

TRENDS IN CONTEMPORARY COMPOSITIONAL TECHNIQUES: AN OVERVIEW

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Abstract

Nigeria is known for its vibrant and diverse cultural heritage and its rich musical history that continues to evolve. Consequently, compositional techniques in music have experienced significant advancements by integrating deep learning and artificial intelligence (AI) methods. These advancements require some level of research interest and attention. Through consultation of related literature and participation, this paper tries to explore some of the various contemporary composition techniques used in Nigeria. These techniques are characterized by a fusion of traditional Nigerian elements with modern Western influences, experimentation with electronic music production, and interdisciplinary collaborations. The use of synthesizers, drum machines, and digital effects has allowed for the exploration of new sonic landscapes and the incorporation of electronic elements into traditional music. As a result, contemporary music composition techniques in Nigeria have become increasingly popular and have experienced a significant evolution in recent years. Findings show that there are some challenges related to maintaining human creativity and the evaluation the artistic quality of AI-generated Music. Future research should focus on addressing these challenges and finding a balance between the potentials of AI in music composition.

Introduction

Nigeria is a country located in West Africa and is the most populous country in Africa. It is a country with a rich cultural heritage and a vibrant music scene. Music in Nigeria is an important part of the culture and is used to express emotions, tell stories, and celebrate special occasions. Nigerian music has evolved over the years and has been influenced by many different genres, including traditional African music, African Art Music, hip-hop, Blues, R&B, reggae, Afro beats, and other numerous genres of music.

In recent years, there has been a growing interest in contemporary composition techniques in Nigeria. As a result, contemporary composition techniques in Nigeria has become increasingly popular and has seen a significant evolution in recent years. It encompasses a wide range of approaches that have emerged in the past century. One advantage of these techniques is their ability to break free from traditional constraints and explore new sonic possibilities. Composers can experiment with unconventional harmonies, extended techniques, and unique timbres, resulting in fresh and innovative musical experiences. In recent times there has been a growing exploration of blending indigenous elements with modern Western influences. This fusion has resulted in a unique sound that reflects the diversity and vibrancy of Nigeria's cultural landscape.

Composers of the 21st Century have carefully explored new mediums and sources of materials to enrich their compositions. This has resulted in composers taking different paths as they combine different creative idioms and tools while also showcasing diverse creative limits and endowments of different composers in oral and written forms (Onyeji, 2016). Nigerian composers have overtime created master pieces of their work exploring the use of different forms, idioms and resources at their disposal. This paper will explore some of the various contemporary composition techniques used in Nigeria. Some of these mediums include:

- i. Technological Techniques
- ii. Sampling Techniques
- iii. Aleatory/Improvisation Technique
- iv. Composition using pre-existing Idioms Techniques

Technological Techniques

a. AI Methods

Modern compositional techniques in music have seen significant advancements with the integration of deep learning and artificial intelligence (AI) methods. According to Burns (2023) Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. While Deep learning models according to Sejnowski (2020) are "Networks that have been programmed to recognize speech, caption photographs, and translate text between languages at high level performance." These techniques have revolutionized the process of music generation, offering new possibilities and challenges. One of the key advantages of modern compositional techniques is the ability to generate music at different level of complexity. Deep learning models can generate music scores, add performance characteristics to the scores, and even convert them into audio formats (Ji, 2020). This multi-level approach allows for more nuanced and expressive compositions. Additionally, deep learning models can learn from vast amounts of musical data, enabling them to capture complex patterns and generate music that is both innovative and coherent (ji, 2020).

Another way that AI is in the frontline of modern compositional techniques is the integration of information retrieval and music information seeking. Online search tools, music search engines such as mp3juice.com, beemp3.com, mp3skull.com etc. and internet based reference services provide composers with a wealth of information and resources for their creative process (Lavranos et al., 2015). These tools leverage modern information technology to facilitate the exploration of different musical styles, genres, and techniques. Composers can access music libraries, organizations, and stores, as well as connect with their social settings to gather inspiration and knowledge (Lavranos et al., 2015).

b. Electronic Techniques

A few centuries ago, in the times of Mozart, Bach, Beethoven etc., the tools for composers were pretty simple: a pen, a manuscript, and perhaps an instrument like the piano or any other one at their disposal. Technology beyond these simple tools didn't exist at that time. Many great masterworks of the pre-historic times in western music history were written under the candle light or lamps. Today the story is different.

