%) (IFPI, 2015). Based on this, study shows that the overall recorded music revenues in 2014 fell to some extent by 0.4 per cent to US\$14.97 billion (IFPI, 2015). In connection to this figure, it is apparent that the advanced economies such as USA, Japan, Germany, South Korea, Sweden and the likes are the key contributors to the world's major digital music markets. According to IFPI (2015), in the music portfolio business, streaming revenue is rising while physical and download revenues are declining. From this perspective, the current research considers that more revenues can be achieved from the streaming subscription services if markets beyond the advanced economies can be efficiently explored. The question is that why has the developing economies not part of the major contributors? Can the contribution of the emerging economies bring a sustainable revenue to the global music market?

To respond to the questions in the above, this paper found a need to conduct a market research on the streaming subscription potential in the emerging markets. Since the world's major music markets are fundamentally dominated by the advanced economies with encouraging revenues, growth is expected if streaming subscription model as added revenues from the emerging markets can be optimally achieved. *Therefore, the objective is to investigate*

whether efficient markets can be developed for music streaming subscription in the emerging economies. To achieve this aim, this paper is determined to estimate how consumers' income, music sampling and consumers' attitude can influence the consumption behaviour of consumers toward streaming subscription in Nigeria. Hence, this study uses primary data to provide a groundwork and theorize a model found on two marketing theories, product concept and marketing concept for the market research. In effect, it is presumed that this study can help to determine if new market development for streaming subscription model can be achieved in the emerging markets. According to The Economic Times (2018), market development is a strategic step taken by a company to develop the existing market rather than looking for a new market. The company looks for new buyers to pitch the product to a different segment of consumers to increase sales. Consequently, this study tries to establish whether efficient music streaming subscription model in the Nigerian market can be achieved or not. Second, whether music streaming subscription model in the developing economies (emerging markets) like Nigeria can potentially become a contributory factor to achieving optimum revenue stream for the world music market.

1.2. Motivation of study

Digital music revenues increased by 6.9 per cent globally in 2014. This increment is based on the continued strong growth in subscription revenues, which went up by 39.0 per cent. Despite this growth, it is apparent that it still cannot compensate for the decline in the physical format and download sales of music. Based on this, marketers and academics are probing viable business models to address the best demand for online music (IFPI, 2015; Papies, Eggers, & Wlömert, 2011; Schlereth & Skiera, 2012; Sinha & Mandel, 2008). As reported by IFPI (2015), streaming subscription service is one main driver that was identified with the growth in digital revenues. But as good as it may sound, its contribution is not sufficient. From the IFPI report (2015), the contributions that accrues to the world music market from the streaming subscription mainly came from the advanced economies. In this regard, it seems that there are potential music markets that have not been well tapped. Consequently, it is apparent that the missing potential revenues from the untapped market segments are part of what is responsible for the insufficiency of the digital revenues. On this notion, this study presumes that there are market potentials for digital sales of music in the developing economies (emerging markets). Therefore, the motivation is to investigate how optimal streaming subscription model can be developed in the emerging economies to enhancing revenues in the world music market.

1.3. Problem definition

Streaming business model seems to be making music consumption more accessible and comfortable for the consumers. Research has indicated that the model is gradually replacing physical and download sales of music. Nevertheless, as reported by the IFPI (2015), this claim seems to be economically beneficial from the contributions traceable to the advanced economies like Sweden, Japan, USA and Germany among others. This implies that there is growth in digital music revenues in the world music market. Despite this growth, there is indication that digital music revenues are still not sufficient to recover the losses made in the decline in both the physical and download sales of music. Because of this, it is obvious that there is need for increase in digital music revenues. One of the ways in which revenues can be increased is to develop new markets for digital sales of music, especially streaming subscription as related to this study. Since the major contributors to the digital sales of music in the world comes from the developed economies, it is presumed that new markets can be developed in the emerging markets.

According to Kim, Nam and Ryu (2017), streaming services which employs the ad-based free model are currently struggling in terms of profitability. But in practical terms, it looks like streaming subscription service providers like iTunes and Spotify have not intensified their marketing efforts to promote streaming services in the emerging markets. The apparent effect of the inability to do this may have resulted in the insufficiency of the digital sales revenue to make up for the decline in physical and download sales of music. One may assume that digital sale is global because of Internet access, but a company must make a deliberate effort at promoting a product in potential markets. For a product to be promoted in a target market segment, product research must be carried out for a possible new market development. To this effect, this study presumes that to increase digital sales revenue in the world music market, effort must be made to investigate streaming subscription potential in the emerging markets. A favourable outcome of such research would mean a potential increase in digital sales. To respond to this problem, streaming subscription model in the Nigerian music market is considered appropriate for investigation.

1.4. Purpose of the study

The main purpose of the study is to determine if efficient streaming subscription model can thrive in the emerging music market like Nigerian. The objective is to enhance the potential that can increase digital sales of music in the world market. To achieve this objective, the following superficial objectives are identified as to:

- (1) Analyse whether Telecommunications' services in Nigeria are good enough to support online streaming.
- (2) Know whether Internet service and smart phones are affordable in Nigeria compared to average income.
- (3) Know if average Nigerians are aware of streaming subscription services like Spotify iTunes, Deezer etc.
- (4) Analyse the role of collective management organizations (CMOs) in Nigeria regarding their functional activities to managing copyrights issues.

1.5. Research problem

Are music consumers in Nigeria willing to patronize streaming subscription service?

To properly investigate the phenomenon under study, the research problem is further divided into the following research questions (RQs):

RQ1: Does consumers' income positively affect streaming subscription?

RQ2: Does music sampling positively affect streaming subscription?

RQ3: Does consumers' attitude positively affect streaming subscription?

1.6. Research gap

Research has shown that there is growth in digital sale of online music. Aguiar and Waldfogel (2015) show that streaming is revolutionizing the music business model. Similarly, Friedlander (2016) affirms that streaming is taking the lead in the United States as the single largest source of music industry revenues. IFPI (2015) also confirms that streaming business model is growing fast. Despite this promising development, it seems research on streaming business model has concentrated more on its marketability in the developed economies. Consequently, it's still not clear enough if music streaming market is efficient and fit for emerging economies like Nigeria. Based on this, it seems there is a gap to fill. Thus, this study determines to conduct a research to investigating whether music streaming business model also have the potential to thrive in emerging economies as it does in the developed countries. It implies that the marketability of the music streaming business model in the emerging economies is essentially a gap, which is yet to be properly researched. Hence, this study focuses on the streaming business model using the Nigerian economy as a case study.

1.7. The structure of the thesis

The rest of the study is structured as follows: Chapter two is the theoretical background. It establishes the understanding of music streaming from two marketing theories: product concept and marketing concept. Chapter three contains the literature review, research model and hypotheses. It presents the analytical perspectives from which the study is conducted. Chapter four is the methodology. It offers the research design and instrument, population and sample, data and sources, variables and measurement and methodology used for estimation. Chapter five is the data analysis. It presents the analysis of respondents' demography, reliability test and validity assessments, results and interpretation. Chapter six presents the discussion of the results, concluding remarks, implication of study and limitations and suggestion for further research.

CHAPTER TWO

Theoretical background

2.1. Theories and theoretical framework

Some researchers have shown that the music industry has been studied in marketing (e.g., Chung, Rust & Wedel, 2009; Holbrook & Hirschman, 1982; Lacher & Mizerski, 1994). Similarly, this study develops a framework from a marketing perspective by building on “*product concept*” and “*marketing concept*.” The two theories can jointly be applied to explain the nature of streaming subscription and how it is consumed in the market, i.e., market research on streaming subscription. According to Kotler and Armstrong (2014, p.32), product concept explains that consumers will buy products that offer the best in quality, performance, and innovative features. Consequently, marketing strategy focuses on making continuous product improvement. On the other hand, marketing concept holds that achieving organizational goals depends on knowing the needs and wants of consumers in the target markets and delivering the desired satisfaction better than competitors. It is a customer- centred and aligned with finding the right product for the consumers (Kotler & Armstrong, 2014, p.32). Similarly, music streaming services is a product, which is understood from two perspectives. First, according to their revenue model. Second, according to their streaming mode. Streaming services are obtained from two revenue sources: the advertisement-based free model and the subscription-based streaming model. Streaming service providers can generate revenue by selling advertising while offering services free of charge or by charging a monthly subscription fee to users while providing streaming without advertisements (Wlömert & Papies, 2016). These models are basically devised to market music streaming as a product for consumers’ satisfaction.

According to these researchers (Dewan & Ramaprasad, 2012; Holbrook & Hirshman, 1982; Lal & Sarvary, 1999), music is an experience good whose true utility is only revealed to the consumer after it has been consumed. Therefore, consumers need to sample music before buying it. Wlömert and Papies (2016) argue that the increased ease of sampling through streaming services has the potential to strengthen the relationship between consumers and their favourite artists. Accordingly, this may trigger consumers’ willingness to purchase music. However, previous research has evaluated theoretical arguments concerning sampling and utility maximization (e.g., Bhattacharjee, Gopal, Lertwachara, & Marsden., 2006; Hennig-Thurau, Henning and Sattler, 2007). However, empirical evidence, for sampling when

consumers choose between different channels for recorded music is weak (e.g., Danaher, Smith, & Telang, 2013). From the utility theory perspective, some works (Bhattacharjee, et al., 2006; Hennig-Thurau et al., 2007) argue that channel choice in the entertainment industry have a cannibalistic effect on purchases. Consequently, the choice of how to obtain and enjoy music as a trade-off between costs and benefits is conceivable (Konus, Neslin, & Verhoef, 2014). In this sense, when a consumer is confronted with the choice between streaming, purchasing, or forgoing the opportunity to obtain an album or a song, the consumer will choose the alternative with the highest expected net utility or the highest benefit (Prasad, Mahajan, & Bronnenberg, 2003; Schoemaker, 1982).

To reduce the uncertainty that is associated with unobservable product quality, consumers do sample music before purchase (Chellappa & Shivendu, 2005; Dewan & Ramaprasad, 2012; Nelson, 1970). Therefore, the free streaming service is a potential convenient sampling device (Wlömert & Papies, 2016). Wlömert and Papies (2016) claim that free as well as paid streaming services can potentially attract existing customers who then turn to the streaming service and reduce their expenditures in existing channels. Accordingly, the cannibalization has a harmful effect on the publisher's profits if consumers generate less revenue in the new channel compared to the established channels (Wlömert & Papies, 2016). On this notion, non-subscription streaming services are truly not encouraging for the industry (Edgar Bronfman in Youngs, 2010). Conversely, Peitz and Waelbroeck (2006) contend that the sampling effect can enhance expected sales if digital copy is differentiated enough from the original and that a consumer values a product close to her ideal variety. Accordingly, sampling effect can reduce the impact of digital piracy on music sales. Based on this, Thomes (2011) developed a link between piracy and streaming services. Thomes argues that free of charge online streaming services can be extremely profitable if advertising creates a minor inconvenience to music consumers. Also, that an increase in copyright enforcement shifts rents from music consumers to the monopolistic provider because capital punishment for piracy is welfare-maximizing (Thomes, 2011). Consequently, Wlömert and Papies (2016) in a survey panel show that free, ad-supported streaming services substitute demand from other channels, but since revenues from paid subscriptions adequately offset this effect, streaming positively affects sales.

Coyle, Gould, Gupta and Gupta (2009) argue that the individuals who usually consume legally purchased online music will be more likely to pirate music later (p. 1034). In a sample

of 190 subjects and their music consumption behaviour, Borja, Dieringer and Daw (2015) establish that music streaming increases the probability of music piracy. Huang (2005) claims that the act of music piracy is apparently a socially accepted and low moral activity that is attractive to imitate. In a regression analysis using data on songs by artists and unpaid music consumption activity, Aguiar and Waldfogel (2015) note that artists that are patronized more on Spotify seems also to be pirated more, having considered the several fixed effects (p. 18). Models of consumer surplus predict that lower prices increase the net satisfaction derived from a product and encourage higher demand. On the one hand, music streaming is a less expensive alternative to other music purchases, which encourages new and unfamiliar artists and drives consumers to purchase music online (Gopal, Bhattacharjee & Sanders, 2006). In line with this, Aguiar and Martens (2013) found that in a study of 16000 European consumers, there is a positive relationship between music streaming and online music purchases. On the other hand, streaming services can be traceable to technology knowledgeable consumers who feel contented with software downloading, digital sharing practices, and music piracy (Borja et al. (2015).

Ajzen (1991) and Akers (1998) developed models in which human behaviour is determined by the beliefs and perceptions about consequences, social pressure, and the control and rewards of the outcomes from an action. In line with these models, some empirical studies have devoted their attention on the beliefs linked with music piracy (Coyle et al., 2009; Cronan & Al-Rafee, 2008; Phau & Ng, 2010; Taylor, Ishida, & Wallace, 2009). On this notion, Gayer and Shy (2006) developed a model and show that the provision of free music, called piracy, increases an artist's popularity and strengthens demand for products and services that are complements to the artist's music. In addition to this, the inexpensive provision of music can have a positive effect on revenues due to sampling. Similarly, Peitz and Waelbroeck (2006) modelled that if potential customers pre-screen the variety of music, they found interesting, they are expected to be willing to pay for the original material if they find a perfect match between a piece of music and their preferences. Also, Duchêne and Waelbroeck (2006) identified that this strategy, where listeners took time and effort to acquire information about music and then make a purchase decision, is called an 'information-pull technology'. Consider that marketing effort to introduce artists and their songs to the market allows consumers to access music free of charge through advertising, the resultant effect termed piracy can potentially increase online sales of music. Following the foregoing, this study tries to

investigate if the conceptualised model in chapter three can economically sustain streaming business model in the emerging markets.

CHAPTER THREE

Literature review, research model and hypotheses development

3.1. Background to the meaning of streaming

According to Morris and Powers (2015), streaming has never held one meaning or reflected one practice. The Oxford English Dictionary (OED) defines ‘stream’ as ‘flowing copiously’, ‘overflowing, running or dripping with moisture’; most uses suggest mobility, motion or continuity, regardless of whether the stream is liquid, light, data or other matter (OED, 2014). In the 1700s and 1800s, streaming is described in mining practice as ‘the washing of ore...from the detritus with which it is associated’ or dividing the precious from the worthless. This association can also be seen in the practice of ‘streaming’ for education, which involves separating students into ability-dependent paths, or in a word like ‘streamline’. Rather than a continuous flow, these forms of streaming suggest division, separation and improved results through removing the unnecessary (Morris & Powers, 2015). Around the end of 1970s, articles associated with computing technology, referencing tape drives that provides backup storage without interruption began to use the term ‘stream’ (OED, 2014). In the late 1980s, streaming started to refer exactly to media technologies for delivery and playback of a digital file without the need for full downloading (OED, 2014).

According to Dixon (2013), the economic models behind, and the user experience of, the older media indicate that the current understanding of what is called streaming media is not entirely new. In the past, Jonathan Sterne referred to streaming as mediality, or the complex ways in which communication technologies regularly cross reference and refer to one another in form or content (Sterne, 2012, p.9). Even though there is wide difference in hardware and software technologies when considering media practices like streaming that continues across historical periods, mediality triggers the researcher’s focus toward a medium’s ‘articulation with practices, ways of doing things, institutions and [...] belief systems’ (Sterne, 2012, 10). Businesses that look like the contemporary’s music streaming services came online in the mid-1990s. First to arrive were companies that rebroadcast traditional media, like AudioNet (later known as Broadcast.com), which streamed access to sports broadcasts and allowed users to select the specific songs they wanted to hear. Progressive Networks (Real Networks) was the second to surface, introducing Real Audio in 1995. The program broke audio files down and then reassembled them on the user’s machine, allowing users to listen to a file in ‘real’ time even over slow modems (Rothenberg, 1999).

According to Morris (2011), the streaming symbol complicates how new services impede the circulatory flow of music, changing longstanding concepts of property and rights associated with the music commodity. Technologies that depend on true streaming, for example, mean no copy of the original files ever resides on the user's computer, making one's library entirely dependent on a subscription to the service and/or a connection to the Internet. Even when users may not encounter this as a limitation, it changes recorded music from a durable and good that can be copied into 'single use products (streams) that perish as they are consumed' (Anderson, 2011, p. 160). As stressed by Morris and Powers (2015), while digital right management (DRM) was detested for preventing users from transferring files to other devices, making repeated copies of files and editing files for other purposes, streaming is largely celebrated despite these very same restrictions. Considering ignoring the inhibition, which streaming places upon ownership, Tryon (2013, p. 2) made a reference to video streaming, claiming that significant licensing issues prevent streaming services from hosting 'everything'.

The type of streaming offered by the emerging music services is unique not just for its range of possible 'stations', but also for how it unifies boundaries among distribution, exhibition and consumption. Because consumption happens at the point of distribution and acquisition, musical streaming services have generous information about consumers' listening habits and can readily feed that information back into the consumption experience like that of Netflix, where 'increased surveillance' provides studios and other interested parties with better marketing information (Tryon, 2013, p.14). As streaming services distort previously separate industry practices, outlets that once primarily concerned themselves with distribution are now increasing in the business of promotion, curation, user experience and analytics (Morris & Powers, 2015). In what Wikstrom (2009) and others have called the 'new music economy', acquiring, analysing and selling of musical data, where services push features like social connections and contributions (between fans and artists, fan-generated reviews and playlists, etc.) in lieu of sales of discrete objects is very important. Relating to this, the social value generated supplies meaningful feedback for streaming music services and creates value 'based on the expropriation of free cultural, technological, social, and affective labour of the consumer masses' (Zwick, Bonsu, & Darmody, 2008, p. 166).

Streaming services have also readily promoted a vision of the future where streaming provides a totalizing 'musical atmosphere' to satisfy any musical need at any moment. On this view, Spotify CEO Daniel E. k., for instance, noted that Spotify is 'not in the music space we're

in the moment space' and that he envisions a future in which a 'musical soundtrack, tailored for you, fitting for the moment' encircles us always (Seabrook 2014; Sloan, 2013). Even though streaming puts the listener within a finite inventory, the 'stream' becomes a symbol for musical omnipresence and inexhaustible choice even if all content is not coming to us always. Daniel notes that just as 'stream' contradictorily suggests continuity and flow, as well as separation and division, streaming services represent both the ideal hopes about musical choice personified in Goldstein's (1994) 'celestial jukebox'. Also, this is the same as some of the critiques of the term, along lines of power and control that Burkart and McCourt (2006) described it. According to Morris and Powers (2015), this paradox is central to how streaming services market themselves and the modes of musical consumption they offer.

3.2.1. Streaming and the Nigerian digital market

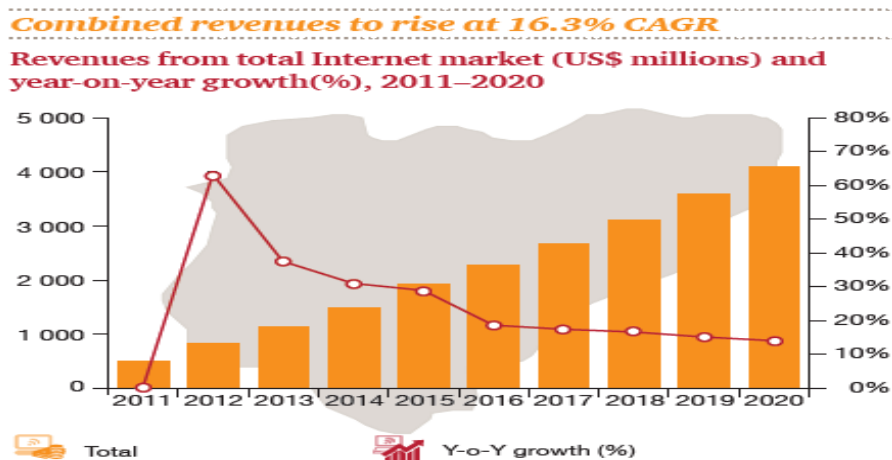
As reported by Kaufman (2016), Sony's president of Northern/Eastern Europe & Africa, Adam Granite point that "West Africa has a population of 340 million, and Nigeria alone has 150 million of that. It's a very big country that has historically had a very large music market,". In the '70s, the nation had one of the largest music markets in the world, but piracy (analog then, digital now) has ravaged the music business, a situation Granite says is beginning to turn around due to the expansion of mobile market in the country (Kaufman, 2016). "Historically Nigerian music was focused on the live business as the only way to secure income," Granite says. "Recorded music was thought of as promotional... with artists going to a local manufacturer and selling them the album for a one-time payment and then going down the street and selling it to someone else. Everyone knew they had a limited exclusivity window and the quality of CDs was very poor. Music publishing was something a lot of artists never thought about."(Kaufman, 2016).

The head of business development for the four-year-old Africa-centric streaming and downloading service Spinlet, Rotimi Fawole in Kaufman (2016), estimated that Internet penetration floats around 38 percent in Nigeria, with smartphone penetration behind, at around 30 percent. Accordingly, the high price of smartphones and the cost and reliability of bandwidth are still issues, but Fawole pegs Nigeria as one of the world's fastest-growing smartphone markets. As noted, Ninety-three percent of Internet users access the web through their phones (Kaufman, 2016). Wi-Fi availability and smartphone adoption in Nigeria remain modest, but Sony's president of Northern/Eastern Europe & Africa, Adam Granite says MTN is working feverishly to build out the infrastructure for 2G and 3G networks, which could bring more major players into the business (Kaufman, 2016). According to Entertainment and media

outlook [E&M), 2016–2020], in 2015, entertainment and media market saw 15.7% growth to reach US\$3.8 billion and Internet access revenue accounted for just under 50% of the US\$3.8 billion figure and, in 2020, that proportion will rise to 61%.

Fixed broadband in Nigeria remains largely limited to big cities, with fixed broadband penetration standing at just 3.0% in 2015. The real movement, then, is in mobile Internet subscribers – standing at 19.4 million in 2015, they are forecast to rise to 75.9 million by 2020, a Compound Annual Growth Rate (CAGR) of 31.3%. This compares to the mobile Internet penetration rate rising from 10.7% to 36.7%. TV and video revenue became a US\$1 billion-plus industry in 2015, with TV advertising still comfortably the highest-earning ad medium. Meanwhile, although subscription TV growth is sluggish, it still accounted for US\$671 million in 2015, and will add another US\$58 million by 2020 (E & M, 2016–2020). Internet advertising will comfortably see the fastest growth over the forecast period, and that will come predominantly in formats designed for mobiles, in keeping with the prevailing method of Internet access in the country. A combined Internet market for Internet and advertising suggest that Nigeria will have the fastest growth in Internet access revenue in the world with CAGR of 16.1% and make the country very appealing as show in Figure 2 &3 (E & M, 2016–2020). While mobile Internet subscribers in Nigeria will increase tremendously from 19.4 million in 2015 to 75.9 million by 2020, the lack of good broadband infrastructure means fixed broadband households will only rise from 695 000 to 847 000 over the same period as shown in Figure 3 ((E & M, 2016–2020).

Figure 1. Combined revenue for Internet market in Nigeria



Sources: Entertainment and media outlook: 2016 – 2020 •South Africa – Nigeria – Kenya, PwC, Ovum.