Nigerian composers have been experimenting with electronic music productions techniques to create a more contemporary sound. The use of synthesizers, drum machines, and digital effects has allowed for the exploration of new sonic landscapes and the incorporation of electronic elements into traditional Nigerian Music. These experimentations have resulted in a fresh and innovative approach to composition.

Technology for composing music has progressed a great deal in recent years and is more accessible to music makers than ever before. Many software providers even create free or budget versions of their composition programs so that as users grow and improve, they can progress to the more advanced software. (Sciarrotta, 2023)

Here in Nigeria technology has had a major impact on the music industry in Nigeria. In the past, most Nigerian music was recorded on analog equipment, such as reel-to-reel tape machines. However, with the advent of digital technology, recording and production have become much easier and more affordable. As a result, many Nigerian musicians have embraced digital technology and are now using it to create their music.

Depending on what they prefer for the composition process and recording requirements, composers today often use either music notation software or Digital Audio workstations (DAWs). Music notation software is frequently used in Art music Composition and other notation-intensive genres such as Jazz and Soul music where precise and thorough score preparation is necessary. However, in recent times, popular music composers and other genres have begun to explore the use of these notating software for composition. Some of the notating software include:

- i. Sibelius Ultimate
- ii. MuseScore
- iii. Notion 6
- iv. Steinberg Dorico 4
- v. Apple Logic Pro X
- vi. Finale
- vii. Forte Notation Forte 12
- viii. Neuratron PhotoScore Ultimate
- ix. Neuratron AudioScore Ultimate etc.

The afore mentioned software are some notable software used in music notation in the 21st century here in Nigeria and the world at large. The second form of computer software is a DAW (Digital Audio Workstation), which is used to capture live performances, create MIDI-based synthetic instrument parts, mix audio, and master it. A digital audio workstation (DAW) is an electronic device or application software used to record, edit, and produce audio files. DAW comes in a variety of configurations from a single software program on a laptop or computer, to an integrated standalone unit, to highly complex configurations of various components controlled by the central computer. (Fajar, 2020)

There are now music applications that offer the functions of both categories fairly well, despite the fact that the majority of DAWs contain some rudimentary music notation functionality. In Nigeria, both music notation software and DAWs have become popular amongst composers. They are often used to create complex arrangements and to add effects to the music. In the words of Adams (2015) who states that "the Digital Audio Workstation (DAW) has undoubtedly been a massive advancement in the field of music composition. Whilst it is perhaps best known for expanding and creating numerous genres of electronic music, its impact upon composing for orchestra is lesser documented". However, film composers are gradually moving away from using notating softwares to using DAWs. This allows them to utilize all the plugins in the DAWs. With the DAWs, the composer can use live sample libraries, to compose and there's no need for the music to be performed by an orchestra nor any other group as the music composed in DAWs are already made and ready for consumption. Many

Nigerian musicians use DAWs to create their music, as they are easy to use and allow for a great deal of creativity without any rudimentary knowledge in music theory.

Sampling Technique

There was this day I went to meet up with a composer friend and I met him parking his mobile recording equipment. He told me he was working on a film score which requires him to have live samples of the noises in the market square and motor parks. We drove out to one of the biggest market and set up in the middle of the market, recording all the sound that the market could give. Same was done for the motor park. When he finished working on the project, the results were astounding. This whole process is what is regarded as voice sampling.

Sampling is another popular contemporary composition technique used in Nigeria. Sampling is the process of taking a portion of a sound recording and using it in a new composition. Youngblood (2019) defines Music Sampling as "a nearly ubiquitous practice among hip-hop and electronic producers." The usage of drum breaks, or percussion-heavy sequences, ripped from soul and funk records has played a particularly critical role in the development of certain subgenres. Sampling is often used to create a unique sound or to add texture to a track. Sampling technique has become a very popular technique in Nigeria, as it allows musicians to create new music from existing recordings.

Many Nigerian composers use samples from traditional African music, as well as from other genres, such as hip-hop and reggae. In the words of Onyeji (2008), who states that "in their compositions, contemporary Nigerian composers have tried to combine traditional ensemble techniques from their country with European styles. This synthesis has appeared in pieces that encapsulate the spirit and soul of numerous types of music." We can therefore say that composers have resorted in using other idioms to enrich their works in which sampling has been often used to create a unique sound or to add texture to their compositions and it can also be used to create a bridge between different genres, allowing musicians to create a unique sound that is a blend of different styles. It is as a result of these sampling techniques that new genres of music are born. It can be argued that technical developments in popular music since the advent of sampling as a mainstream activity have altered production practices in such a fashion as to shape the broader aesthetic of popular music and its creators' sensibilities.