Figure 2. Combined revenue for Internet and advertising market in Nigeria.

Nigeria, revenues from Internet access and Internet advertising (US\$ millions), 2011–2020

Category	Historical data					Forecast data					CAGR %
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2015-20
Internet access	496	813	1 115	1 457	1 876	2 217	2 596	3 020	3 474	3 957	16.1%
Fixed	87	92	83	113	137	131	130	138	146	155	2.4%
Mobile	410	721	1 032	1 344	1 738	2 086	2 466	2 883	3 328	3 802	16.9%
YOY growth (%)		63.8%	37.2%	30.6%	28.8%	18.2%	17.1%	16.3%	15.0%	13.9%	
Internet advertising	10	13	21	31	43	58	76	94	113	132	25.1%
YOY growth (%)		36.0%	60.3%	51.6%	37.2%	34.5%	30.8%	24.2%	19.9%	16.9%	
Total Internet market	506	826	1 136	1 488	1 919	2 275	2 672	3 115	3 587	4 089	16.3%
YOY growth (%)		63.3%	37.5%	31.0%	28.9%	18.6%	17.4%	16.6%	15.1%	14.0%	

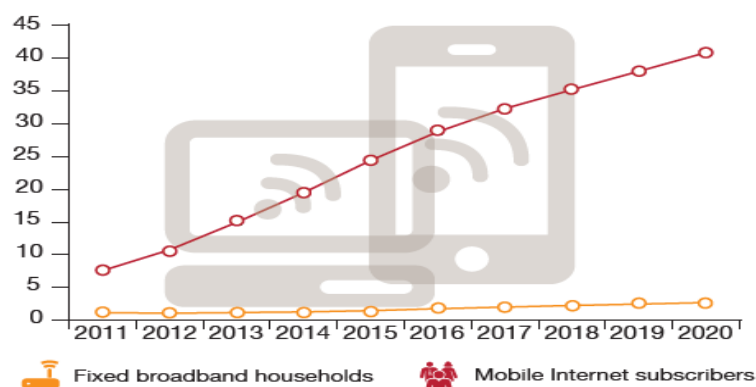
Note: Figures for 2011–2015 have been updated to reflect the most recently available financial information.

Mobile Internet advertising comprises all advertising delivered to mobile devices via formats designed for the specific device. It is split out into the sub-segments of mobile paid search Internet advertising revenue and mobile display Internet advertising revenue. Mobile display Internet advertising revenue is broken down further into mobile video Internet advertising revenue and mobile other display Internet advertising revenue.

Sources: Entertainment and media outlook: 2016 – 2020 • South Africa – Nigeria – Kenya, PwC, Ovum

Figure 3. Growth in fixed broadband households in Nigeria

Fixed broadband households and mobile Internet subscribers (millions), 2011–2020



Sources: Entertainment and media outlook: 2016 – 2020 • South Africa – Nigeria – Kenya, PwC, Ovum.

According to Balancing act, (2018) an analyst with Spinlet, a streaming service company in Nigeria, valued the growing online platform for digital music distribution in the country at \$100 million, with iROKING and iTunes dominating the market. Accordingly, the increase in digital trade, which has had significant effect on the United States and global economies, is offering Nigerian artistes and their music to be heard in different parts of the world. In some countries, including Nigeria, local digital music operations like iRoking have started to attract large numbers of listeners and investors. Recently, it attracted \$8 million from Tiger Global Management (Balancing act, 2018). As pointed out by Akwagyiram (2017), a

senior executive in Sony Music Entertainment identifies big growth prospects for music streaming in Nigeria, due to falling Internet data costs and a large, growing population. It was noted that music streaming could help the company generate revenue beyond its dominant position in Nigeria through ringback tones - the sound of music heard by a caller when phoning someone. Michael Ugwu, the general manager for West Africa, said Sony Music had set up partnership deals in Nigeria with telecoms companies MTN, Airtel and Etisalat since opening an office in commercial capital Lagos in February 2016. Thus, with Internet connectivity improving, Ugwu said streaming subscriptions were a top growth area (Akwagyiram, 2017).

In line with the above, there were around 3.5 million customer bases to one of the Nigerian Telecommunication companies, MTN Music Plus, with users paying from 50 naira (\$0.16) to 800 naira a month to stream music. He noted that MTN has about (a) 60 million customers, indicating that diffusion is still at the early stages (Akwagyiram, 2017). A report by auditing firm, Pricewaterhouse Coopers (PwC) in 2015 said income from music sales in Nigeria, was \$56 million that year, and estimate it would grow to \$88 million in 2019. PwC also said Nigeria's entertainment and media industry had a projected total revenue of \$4.8 billion in 2015 and was likely to grow to \$8.1 billion in 2019, making it the quickest growing major market worldwide (Akwagyiram, 2017). In Nigeria, Spotify is currently absent to consumers in Nigeria, but Apple Music and French music streaming service, Deezer are present. By analysis, based on Nigerian music being played to callers, the market is worth over \$100 million yearly in sales, mainly on caller ringback tones. Currently, this produces more for Sony Music than streaming in Nigeria (Akwagyiram, 2017).

3.2.2. Internet access and mobile technology in Nigeria

According to Boakye (2014), the Federal Government of Nigeria focused on the persistent need to increase access to, and usage of, Internet and broadband in Nigeria. As part of its predominant national development plan, Vision 20:2020, which sum-ups the Federal Government's aim to make Nigeria a top 20 global economy by 2020, information telecommunications technologies (ICTs) have been treated with high regard. To rationalize the work towards achieving Vision 20:2020, the Government of Nigeria has developed the Approved ICT Policy 2012, which specifies how Nigeria will affect ICTs to become a knowledge-based, globally competitive society by 2020. The Approved ICT Policy 2012 focussed on the development of Internet and broadband, becoming one of 16 policy emphasised areas. Connecting the positive execution of the 2013 – 2018 plan on mobile and fibre

infrastructure, it appears justified when one evaluates Nigerians' use of cell phones and recent developments in the country's fibre optic infrastructure. Currently, most Nigerian Internet users go online using their mobile phones. Report found that 58.1 percent of Nigerian web traffic was through cell phones and other mobile devices in November 2012. Between 2012 and 2013, mobile broadband payments grew from 8.9 million to 16.1 million (Boakye, 2014).

Currently, Nigeria has witnessed some interesting ICT developments. Mobile telephone growth and drastic increases in international bandwidth due to the landing of new submarine cables that created opportunities. Nevertheless, broadband penetration rates remain disappointingly low, and prices remain too high for most Nigerians to enjoy the socio-economic benefits that broadband access can deliver (Boakye, 2014). In 2013, Internet penetration stood at 33%, which according to the International Telecommunications Union (ITU), it's an increase from 28% in 2011. As reported by the Nigerian Communications Commission (NCC), the number of active mobile phone subscribers also increased from almost zero in year 2000 to over 128.6 million subscribers or 91.9% penetration in February 2013. The latest ITU data put the figure to 113 million mobile phone subscriptions and a mobile phone penetration rate of 68% in 2012, which is up from 57% in 2011. Mobile Internet subscriptions have also steadily increased in the past few years, reaching a penetration rate of 26% in 2012 according to an October 2012 report published by iHub Research while the Nigerian Communications Commission reported 63,474,364 mobile Internet subscriptions in February 2014 (Sesan, 2015).

According to Business News Report (2017), Nigerian Communications Commission (NCC) claimed that Nigerians that are browsing the Internet through existing network in the country increased from 92.1 million in August to 93 million in September of the same year. The telecommunications industry regulator disclosed this figure in its monthly Internet subscribers' data on its website, which is also seen by a correspondent of the News Agency of Nigeria (NAN). Accordingly, the data showed that MTN, one of the service providers had 32.5 million subscribers, browsing through its network in the month under review as against 32.1 million in August, indicating an increase of 359,409 Internet subscribers. According to Business News Report (2017) Globacom has 26.942 million customers, surfing through its network in September, indicating a decrease of 12,405 customers from the 26.955 million that make use of the network in August. Also, Airtel had 21.76 million Internet consumers in September, indicating an increase of 600,400 customers from the 21.16 million documented in

August. Also, the data exhibited that 9mobile had 11.71 million customers, who surfed in September, representing a decrease of 131,640 users from the 11.84 million users in (Business News Report, 2017). Globacom has 26.942 million customers, browsing through its network in September, indicating a decrease of 12,405 customers from the 26.955 million that make use of the network in August (Business News Report, 2017). Also, Airtel had 21.76 million Internet users in September, indicating an increase of 600,400 customers from the 21.16 million documented in August. Also, the data showed that 9mobile had 11.71 million customers, who browsed in September, representing a decrease of 131,640 users from the 11.84 million users in August (Business News Report, 2017). For Code-division multiple access (CDMA) operators, Visafone had 30,305 customers browsing its Internet in September while Multi-Links had only four Internet users. Both operators had a total of 30,309 users in September, the same figure recorded by the two operators in August (Business News Report, 2017).

3.2.3. Copyrights and Collective Management Organizations in Nigeria

Copyright law accords authors, composers, songwriters, computer programmers, website designers and other innovators with legal protection for their literary, artistic, dramatic and other types of conceptions, which are usually referred to as “works.” (Ahmadu-Suka, 2011). It gives an author or innovators of a work many packs of exclusive rights over his/her work for a short but rather long period. These rights allow the author to control the economic use of his work in a few ways and to receive payment. Copyright law also provides “moral rights,” which protect, amongst other things, an author’s reputation and veracity (Ahmadu-Suka, 2011). In relation to Nigeria, the main legislation on copyright is the Copyright Act, Chapter C20, Laws of the Federation of Nigeria (LFN), 2004 and only protects two classes of neighbouring rights: Live performances and expression of Folklore e.g., protection against reproduction, communication, broadcasting and distributions (Ahmadu-Suka, 2011, p.1&2).

In Nigeria, any work appropriate for copyright/ neighbouring right is protected without any regulations or requirement of registration, provided that the work has satisfied the requirements of originality, fixation and origin. However, a copyright owner may willingly register and deposit his/her work at the Nigerian Copyright Commission under the Copyright Notification Scheme (Ahmadu-Suka, 2011). Copyright and related rights protection for music frequently comprises layers of rights and a variety of rights owners/administrators, including lyricists, composers, publishers of the scores, record companies, broadcasters, website owners, and copyright collecting societies (Ahmadu-Suka, 2011, p.17). In relation to electronic music,

“Digital Rights Management” (DRM) tools and systems play an imperative role in online management of music sales to prevent piracy. There are two ways in which DRM tools and systems can help control copyright in digital works. First, by marking the digital works with information about its copyright protection, owner, etc., which is called “rights management information.” Second, by implementing “technological protection measures” (TPMs) that help to control (permit or deny) access or use of the digital works. TPMs, when used in relation to different types of copyright works, can help control the user’s ability to view, hear, modify, record, excerpt, translate, keep for a certain period, forward, copy, print, etc., in accordance with the applicable copyright or neighbouring rights law. TPMs also ensure privacy, security and content integrity (Ahmadu-Suka, 2011, p.25).

The rights granted by copyright and neighbouring rights may be managed by (1) the owner of the rights (2) an intermediary, such as a publisher, producer or distributor; or (3) a collective management organization (CMO) (Ahmadu-Suka, 2011). In some cases, management by a CMO may be mandated by law. CMOs of performers (music and audio-visual) have been managing rights on the Internet since the beginning, mainly simulcasting and webcasting, and have been addressed as the “making available right” (Ahmadu-Suka, 2011). In Nigeria, a broadcasting corporation must pay for the right to broadcast music. The payment is made to the copyright owner, but generally in an indirect way. The copyright owner assigns his or her rights to an organization (CMO), which negotiates with all those interested in publicly performing music. The CMO, representing a membership of many copyright owners, pays royalties to its members in accordance with the number of times a work is performed in public. Broadcasting organizations negotiate a complete annual payment to the CMO and provide the CMO with sample returns from individual stations, which allow the calculation, for paying royalties to composers, of the number of times a record has been played. In Nigeria, the CMO responsible for all types of rights associated with musical works and sound recording is the Copyright Society of Nigeria (COSON) (Ahmadu-Suka, 2011, p. 41).

3.3. The streaming business model and service mode

In general, it is a bit complicated to concede on what a business model really is, or how it might be innovated (Baden-Fuller & Haefliger 2013). According to Osterwalder (2004), a business model is a plan that contains a set of essentials and their associations, which expresses the company’s logic of earning money. It describes the value, which a company offers to one or several segments of customers. Also, it captures, picture, understands, communicates and

shares the business logic of a firm. However, Osterwalder's Business Model Canvas (Osterwalder & Pigneur 2010) has been generally adopted by practitioners, who value its clear and succinct presentation. According to Teece (2010), the inability to determine the specific elements that make up a business model, and the consequent lack of a specific picture of a standard business model, explains why it is difficult to determine the common understanding of what business model innovation precisely is. This gap is expanded by the multifaceted nature of business models and business model innovation, and their interface with markets (Rayna & Striukova, 2016, p.22). Despite the lack of consensus on the common understanding of business model, Rayna and Striukova (2016) point that key components such as value creation, value proposition, value capture, value delivery and value communication are often mentioned.

Value creation is the mechanism by which goods and services gain value that can then be determined and shared. This is recognised as one of the most significant elements of a business model (Zott & Amit 2002; Chesbrough 2007; Abdelkafi, Makhotin, & Posselt 2013). Value creation is derived from essential competencies, key resources, governance, complementary assets, and value networks and firms create value by combining these competencies with key resources in new ways (Rayna & Striukova, 2016). Another important element of the business model is value proposition. It is the process through which the value created is presented to the market (Chesbrough, 2010; Teece, 2010, 2011). The value proposition specifies the product or service and the price it commands. It must be both sustainable for the firm and right for the market. Based on this notion, marketing efforts toward business model innovation often adjust to changes in the value proposition, for instance, by introducing a "freemium" pricing model or moving from product to service offerings through servitization (Rayna & Striukova, 2016).

Value delivery is another element that describes how the value created is delivered to customers in the target market through distribution channels (Osterwalder, Pigneur & Tucci 2005; Abdelkafi et al., 2013; Holm, Günzel & Ulhøi, 2013). According to Chesbrough, (2007) and Holm et al. (2013), another element is value capture, which is the ability of a firm to benefit from the value created. It comprises the revenue model used to generate cash flow and the cost structure as well as profit allocation across the value chain. As pointed by Bieger and Reinhold (2011) and Abdelkafi et al. (2013), one vital element of business model is value communication. It explains how companies communicate with customers and partners about their products and the value they are creating. As the last key component of an effective business model, value communication encompasses both the story the firm tells and the ethos

it communicates as well as the communication channels used to tell that story. Also, it enables companies to differentiate themselves from the competition and help customers to build sensitive and emotive identification with the business (Rayna & Striukova, 2016).

Relating to music industry, the rise of digital technologies changed business operations or models in the music industry from the old music industry to the new one and values. Thus, it resulted in new business models and changed the role of some departments in the big labels in dealing with artists and music distribution. As noted by Mulligan (2015), with digital technologies, consumers experience some changes intensely, and music industry business models turned upside down. Fundamentally, the music technology remained relatively constant, part because much of the investments goes to marketing, operations, and rights instead of product development (Mulligan, 2015). One music business model that the digital technologies have brought to limelight is music streaming even though it is claimed that it has been in existence for long (Mulligan 2015). Aguiar (2017) described online streaming services as a product discovery tools, which could possibly trigger digital music sales and consumption. Referring to Spotify, for instance, their service makes it simpler to discover, manage and share music. Also, streaming could serve as a substitute to alternative consumption channels, reducing both music sales and piracy (Aguiar, 2017).

Streaming services as a concept operates by encouraging music consumers to listen to streaming music on demand. The frequent business model offers two types of services. The first is free of charge and supported by advertising (freemium). The second (premium) service charges users a monthly flat-rate fee and provides extra benefits such as unrestricted access to the catalogue, offline listening and applications for mobile devices (Thomes, 2013). Thomes (2013) describes the online streaming model and its mode as a problem of a monopolist who tend to attract customers two vertically differentiated services. Accordingly, the first of which is advertising based and costless to be accessed by users, while the second service contains no advertising and charges users a monthly fee. Thomes (2013) sees a streaming service provider as a monopolist who want to maximize profit. Accordingly, freemium or free advertising streaming service generates high revenues, as users are highly indifferent to commercials. If both premium and freemium services are launched, the monopolist charges a high price for the high-quality service to boost demand for the low-quality, advertising supported service. Therefore, consumers' surplus decreases as advertising becomes less of a disturbance. Depending on the disturbance cost of advertising, a socially ideal outcome is obtained either

by providing consumers free access to the high-quality service or closing the high-quality service and offering a positive level of advertisements in the low-quality service (Thomes, 2013).

3.4. Insight into a profile of the Nigerian consumer

Fiorini, Hattingh, Maclaren, Russo, and Sun-Basorun (2013) claim that as large as Nigeria's retail market is, it is accessible and too important to be ignored. They point that companies that determine now to build a winning business model will be getting close to becoming one of Africa's biggest growth opportunities. Then they listed six things that companies will need to consider when starting or expanding their consumer business in Nigeria:

- **Optimism.** When companies were asked if they think they will be better off financially two years from now, 74 percent say yes. Accordingly, this is one of the most encouraging responses to this question among African countries (Fiorini et al., 2013)
- **Price sensitivity.** Unsurprisingly, price is the most significant thing that most African consumers indicated, but it's mostly crucial for Nigerians, especially when it comes to food (Fiorini et al., 2013). In an inquiry, 21 percent of Nigerians claim they are can sacrifice store environment for low prices, compared to 16 percent of South Africans and 12 percent of Ethiopians (Fiorini et al., 2013). According to Fiorini et al. (2013), Nigerians are eager to spend their time in ensuring that they get the best prices on groceries; and this is well thought-out to apply to other things in general (Fiorini et al., 2013).
- **Beyond price.** Fiorini et al. (2013) posit that brand loyalty is discovered to be very high among Nigerians. Seventy percent respond that they are brand loyal as against 59 percent in Africa. For higher income consumers, this is driven by the perceived quality of brands (Fiorini et al., 2013). This study conclude that 51 percent of these shoppers admit that popular brands are always of higher quality. For lower income consumers, brand loyalty leans towards being driven by an unwillingness to try new things. Despite such loyalty, Nigerians are willing to buying store brands, although the perception of poor quality and limited choice in most cases discourage them (Fiorini et al., 2013).
- **Convenience.** Even though price is highly factored in, Nigerians believe more in modern shopping experiences. Higher income consumers are most especially interested in stores with a variety of products and a comfortable environment and are willing to

pay for these features. In contrast, lower income consumers mainly choose stores because of price offers, but item selection and in-store experience are still important (Fiorini et al., 2013).

- **Changing media habit.** In Nigeria, TV dominates. Accordingly, ninety-eight percent of the people McKinsey surveyed across the country admit that they had watched TV in last 7 days; 84 percent said they use TV to get information about brands, and 65 percent said they trust TV as an information source. More so, digital media sources are said to be growing, likewise the use of mobile technology. Half of all Nigerians have accessed the Internet in the last four weeks, and 21 percent of Nigerian mobile phone users are using the Internet daily, with 37 percent accessing it monthly. Social networking became the first reason for Internet access on mobile phones, but Nigerians are also using their smart phones for a broad range of activities, including reading news, watching music videos, and doing email and instant messaging. However, forty-four percent complained that they are not using mobile Internet because it's too slow (Fiorini et al., 2013).
- **Attitude.** Across different regions, significant attitudinal differences influenced Nigerian's purchasing decisions (Fiorini et al., 2013). For instance, residents of Lagos were found to be more than twice as likely to try new things as their peers in Kano. Also, they are more price conscious, with 55 percent favouring low prices over a large selection of products, in comparison with 20 percent that chose low prices in Abuja and 17 percent in Kano (Fiorini et al., 2013). In Abuja, only 14 percent of consumers prefer to wear traditional dress over Western clothing and this profile is higher in Lagos with 30 percent and Kano with 31 percent (Fiorini et al., 2013).

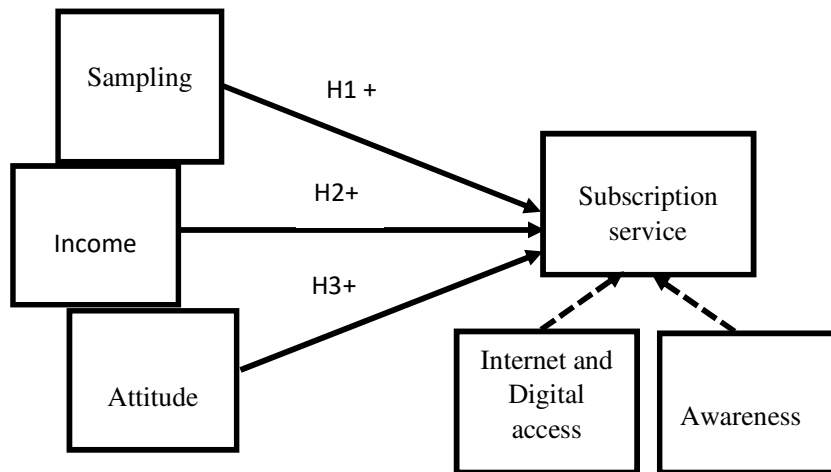
3.5. Research model

3.5.1. Assumptions

- ❖ I assume that emerging economies are low income economies.
- ❖ I assume that the purchasing power of consumers in emerging economies is low.
- ❖ Music streaming is a less expensive product (Gopal et al., 2006).
- ❖ I assume that the consumers with low income will pay for less expensive product due to price effect (i.e. income effect plus substitution effect).

Music consumers in the recorded music market can have access to music by following the industry's traditional business model, for example by ordering a CD or by downloading an album at a commercial download stores like Amazon and iTunes (Wlömert & Papies, 2016). In both cases, Wlömert and Papies (2016) posit that when consumers purchase an item, there is no contract beyond the purchase of that item. In contrast, consumers today increasingly can stream music, i.e., consumers obtain access to a library of music titles for the period of their membership or subscription. The increasing popularity of streaming services (e.g., Deezer, Spotify, Apple Music) is an evidence of a model shift in the music industry, which is like other online service industries that increasingly relies on revenues from access services (Essegaier, Gupta, & Zhang, 2002; IFPI, 2014). Firms that offer access-based streaming services can earn revenue in two ways. They either charge consumers a subscription fee (e.g., 10 EUR per month), or rely on advertising as a revenue source (Halbheer, Stahl, Koenigsberg, & Lehmann, 2014). Many firms (e.g., Spotify, Deezer) use both revenue sources and operate a two-tiered service that concurrently offers a free ad-based version (freemium) and a fee-based version (premium) (Riggins, 2003).