Recording Using Sampled Libraries

Sample libraries are pre-recorded sounds that are used in recorded sounds that can be used in music composition. it is a collection of sound instruments, vocals, synths, sound effects, and field recordings for use in music and video production. These sampled sounds are typically royalty-free and can be freely used by artists and producers in any way they see fit. (Lavoie, A. 2023) These libraries offer diverse sounds from various genres. Sample libraries have become an important tool in the 21st-century composer's toolkit. The beauty of sample libraries lies in their versatility. They cater to virtually every genre of music and offer an extensive range of instruments like complete orchestral instruments, guitars, vocals, sound effects, and atmospheric sounds (Hariharan, S. 2023). Some composers of the 21st Century prefer working with sound libraries than actual musicians because the samples in a sound effects library often contain many imaginative and diverse sounds, allowing content creators and editors to offer a more immersive experience when creating a piece of content.

Aleatory/Improvisation Technique

In his doctoral thesis, Stephen Coyle (2019) states that "improvisation keeps a reference to every variety, including improvisation based on pre-existing materials, notated or not, improvisation controlled by specific rules, and entirely unrestricted free improvisation". Improvisation forms a core component of the compositional processes composers used when writing music. It is a theme that concerns everyone who is active in music - be it as a performer, a teacher, a musicologist or an administrator. Every music practitioner is an actor when it comes to improvisation. Improvisation is the process of creating music spontaneously, without any prior preparation. It is often used to perform spontaneously without any prior knowledge of what the composer wants to perform. Improvisation is largely done by well experienced performers. In a recent research which states thus:

it suggested that an Early Music performer and a professional pianist with a specialization in improvisation were given a variation task in their respective styles. The question under investigation was the extent to which improvisers repeat themselves after several trials. Performances were tape recorded, transcribed and analyzed. And the findings suggest that the Early Music performer, who could be called a novice improviser, was less inventive and more repetitive after fewer trials while the pianist improviser was able to generate many more non-redundant consecutive variations. We concluded that experienced improvisers have a large repertory of methods for varying material that allows them non-redundant playing. This facility corresponds to the training activities the individuals had engaged in. (Lehmann & Hoffmann, 2002).

Musical improvisation is often seen as specific to jazz popular music, African traditional music. Many 'classical' musicians never came across improvisation during their professional training. Sometimes improvisation is considered as 'nonsense' and as loss of time. But in fact, it trains skills that are crucial for every musician, be it in western classical music, in jazz, pop or rock music or in any other musical style of the large range of 'world music'. Improvisation demands not only creativity, but also the knowledge and application of a given set of rules, carefully listening to other musicians and the ability to take over leadership at a given moment as well as to leave it to someone else. Turkenburg (2004) in a document titled "Improvisation in Music" opined that "improvisation is not only a tool to learn playing without sheet-music or to acquire social skills. It is also an art form of its own." Therefore, when a performer acquires the technicality and virtuosity of their instrument or voice in competence and emotional artistic expression, it makes improvisation become an art form that needs to be respected and acknowledged. One prominent musician who often improvises not only on his instrument but with the audience as well is Five time Grammy Award winner Jacob Collier. Collier often conducts his audience and assigning different notes to be sang by different parts of the audience spontaneously and the result is incredible.

Composition using pre-existing Idioms Techniques

One prominent technique utilized by Nigerian composers is the incorporation of traditional rhythms and melodies into contemporary compositions. According to Onyeji (2016), who affirms that "The abundance of different types of indigenous music in Africa makes it imperative for art music composers to draw relevant material from such music types, if they intend to give their works cultural identity."

These traditional elements, such as the polyrhythms of Afro-beat or the call and response patterns of Yoruba music, add a distinct flavor to the music and create a sense of rootedness in Nigerian culture. These techniques allow composers to pay homage to their heritage while also pushing the boundaries of musical expression and giving their compositions an identity.