Figure 4. Conceptualised streaming consumption model for Nigerian music consumers



As presented in Figure 1 and going by Aguiar (2017), analysing the response of consumers to music streaming on alternative consumption channels is crucial to understanding the unrestricted transformation of the recorded music industry. Therefore, this paper tries to explore some factors that determines how consumers tend to respond to consumption of music streaming in emerging economies like Nigeria. In this study, I conceive that consumers' income, music sampling and consumers' attitude will have positive relationship with premium

streaming service. For this model to hold, I presume that Internet and digital access as well as consumers' awareness must become a control factor. According to Gosain and Lee (2001), Internet demographics of young, educated, and well-off customers are suitable for enhancing music purchases, because it allows sampling of products using digital audio files. Also, among those factors which motivate consumers to pay for streaming service include device and access (Papies et al., 2011). Dewan and Ramaprasad (2014) maintain that creating awareness for music streaming through online platforms such as social media, may not have a direct, positive effect on sales, but may provide incentive for purchase. Based on this, the model will be examined to identify how consumers in the emerging markets, particularly, Nigeria can adopt streaming service in terms of premium service.

3.6. Premium or subscription service

Danaher (2014) argues that while free interactive services (advertising-based service) can serve as perfect substitutes for music purchases, non-interactive services (Premium or streaming subscription) can act as a complement to paid digital downloads by exposing individuals to songs they would otherwise not have heard or by letting sampling of music take place. The attributes of premium service such as streaming mode that allows online demand on radio, offline usage and exclusive content are additional qualities that can attract consumers. For instance, on-demand streaming services include advanced music recommendation functions, which allows users to choose between different playlists or music stations that best fit their preferences. Exclusive content refers to contents that are only available in some streaming services and unavailable on the other, i.e., exclusively released albums, concert tickets, high-quality streaming and video contents such as music videos and live performances. Also, if downloads are offered in addition to streaming, users can download MP3 files and listen to music without Internet access and permanently own the music. This is called offline usage (Kim et al., 2017). From the foregoing, it appears that consumers can derive higher satisfaction by subscribing to the premium service than the freemium in terms of access, convenience, demand and ownership. Consequently, Kim et al. (2017) described streaming with no advertisements as a streaming service with higher attribute level compared to streaming with advertisements because it provides more utility to consumers. Based on these advantages, one can assume that music consumers in Nigeria may be attracted to paid subscription services for maximum satisfaction.

3.7. Music sampling

One major platform that allows users to stream freely is YouTube as an example and it is tantamount to the activities of music sampling. According to some recent studies on the effects of music consumption on YouTube and digital sales of music, there is a positive relationship. Analyzing the case of Warner Music content, which was removed from YouTube between January and October of 2009, Hiller (2016) finds a substantial sales displacement effect of YouTube consumption on the best-selling albums. His results also demonstrate that this effect reduces quickly with the album's ranking. In specific term, he finds no indication of sales displacement when focusing on the albums below the top 50. Also, Kretschmer and Peukert (2014) investigated the effect of YouTube music consumption on digital music sales by considering a royalty dispute between YouTube and the German collecting society and performance rights organization (GEMA). It was found that online music videos trigger sales of album but have no effect on the sales performance of individual songs. Built on the foregoing, Aguiar (2017) in a context, concludes that even though free streaming services, e.g., YouTube, Spotify etc. lack mobility advantage, it allows sampling and the discovery of new product. Aguiar further indicate that because free streaming only allows for very limited mobility in consumption, it has the potential to stimulate alternative digital music consumption channels (e.g., premium service) that offer mobility, such as licensed and unlicensed downloading (Aguiar, 2017). Based on this view, I develop the following hypothesis that:

Hypothesis 1- Music sampling has a positive relationship with subscription service.

3.8. Consumers' Income

It is arguable that where the available income to spend is low, especially, in the low-income economies, music streaming consumers may tend to lean toward piracy more than expected. This is because piracy can easily become a substitute for the willingness to pay for streaming consumption since available income to spend is insufficient. In line with this argument and to a certain extent, Coyle et al. (2009), conclude that “people intending to pirate were younger, likely to be male, and had lower household income” (p. 1036). It therefore suggests that free streaming consumption can be motivated by low-income of the consumers. However, Anderson (2009) established that there is free streaming consumption called freemium. It is a revenue model with a free version, which is made available to consumers who wants it in the hope that some of these consumers will then decide to upgrade to the premium streaming service. Coupled with the fact that consumers, who stream music also consume music free of charge, Coyle et al. (2009) found that people who are willing to spend legally to purchase

online music has the tendency to pirate music in the future. One reason this may likely occur is the price and income effect. The price effect is the impact on the market based on how the consumer is spending money because of the income effect. The income effect is the way a consumer spends money or demands services and goods based on an increase or decrease in his income. The price effect is the impact on the market based on how the consumer is spending money because of the income effect. “The income effect indicates that a lower price increases the purchasing power of a buyer’s money income, enabling the buyer to purchase more of the product than before” (McConnell, Brue and Flynn 2012, p.85). The price effect is made up of the income effect and additional economic factor: the substitution effect. “The substitution effect occurs when a consumer spends money on services and goods that are less expensive” (McConnell et al. 2012, p.85). Relating to models of consumer surplus, lower prices increase the net value derived from a product and stimulate higher demand. Therefore, music streaming as a less expensive alternative to other music purchases has the potential to promote new and unknown artists, driving consumers to purchase music online (Gopal et al., 2006). Based on this, the following hypothesis is developed:

***Hypothesis 2-** Consumers’ income has a positive relationship with subscription service.*

3.9. Consumers’ Attitude

In marketing, the purchasing behaviour theory, hold that digital music is a hedonic product from which the consumer derives an affective experience such as pleasure or joy (Moe & Fader, 2001). Although, according to Sinha and Mandel (2008), the degree of such motivation in the willingness to purchase an item is not the same among consumer segments. In the prediction of rational choice theory, people evaluate the rewards and risks of any action. Relating to the music piracy act, a consumer assesses the reward of owning an extensive range of music without paying for it as against the possibility to be arrested and the consequence of the penalty (Borja et al., 2015). In a study interviewing 500 individuals, McCorkle, Reardon, Dalenberg, Pryor, and Wicks (2012) found that lower perception of penalties and computer virus risks is linked to illegal file downloading. Consider that service platform like YouTube would allow music consumers with low income to consume music free of charge, it is perceived that this will allow them to sample music and make good choices.

In a low-income country like Nigeria where the purchasing power of an average person is perceived to be low, it is presumed that the activities of the pirates can be high by being attracted to consume more free music on YouTube as a substitute for their spending. On this

platform, consumers' listening is interrupted by advertisement and limited on-demand listening capabilities (e.g. limited repeated listening, no ability to skip tracks within playlists, imposition of shuffle mode), which is not accessible or radically restricted everywhere. While free streaming allows consumers to discover and learn about new products, it does not offer them the option to freely and easily access these products through a mobile device (Aguiar, 2017). Based on this, Thomes (2013) point that the advertising supported service, which can be used at no cost, is of low technical quality, and the charged service is of high technical quality. He posits that users' attitudes regarding advertising is an important determinant of the equilibrium outcome on how the streaming services will be embraced. i.e. willingness to pay or not (Thomes, 2013). Hence, I propose the following hypothesis:

Hypothesis 3-The consumers' attitude has a positive relationship with premium streaming service.

CHAPTER FOUR

Research methods

4.1. Research design and instrument

This study adopts a descriptive design with a quantitative approach for analysis. To be able to collect information about the present existing condition, the descriptive method of research is applied (Creswell, 1994). Descriptive research encompasses the gathering of data that describe occurrences and then organizes, tabulates, depicts, and describes the data collected (Glass & Hopkins, 1984). Similarly, this study used descriptive method to identify how music sampling, consumers' attitude and income level of the consumers' drives online music consumers toward premium service. To analyse this relationship, a questionnaire was used to carry out a survey to collect primary data in Nigeria.

4.2. Population of study and sample frame

The target population of study consists of young students between the age of 15 - 40 years of age. The young Nigerians that were sampled are the students at the University of Lagos, Lagos Nigeria with a population of about 15, 000 students. A total number of 250 young students were successfully asked to respond to music streaming questionnaire carried out at the university campus in 2018. In the process of data transformation, 20 questionnaires could not be transformed and unfit for the estimation because some respondents did not fully give their responses. For this reason, incomplete questionnaires were excluded, and the total number of responses became 230.

4.3. Data and sources

To analyse the model developed in this study, primary data was collected using music streaming questionnaire to survey young students at the University of Lagos, Lagos Nigeria. The survey asked respondents to respond to closed questions in the binary scale (that is, *Yes/No*) that evaluates the opinion formed about how they feel about each statement. The survey captures the opinion of young music consumers, deemed to be attributable to online music consumption in the Nigerian music market. It helps to capture aspects of an area such as the sampling of music through free consumption of online music, view of the income level of the music consumers in Nigeria, how young music consumers in Nigeria behave in general toward paying for music. The survey was structured into (1) Demographics (2) Internet access and digital technology (3) Awareness of consumers through advertising (4) Consumption

potential of consumers in terms of income (5) Attitude of the consumers toward music listening (6) Music sampling and (7) Service adoption.

4.4. Variables and measurement

4.4.1. Premium or subscription service

Premium service in this study is the dependent variable. Built on Kim et al., (2017), I measured streaming subscription using service content quality attributes such as, access and exclusivity, none advertising interference and ownership and offline usage as proxies. Accordingly, price refers to the amount of money consumers are willing to pay for a new music streaming service. Exclusive content refers to contents that are only available in some streaming services, which is accessible by premium subscribers. The advertisement attribute measures consumers' preferences for streaming models with or without advertisements. Offline usage refers to whether music streaming is available without Internet access (Kim et al., 2017).

4.4.2. Sampling

Music has been identified as an experience good that consumers naturally want to sample before they purchase it to reduce the related doubt with product quality that cannot be observed (Chellappa & Shivendu, 2005; Dewan & Ramaprasad, 2012). On this note, Wlömert and Papies (2016) indicate that free streaming services e.g. YouTube or advertising-based subscription on Spotify etc. may become a suitable sampling device. Based on this, I measured sampling using free streaming on YouTube as proxy.

4.4.3. Income

Gopal et al. (2006) contend that music streaming is a cheaper substitute to other music purchases and has the potential to drive consumers to purchase music online. However, as a substitute, it also requires that consumers can pay before consumption. Therefore, the consumers' consumption potential, according to this study is income level in terms of money. Relating to music streaming as a substitute, the substitution effect suggests that buyers have the incentives to substitute services and goods that are less expensive for other products that are relatively more expensive (McConnell et al. 2012, p.85). Based on this, I measured consumers' income with the available money (disposable income), which can be spent on the purchase of affordable music subscription.

4.4.4. Attitude

Users' attitudes regarding advertising among other attributes like price, quality, device access etc., are important factors of the equilibrium consequence on the willingness to pay for music (Wlömert & Eggers, 2016). Nevertheless, Ajzen (1991) develops a successive process of behaviour in which the intentions to engage in a specific legal or illegal act are linked to three

variables. First, the attitudes toward the behaviour or the individual perceptions of risks and rewards affect intentions to commit the act. Second, subjective or social norms, such as peers' perception of rewards and risks connected with the act, affect individual behaviour. Third, the behavioural control, that is, the perception of controlling the stages of the act, encourages intentions and actions. Built on this argument, one can generalise that consumers' attitudes toward paying for music is tantamount to individuals' view of motivation. Based on this, I used individuals' ideal reason (which is subjective) to pay for music as a proxy for measuring consumers' attitude towards paying for music.

Control variables

4.4.5. Internet access and digital technology

According to IFPI (2016), music streaming is becoming a substitute business model for many online music services because of the development of mobile devices such as smartphones and improved availability of subscription services made possible by the Internet. According to Papies et al. (2011), one of those factors, which motivate consumers to pay for streaming service include device and access such as Internet and smartphones. Based on this notion, I used good Internet on smartphones as proxies for measuring Internet access and digital technology.

4.4.6. Awareness

In the first place, online firms compete on price and later non-price essentials, such as customer service, promotions, and advertising to create awareness (Kauffman & Lee, 2004). Subsequently, Dewan and Ramaprasad (2014) assert that when awareness is created for music streaming through online platforms such as social media, it may not have a direct, positive effect on sales, but may provide incentive for purchase. Since creating awareness for music streaming on online platform is a form of advertising and has the potential to make consumers pay for subscription, I used advertising as proxy for measuring awareness.

4.5. Methodology

The current study presumes that the income level in the emerging economies like Nigeria is very low and as such, the purchasing power would also be low. Following these researchers (Bamert, Meier-Bickel, & Rudt, 2005, Breidert & Hahsler, 2007, Papies et al., 2011, Dorr, Benlian, Vetter, & Hess, 2010), price is a crucial attribute of streaming service and according to Gopal et al. (2006), streaming service is low-priced. Given that music streaming can become a substitute consumption (Aguilar, 2017), the substitution effect occurs when consumers i.e. in

emerging economies spends money on services and goods such as streaming services that are less expensive. Based on this argument, this study seeks to investigate how music sampling, income level of consumers and consumers' attitude can stimulate premium or subscription service in an emerging economy like Nigeria. Therefore, to estimate this, I present the relationship in a binary logit model as follows.

$$\Pr(SS = 1) = F(\beta_0 + \beta_1 \textit{sampling} + \beta_2 \textit{income} + \beta_3 \textit{attitude} + \beta_4 \textit{intdevice} + \beta_5 \textit{awareness} + \varepsilon) \dots \dots \dots (1)$$

in the form $P_i = F(Z_i) = \frac{e^z}{1+e^z}$, where P_i is the probability that $SS = 1$, F is the logistic function, which is a function of any random variable Z and e is the exponential. While SS is the subscription service, $\textit{intdevice}$ denotes Internet access and device, β_0 is a constant, β_1, \dots, β_5 are marginal effects and ε is the error term.

The logit model (logistic regression) is an approach that overcome the limitation of the linear probability model (LPM) estimated by ordinary least square (OLS). This is because it can produce estimated probabilities that are negative or greater than one. Accordingly, it does this by applying a function that effectively transforms the regression model so that the fitted values are bounded within the (0,1) interval (Brooks, 2008). The dependent variable, subscription service has a dichotomous outcome (1,0). It is either consumers adopt the service, which corresponds to 1 or otherwise, which corresponds 0. Based on this and as presented above, binary logistic regression estimation method is appropriate for the estimation compare to the OLS.

CHAPTER FIVE

Data analysis and results

5.1. Analysis of the respondents' demography

Table 1. Summary of the demography of the respondents

Demography	Obs	Mean	Std. Dev	Min	Max	Gender & Edu	Status & Employ.	Age & Ethnicity
Age	230	.8108696	.3826067	0	1			183 less than 24yrs
Gender	230	.5565217	.4978785	0	1	Male = 128, Fem. =102		
Education	230	.876087	.3285437	0	1	201undergrad. 29 others		
Marital Status	230	.8782609	.3276974	0	1		202 single, 28 others	
Employment	230	.8565217	.3513245	0	1		197unemployed 33 employed	
Ethnicity	230	.8826087	.322588	0	1			203 are Africans 27 others

The total number of respondents who fully completed the questionnaire used for this study is 230 students. The least and the highest mean value of the respondents' demography is (0.557) and (0.883) corresponding to gender and ethnicity respectively. The minimum and maximum scale is a binary between 0 and 1. The minimum and maximum standard deviation of the respondents' demography are (0.323) and (0.498) respectively as reported in Table 1. Seventy eight percent (78%) of most of the respondents are people between the age of 18 to 24, which is equivalent to 183 students. Three percent (3%) of the respondents, equivalent to 7 students are between the age of 25 to 34, while (17%) of the respondents are above 35 years. The respondents are comprised of 128 males and 102 females representing (56%) and (44%) respectively. Accordingly, 202 of the respondents are unmarried while the rest 28 are married, which respectively represent (88%) and (22%) of the respondents. Statistically, 197 of the respondents are unemployed and the rest 33 are employed, a representation of (86%) and (24%) respectively. 201 of the respondents are undergraduates while 29 of the respondents are graduates with minimum of first degree. The distribution represents (87%) and (17%) respectively. The research demography indicates that 203 of the respondents are strictly African while the rest 27 are non- African, a representation of (88%) and (22%) respectively.

In section two of the questionnaire, respondents were asked if they have been sampling music before purchase as well as willing to pay for it (see the Appendix). A clear majority (84%) of the respondents affirmatively indicated that they do sample music online before purchase and are willing to pay. In terms of attitude toward listening to music online, respondents were asked if they like to stream and think it is ideal to pay for listening to music. Majority (80%) of the respondents obviously love to stream but only the minority (40%) of them think it is ideal to pay for listening to music online. In term of consumption potential, respondents were asked if they have reasonable disposable income to spend on internet service. Responses were relatively evenly divided because there was no overwhelming majority since (58%) of the respondents claim to have enough money to spend. Respondents were asked if they are aware of streaming services like Spotify, YouTube and if they have been streaming on them. An overwhelming majority (90%) of the respondents indicated that they are aware of the streaming services and have been streaming music on them. Also, respondents were asked if they have good Internet access and electronic device to stream music. A clear majority of the respondents (91%) indicated that they have access to good Internet and electronic device. The respondents' demography is summarised in Table 1.

5.2. Reliability test and validity assessments

The concepts and the distribution fit the requirements for logistic regression having fulfil necessary statistical test and conditions. To access the validity of the research model, 230 respondents were sampled for possible predictions. In Table 2, a 0.66 alpha coefficient as produced below indicate a reliable measure and fair internal reliability for the variables in this study. Pairwise correlation matrix of the variables was computed to test for multicollinearity as shown in table 2. The degree of the correlation of relationships among the independent variables was significant for all variables at $p < 0.01$. To further test for multicollinearity problem, the condition number (8.47) shown in Table 2 was computed to confirm that multicollinearity is not severe and will not affect estimate. Also, as reported in Table 2, the variance inflation factor (VIF) of 1.18 indicate that there is no multicollinearity problem. As reported in Table 2, hatsq p value of (0.94) from linktest show that there is no problem with the model specification. To confirm that the model specification is good and fit the data, the lfit test p value of (0.89) obtained from Hosmer and Lemeshow's goodness of fit indicate that the study model is correctly specified and fits the data well. (see appendix A for detail results).

Figure 5. Standardized Pearson residuals

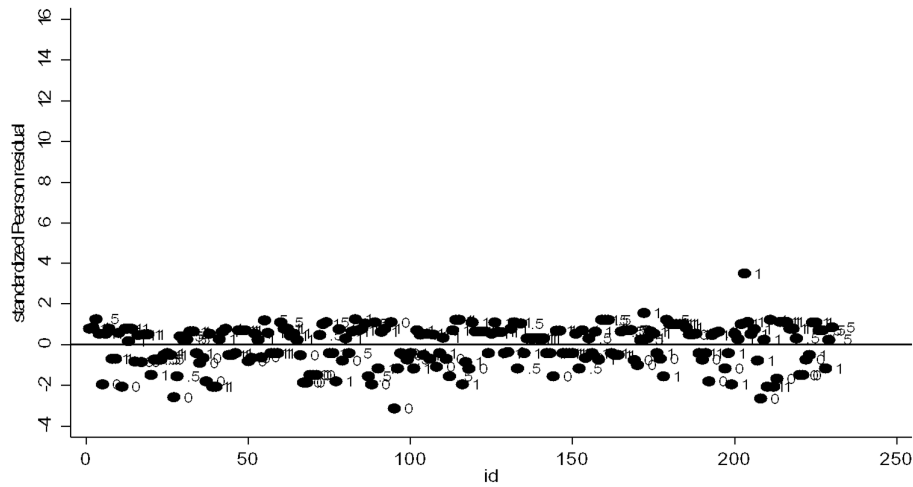
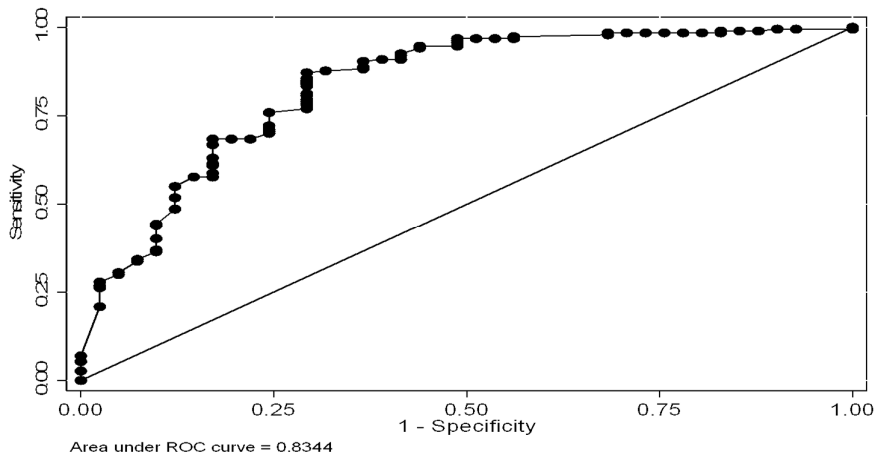


Figure 6. Standardized Pearson residual



Additionally, to check for the tolerability of the fitted model, the standardized Pearson residuals was computed as shown in Figure 5 to observe the relative deviations between the observed and fitted values. When visually inspected, there were no extreme cases that show that observed frequency and the predicted frequency will affect estimate. Also, the receiver operating characteristic (ROC) curve is used to confirm the performance of the model adequacy in Figure 6. The quantitative value (0.83) of the area under the curve, determined by Mann-Whitney U statistic confirms that the model performance is excellent.

Table 2 Statistical values and correlation matrix for variables

	Alpha	Premiumser~e	Sampling	Attitude	Income	Awareness	Intdigital~h
Premiumser~e	0.6008	1.0000					
Sampling	0.6135	0.3640	1.0000				
Attitude	0.6290	0.2668	0.3511	1.0000			
Income	0.6614	0.1050	0.1960	0.1610	1.0000		
Awareness	0.6063	0.3110	0.2324	0.2392	0.2344	1.0000	
Intdigital~h	0.6202	0.3591	0.1660	0.1694	0.2156	0.3476	1.0000
Test scale	0.66						
Goodness of fit	0.89						
Hatsq	0.937						
VIF average	1.18						
Condition no	8.47						

5.2. Results and interpretation

Table 3. Regression results for the effect of sampling, income and consumers' attitude on subscription service in Nigeria.

VARIABLES	(1)		(2)	
	Premiumservice	M. Es.	Premiumservice	M. Es.
Employment			1.478*** (.586)	.2111789
Age			-.469 (.566)	-.0450668
Sampling	2.523*** (0.591)	.2554963		
Attitude	0.0357 (0.574)	.0036168		
Income	-0.393 (0.445)	-.0388938		
Awareness	1.401** (0.629)	.1418615		
Intdigitaltech	2.147*** (0.601)	.2174818		
Observations	228	228	228	228

Standard errors in parentheses, M. Es. = marginal effects

*** p<0.01, ** p<0.05, * p<0.1, Pseudo R2 = 0.27 Δ Pseudo R2 = 0.0125

In Table 3, the F statistics is significant for the model with Pseudo R² of 0.27. The first **hypothesis, H1**, which states that music sampling has the potential to attract consumers to subscription service is statistically significant (*marginal effect* = .2554963, *p* < 0.01). According to this result, an online sampling of music has the tendency to increase the probability of subscribing to premium service by about 26 %. It implies that when a consumer

samples song online in a country like Nigeria, there is 26 percent chance that the consumer may likely want to pay for subscription because of the sampled songs. The second **hypothesis, H2**, which states that irrespective of low income, consumers will embrace premium streaming service because streaming is inexpensive is not significant (*marginal effect* = $-.0388938$, $p < 0.95$). It means that in a low-income economy like Nigeria, the income level of an individual has the potential negative effect on premium model. It shows that there is the likelihood that music consumers will be discouraged to pay for subscription service by 4%.

The third **hypothesis, H3**, which states that the attitude of the consumers will be influenced toward premium streaming service because of its utility content is not significant (*marginal effect* = $.0036168$, $p < 0.378$). This result indicates that in the emerging economy like Nigeria, consumers' attitude has not been found to positively affect the likelihood that music consumers will be influenced toward subscription service. With 0% marginal effect indicator, it shows that consumers are indifferent to music subscription service. Nevertheless, control variables: awareness as well as Internet and digital technology are both significant with (*marginal effect* = $.1418615$, $p < 0.026$ and *marginal effect* = $.2174818$, $p < 0.001$) respectively. This show that for online music streaming to be possible in emerging markets or economy like Nigeria and for consumers to easily access subscription service, there must be efficient Internet and digital technologies and consumers must be aware of the streaming service through advertising or promotional activities.

I perform a sensitivity analysis by adding the effect of respondents' age and employment status (i.e., whether the respondents are students only without being employed, or they are also employed). As presented in Table 3, the model became more significant with a change in pseudo R^2 of 0.0125. According to the result, respondents' age did not significantly affect subscription service. Instead, it has a negative impact. The $-.0450668$ -*marginal effect* indicate that younger music consumers (i.e., students that are less than 25 years) have the tendency to be 4% less interested in embracing subscription service. On the other hand, result shows that respondents' employment status is highly significant with ($p > 0.001$, *marginal effect* = $.2111789$). This implies that when music consumers are students only and are not employed, there is the likelihood that the rate at which subscription service will be embraced will increase by 21%. In other words, the result shows that when music consumers are students as well as employed, there is the probability that they may not be willing to subscribe to premium service.

CHAPTER SIX

Discussion, concluding remarks and implication of study, limitations and suggestion for further research.

6.1. Discussion

This study sets out to investigate whether music sampling, consumers' income and the attitude of music consumers in Nigeria have positive relationship with subscription service for online music streaming. The results show that, music sampling has positive association with subscription service. In other words, it has the potential to encourage consumers to pay for songs, which seems interesting and satisfactory to them considering the benefits associated with subscription service. On the other hand, result did not confirm that consumer's attitude has positive effect on subscription service for music streaming. Also, result shows that the income level of an individual in Nigeria does not have positive association with subscription service for music streaming. Instead, income turn out to have a negative effect. It has the tendencies to discourage paying for subscription. The effect of respondents' age and employment status increase the significance of the model. While age did not significantly affect premium service, respondents' employment status confirms there is a positive relationship when music consumers are mainly students and not employed.

Empirically, the positive effect of music sampling on subscription in this study confirms Wlömert and Papiés's (2016) assertion, which state that the increased ease of sampling through streaming services has the potential to strengthen the relationship between consumers and their favourite artists. Consequently, it motivates consumers' willingness to purchase music. In practice, in practice, a consumer who could not fully access a complete version of songs from favourite artist can be prompted to paying for premium service after online music sampling. This is because, during sampling, whether on YouTube, Spotify etc., continuous play can be interrupted by advertisements or full version of favourite songs may not be available for stream. Psychologically, the listening convenience attributable to premium service is not enjoyed during sampling. In effect, this may trigger the decision to pay and subscribe to premium services. In line with this argument, Prasad et al., (2003) and Schoemaker (1982) suggest that when a consumer is faced with the choice between streaming, purchasing, or forgoing the opportunity to obtain an album or a song, the consumer will choose the alternative with the highest expected net utility or the highest benefit. Following this notion, it is plausible to maintain that music consumers who can access exclusive music content and offline usage via subscription may see the service as an alternative with the avenue that maximises their music

listening (from marketing concept to product concept). It therefore indicates that due to listeners' restrictions in music sampling, it has the possibility to encourage consumers toward subscribing to premium services.

This study anticipates that in an emerging economy like Nigeria, even though the income level of potential music consumers is low, they will still be able to pay for music because streaming is inexpensive. In contrast, result turn out that low income level of consumers will discourage subscription. Against the background of the assumptions and the study model, this result supports the claim of Borja et al. (2015) that age, gender, and income affect the likelihood of engaging in music piracy. Relative to this study, college students were the respondents sampled and 78% of the respondents are people between the age of 18 to 24 years. These are young people whose income are relatively low, which indicates low purchasing power. Leveraging on Borja and his colleagues in terms of age and income, there is a tendency that in emerging economy like Nigeria, where income level is low, subscription service for music streaming may be difficult to achieve, irrespective of the awareness and the Internet access and available digital technology. Furthermore, results in this study indicates that low income to a certain degree will marginally discourage subscription service by 4%. In other words, one can infer that this effect has the possibility of making music consumers to lean toward piracy as an alternative if they want to own music they cannot pay for. In line with this view, Coyle et al. (2009) resolve that people with the tendency to pirate were younger, likely to be male, and had lower family income (p. 1036). In effect, this may trigger a common trend in consumers' attitude toward piracy such that streaming business may not easily thrive and grow in a country like Nigeria.

This study hypothesized that, because music streaming is low-cost, it will influence the attitude of music consumers toward premium service due to its associated benefits. Surprisingly, result did not support this argument. It is found that even though music streaming is cheap and subscription service delivers higher satisfaction for music consumption, consumers are indifferent. Their attitude is not influenced toward paying for music streaming, especially subscription. This may have a negative consequence on streaming business in Nigeria. Hence, it is tenable to think that when the income level of consumers is very low and will discourage paying for music subscription, this may possibly trigger a bandwagon effect on their attitude toward piracy. This is because if few consumers can successfully pirate music without any penalty, it will encourage others to do so. On this line of thought, Shanahan and

Hyman (2010) establish that attitudes such as “everyone else is doing it,” “my friends are doing it,” and “important online users want to swap digital files” were strong indicators of music piracy behaviour. Parallel to Shanahan and Hyman’s (2010) notion, researchers like Rochelandet and Le Guel (2005), Levin, Conway, and Manolis (2007), Chen, Shang, and Lin (2008) found similar results. On this background, one can assume that there is every likelihood that in Nigeria, consumers’ attitude will not be influenced toward premium service due to low income, which emanate from low purchasing power that incapacitate them.

The sensitivity analysis performed supports Borja et al.’s (2015) that age may likely affect the likelihood that music consumers could engage in piracy. In line with the effect of income on music subscription, result indicates that consumers between the age of 18 to 24 years in Nigeria may likely not be willing to pay for music via subscription service. This could be the case because of their low level of income, which is an indicator of low purchasing power. Based on this, one may infer that most people of young age in Nigeria with low purchasing power tend to consume music for free, which can encourage piracy. In contrast, result also indicates that when music consumers are young and are mainly students and not employed, there is possibility that music consumption via premium service will increase by 21 percent. On the other hand, when a music consumer is a student and employed, there is the likelihood that there will be no time to fully enjoy the benefits attributed to premium service and discourage subscription. This is because they may have been so engaged in studies and job activities at the same time, which leaves the student with less leisure time. Second, the moderating role of music listening on unemployment effect on well-being supports the explanation for the second perspective.

Foremost, at the individual level, Lawless and Lucas (2010) found a negative correlation between unemployment and consumers’ happiness. Subsequently, according to Sloboda, Lamont and Greasley (2009), musical engagement will involve people in emotional activities such as mood improvement, relaxation and aesthetic enjoyment. Hence, if happiness is an emotion (Fordyce, 1972), which music has a special way to communicate (Flaig & Large, 2014), then there is the possibility that young unemployed students in Nigeria may want to improve their wellbeing using music as a tool as emotional correction. The unemployed students may want to improve their well-being not only by wanting to enjoy music, but the full benefits associated with music listening via premium service. This is because the interference

of advertising in the freemium service platform alone could trigger discomfort in some consumers.

In the foregoing, it is obvious that the combine effect of age (student less than 25 years) and low income can negate consumers' attitude such that they are discouraged to subscribe to premium service. One main avenue where piracy can fully thrive when consumers are not willing to pay for music is the inability of the CMOs to function effectively. In practice, DRM tools and systems play an important part in online management of music sales to prevent piracy ((Ahmadu-Suka, 2011). It means that in an economy or market where copyrights issues are taken seriously, piracy should be very difficult to thrive. One of the ways piracy can be prevented is the implementation of technological protection measures that helps to control access or use of the digital works. In this case, a consumer who will want to pirate a work can be denied access in terms of copying and printing. On the other hand, CMOs can make some rights available such that they act as middle man between consumers and copyright owners. For example, CMOs are in the business of paying royalties to composers of songs based on the number of times a record has been played as related to music streaming.

In Nigeria, the Copyright Society of Nigeria (COSON) is expected to act on behalf of right owners to get revenue from record labels. Record labels are paid by streaming service companies such as Spotify, iTunes and the likes. For example, if right owners are paid accordingly and due to efficient functioning of CMOs and DRM, it will trigger a proper monitoring and effective copyright management. On this note, consumers whose major focus is to pirate could possibly be discouraged since it has become too difficult to do so. Majorly, this effort can be more efficient through technological protection measures as it ensures privacy, security and content integrity (Ahmadu-Suka, 2011). If this is achieved, it can help to maintain a balance, such that even though in the emerging economy like Nigeria, when consumers are unable to pay for premium services, they may likely still unable to pirate successfully. This may likely help to provide a future for streaming business in the Nigerian market as the economy later booms and consumers' purchasing power improves toward the ability to pay for premium services.

6.2. Concluding remarks and implication of study

This study analyses how music sampling, consumers' income and attitude positively affect subscription service in Nigeria. The study adopts quantitative approach by using a logistic

regression model to analyse a survey data obtained at the University of Lagos Nigeria for the model estimate. The study confirms that music sampling motivates consumers to pay for subscription services. Contrary to two of the study hypotheses, both consumers' income and attitude are both not significant. While consumer's income marginally displays discouragement of subscription service, consumers' attitude tends to encourage piracy. In line with existing theories, the study confirms the notion of scholars like (Borja et al., 2015; Coyle et al., 2009; Shanahan & Hyman, 2010; Rochelandet & Le Guel, 2005; Levin, Conway, & Manolis, 2007; Chen, Shang, & Lin, 2008). While Borja et al. (2015) and Coyle et al. (2009) believe that low income encourages piracy, (Shanahan & Hyman, 2010; Rochelandet & Le Guel, 2005; Levin, Conway, & Manolis, 2007; Chen, Shang, & Lin, 2008) assert that consumers' attitude will trigger piracy. Although, sensitivity analysis shows that age in term of young people does not encourage subscription, students who are not employed have the tendency to embrace the model to cushion unemployment effect on their wellbeing.

This study has some implications for music business. First, if low income drives consumers' attitude toward piracy in an emerging economy like Nigeria and discourage subscription, there is tendency that streaming business model may not thrive in this market. Consequently, the world digital music sale may suffer growth if this is replicated in other emerging economies. Second, if piracy is encouraged by low income and consumers' attitude as revealed in this study, dysfunctional CMOs that manage copyright issues will discourage actors in music business in Nigeria toward streaming business model. This is because the benefits that accrue to record labels from CMOs or from DRM are lost and this can hamper their incentives. Due to unemployment effect on consumers' wellbeing, there is the likelihood that music streaming via subscription may thrive in the long run. Therefore, it suggests that streaming business model in Nigeria is not yet in a vantage position and requires rational observations for future possibilities.

6.3. Limitations and suggestions for further research

Some limitations apply to the research. First, a more advanced estimation method such as the structural equation modelling (SEM) may yield a different result on the study. Second, the study did not investigate whether stringent copyright law will strengthen consumers' decision to subscribing to subscription. Lastly, the study is limited to the Nigerian streaming market. Thus, the study of the streaming industry in several emerging markets might offer more useful results and implications. Therefore, the identified limitations offer an avenue for further studies

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APPENDICES

Appendix A.

Detailed estimation results

Age	Ethnicity		Total
	0	1	
0	14	26	40
.5	1	6	7
1	12	171	183
Total	27	203	230

Gender	Education			Total
	0	.5	1	
0	14	0	88	102
1	14	1	113	128
Total	28	1	201	230

Marital status	Employment		Total
	0	1	
0	16	12	28
1	17	185	202
Total	33	197	230

Item	Obs	Sign	item-test correlation	item-rest correlation	average	alpha
					interitem covariance	
Premiumser~D	230	+	0.6564	0.4533	.2313465	0.6008
SamplingSD	230	+	0.6306	0.4186	.2409803	0.6135
AttitudeSD	230	+	0.5972	0.3749	.2531988	0.6290
IncomESD	230	+	0.5220	0.2805	.2808828	0.6614
AwarenessSD	229	+	0.6445	0.4378	.2354858	0.6063
Intdigital~D	229	+	0.6166	0.3993	.2461958	0.6202
Test scale					.2480108	0.6643

Source	SS	df	MS	Number of obs	=	228
Model	8.87313426	5	1.77462685	F(5, 222)	=	15.24
Residual	25.8593219	222	.116483432	Prob > F	=	0.0000
Total	34.7324561	227	.153006415	R-squared	=	0.2555
				Adj R-squared	=	0.2387
				Root MSE	=	.3413

Premiumservice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Sampling	.2742971	.0677312	4.05	0.000	.1408188 .4077754
Attitude	.109507	.0650644	1.68	0.094	-.0187158 .2377299
Income	-.0448542	.0481959	-0.93	0.353	-.1398342 .0501258
Awareness	.173059	.0751867	2.30	0.022	.024888 .3212301
Intdigitaltech	.3125054	.074816	4.18	0.000	.1650649 .4599459
_cons	.1559071	.0729847	2.14	0.034	.0120756 .2997386

	Premiumser~e	Sampling	Attitude	Income	Awareness	Intdigital~h
Premiumser~e	1.0000					
Sampling	0.3640 0.0000	1.0000				
Attitude	0.2668 0.0000	0.3511 0.0000	1.0000			
Income	0.1050 0.1122	0.1960 0.0028	0.1610 0.0145	1.0000		
Awareness	0.3110 0.0000	0.2324 0.0004	0.2392 0.0003	0.2344 0.0003	1.0000	
Intdigital~h	0.3591 0.0000	0.1660 0.0119	0.1694 0.0102	0.2156 0.0010	0.3476 0.0000	1.0000

Collinearity Diagnostics

Variable	VIF	SQRT VIF	Tolerance	R- Squared
Sampling	1.19	1.09	0.8401	0.1599
Attitude	1.18	1.09	0.8449	0.1551
Income	1.11	1.05	0.9049	0.0951
Awareness	1.22	1.11	0.8171	0.1829
Intdigitaltech	1.18	1.08	0.8505	0.1495
Mean VIF	1.18			

	Eigenval	Cond Index
1	5.0990	1.0000
2	0.3349	3.9019
3	0.2178	4.8385
4	0.1650	5.5589
5	0.1121	6.7432
6	0.0711	8.4699

Condition Number 8.4699

Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept)

Det(correlation matrix) 0.6328

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	230	.8108696	.3826067	0	1
Gender	230	.5565217	.4978785	0	1
Education	230	.876087	.3285437	0	1
Maritalsta~s	230	.8782609	.3276974	0	1
Employment	230	.8565217	.3513245	0	1
Ethnicity	230	.8826087	.322588	0	1

Logistic regression

Number of obs = 228
LR chi2(5) = 58.43
Prob > chi2 = 0.0000
Pseudo R2 = 0.2720

Log likelihood = -78.201567

Premiumservice	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Sampling	2.522519	.5913988	4.27	0.000	1.363399	3.68164
Attitude	.0357086	.5736579	0.06	0.950	-1.08864	1.160057
Income	-.3928345	.4453712	-0.88	0.378	-1.265746	.480077
Awareness	1.400601	.6290504	2.23	0.026	.167685	2.633517
Intdigitaltech	2.147202	.6013206	3.57	0.000	.9686348	3.325768
_cons	-2.067727	.6011145	-3.44	0.001	-3.245889	-.8895637

Marginal effects after logit

$$y = \text{Pr}(\text{Premiumservice}) (\text{predict})$$

$$= .88563432$$

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]		X
Sampling	.2554963	.05951	4.29	0.000	.138856	.372137	.655702
Attitude	.0036168	.05812	0.06	0.950	-.110291	.117525	.592105
Income*	-.0388938	.0427	-0.91	0.362	-.122589	.044801	.583333
Awaren~s	.1418615	.06284	2.26	0.024	.018705	.265018	.701754
Intdig~h	.2174818	.0638	3.41	0.001	.092445	.342518	.785088

Logistic regression

Number of obs	=	228
LR chi2(2)	=	58.44
Prob > chi2	=	0.0000
Pseudo R2	=	0.2720

Log likelihood = -78.198427

Premiumservice	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
_hat	1.015887	.2576314	3.94	0.000	.5109387	1.520835
_hatsq	-.0074328	.0938654	-0.08	0.937	-.1914056	.1765399
_cons	.0039344	.2840038	0.01	0.989	-.5527028	.5605715

(Table collapsed on quantiles of estimated probabilities)

number of observations =	228
number of groups =	10
Hosmer-Lemeshow chi2(8) =	3.57
Prob > chi2 =	0.8940

Item	Obs	Sign	item-test correlation	item-rest correlation	average interitem covariance	alpha
Premiumser~D	230	+	0.6564	0.4533	.2313465	0.6008
SamplingSD	230	+	0.6306	0.4186	.2409803	0.6135
AttitudeSD	230	+	0.5972	0.3749	.2531988	0.6290
IncomESD	230	+	0.5220	0.2805	.2808828	0.6614
AwarenessSD	229	+	0.6445	0.4378	.2354858	0.6063
Intdigital~D	229	+	0.6166	0.3993	.2461958	0.6202
Test scale					.2480108	0.6643

Logistic regression

Number of obs = 228
 LR chi2(7) = 64.63
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.3009

Log likelihood = -75.099786

Premiumservice	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Employment	1.477851	.586879	2.52	0.012	.327589	2.628112
Age	-.4694745	.566411	-0.83	0.407	-1.57962	.6406707
Sampling	2.722335	.6239981	4.36	0.000	1.499321	3.945349
Attitude	-.0334313	.5940083	-0.06	0.955	-1.197666	1.130804
Income	-.337416	.4617794	-0.73	0.465	-1.242487	.567655
Awareness	1.531652	.6555618	2.34	0.019	.2467744	2.81653
Intdigitaltech	2.043174	.620944	3.29	0.001	.8261462	3.260202
_cons	-3.019937	.8118973	-3.72	0.000	-4.611227	-1.428648

Block 1: Sampling Attitude Income Awareness Intdigitaltech

Source	SS	df	MS	Number of obs =	228
Model	8.87313426	5	1.77462685	F(5, 222) =	15.24
Residual	25.8593219	222	.116483432	Prob > F =	0.0000
				R-squared =	0.2555
				Adj R-squared =	0.2387
Total	34.7324561	227	.153006415	Root MSE =	.3413

Premiumservice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Sampling	.2742971	.0677312	4.05	0.000	.1408188	.4077754
Attitude	.109507	.0650644	1.68	0.094	-.0187158	.2377299
Income	-.0448542	.0481959	-0.93	0.353	-.1398342	.0501258
Awareness	.173059	.0751867	2.30	0.022	.024888	.3212301
Intdigitaltech	.3125054	.074816	4.18	0.000	.1650649	.4599459
_cons	.1559071	.0729847	2.14	0.034	.0120756	.2997386

Block 2: Age Employment

Source	SS	df	MS	Number of obs	=	228
Model	9.30798782	7	1.32971255	F(7, 220)	=	11.51
Residual	25.4244683	220	.115565765	Prob > F	=	0.0000
				R-squared	=	0.2680
				Adj R-squared	=	0.2447
Total	34.7324561	227	.153006415	Root MSE	=	.33995

Premiumservice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Sampling	.2835802	.0676725	4.19	0.000	.150211	.4169495
Attitude	.1088468	.0648752	1.68	0.095	-.0190097	.2367033
Income	-.0352036	.0483	-0.73	0.467	-.1303935	.0599862
Awareness	.1757861	.0749295	2.35	0.020	.0281148	.3234575
Intdigitaltech	.2953396	.0768752	3.84	0.000	.1438335	.4468457
Age	-.0427074	.0647235	-0.66	0.510	-.1702648	.0848499
Employment	.1361226	.0701798	1.94	0.054	-.0021881	.2744333
_cons	.0738735	.091953	0.80	0.423	-.107348	.2550949

Block	Block F	Block df	Residual df	Pr > F	R2	Change in R2
1	15.24	5	222	0.0000	0.2555	
2	1.88	2	220	0.1548	0.2680	0.0125

Marginal effects after logit

$$y = \text{Pr}(\text{Premiumservice}) (\text{predict})$$

$$= .89243575$$

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]		X
Employ~t*	.2111789	.10952	1.93	0.054	-.00347	.425828	.859649
Age	-.0450668	.05467	-0.82	0.410	-.152219	.062085	.813596
Sampling	.2613283	.0604	4.33	0.000	.142948	.379708	.655702
Attitude	-.0032092	.05699	-0.06	0.955	-.114908	.10849	.592105
Income*	-.0317461	.04213	-0.75	0.451	-.114325	.050832	.583333
Awaren~s	.1470297	.0619	2.38	0.018	.025704	.268355	.701754
Intdig~h	.1961328	.06287	3.12	0.002	.07292	.319346	.785088

Appendix B

The questionnaire

Dependent variable	Labels
Premium or subscription	Would you pay for music subscription of online music streaming if you can demand and access any exclusive music anytime?
	Would you pay for music subscription of online music streaming if you could continuous play music without advertising interference?
	Would you pay for music subscription of online music streaming if you could download music, own it and listen to music offline
	Yes = 1, No = 0
Independent Variables	
Sampling (Free listening)	Have you streamed music on YouTube or Spotify for free before?
	Yes = 1, No = 0
Attitude	Do you like to stream or listen to music online especially with no advertising interference?
	If yes, do you think it is an ideal thing to pay for listening to music?
	Two yes = 1, One yes = 0.5, Two No = 0
Income (Pocket money/ disposable income)	Do you have reasonable income or pocket money to pay for Internet subscription service?
	Yes = 1, No = 0
Control variables	
Awareness (Advertising)	(Through advertising, words of mouth or internet browsing) are you aware of streaming services like YouTube, Sportify and Apple iTune in your country?
	yes = 1, No = 0
Internet access & Digital Tech. (Data bundle, smart phone)	Do you have good Internet access with good speed to stream or listen to music online?
	yes = 1, No = 0
Demography	
Age	18 - 24 = 1, 25 - 34 = 0.5 , others = 0
Ethnicity	African = 1, Others = 0
Gender	Male = 1, Female = 0
Education	Undergraduate = 1, Others = 0
Marital status	Single = 1, Others = 0
Employment Status	Student = 1 , Others = 0