Some African composers have gone as far as integrating of traditional folk instruments alongside western instruments. Instruments such as the talking drum, the *shekere*, the *kakaki*, *molo*, and the *Kalimba* are often included in contemporary compositions to add a unique timbre and texture to the composition. This blending of traditional and modern instruments creates a rich sonic tapestry that reflects the fusion of old and new Nigerian music.

Advantages of Contemporary Compositional techniques

The language and aesthetics of music have advanced at an unprecedented pace throughout the twentieth and twenty-first centuries. It may be argued that compositional development has seen more innovation in the last 50 years than it has in the previous 400 years. Contemporary art music has been in the forefront of many facets of this musical revolution, including the development of new compositional methods, the expansion of instrumental techniques, and the adoption of computer technology. Unquestionably, this era has seen significant advances in both music and thought, and the music been composed as a result of these innovations is groundbreaking. Some of the advantages of contemporary compositional techniques are:

1. Composers are beginning to adopt the use of Technology in their compositions as it gives the composer access to modern composition/production/recording technology. Composers don't need to write their music using a pencil and a manuscript as it used to be but rather the 21st century composers have adopted the use of computers to write their music
2. Using of sound libraries saves resources for composition saves a lot of resources. Some few decades ago, film composers or orchestral composers will have to painstakingly compose for the whole orchestra and invite a lot of musicians to perform the music while it is being recorded. But today, a composer will compose using Digital Audio Workstation (DAW) which contains live samples of sounds from the complete orchestra. There is little or no difference in the end result as to playing with the live orchestra vs recording with DAWs. Using sound libraries for composition saves time and resources.
3. It gives room for innovation and creativity as this will ultimately result in creation of new sub-genres in music. Udo in his Master's thesis writes that:

In this century and in Africa, for instance, new musical genres have emerged. Notably, we have had new forms of music. This include: those using western instrumental resources while employing African music idioms as much as possible, and those that are an encompassment of both African and western resources as well as their idiomatic context. (Udo, 2017)

Disadvantages of Contemporary Compositional techniques

1. One major challenge of contemporary compositional technique is the lack of tonal center. Modern compositional techniques often challenge traditional tonal structures, leading to the absences of a clear tonal center or melody. There is that potential for the music to become difficult for audiences to understand. The use of complex rhythms, dissonant harmonies, and unconventional structures can make it challenging for listeners to connect with the music on

an emotional or intellectual level. This can limit the potential for widespread appreciation and popularity of contemporary compositions.

2. Another disadvantage is the risk of losing the sense of traditional and cultural heritage that is often associated with western art music. Some argue that contemporary techniques prioritize novelty over preservation of established musical conventions, leading to a disconnect with historical musical styles. This can be perceived as a loss of continuity and a departure from the rich musical heritage that has shaped our indigenous music community in previous generations.
3. Another concern about modern compositional techniques is the potential loss of human creativity and artistic expression. Critics argue that relying too heavily on AI-generated music may result in a lack of originality and emotional depth (Lavranos et al., 2015). While deep learning models can generate music that adheres to certain stylistic conventions, they may struggle to capture the subtleties and nuances that make human compositions unique. Furthermore, the evaluation and assessment of AI-generated music pose challenges. Traditional criteria for evaluating music, such as emotional impact and artistic merit, may not be easily quantifiable or measurable in the context of AI-generated compositions (Ji, 2020). Developing appropriate evaluation metrics and methodologies that capture the aesthetic.
4. Another concern is that even those who are not knowledgeable in the act of composition can decide to become composers especially those that don't have any form of musical training. They can just ask AI to write them a symphony in G minor and AI will generate it. This makes genuine composers look like failures as the former can create more elaborate compositions than some genuine composers will do.

Summary/Conclusion

Overall, contemporary music compositional techniques in Nigeria are characterized by a fusion of traditional Nigerian elements with modern Western influences, experimentation with electronic music production and interdisciplinary collaborations. These techniques have contributed to the vibrant and diverse music scene in Nigeria, showcasing the country's rich cultural heritage while pushing the boundaries of musical expression. Contemporary music compositional techniques offer advantages such as the exploration of new sonic possibilities and interdisciplinary collaborations. However, they also present challenges, including potential inaccessibility to audiences and a departure from traditional musical styles, lack of tonal structure, and have limited commercial viability. However, a composer can choose to employ these techniques depending on the results the composer wants to achieve. Balancing innovation with a connection to tradition is a crucial consideration for composers utilizing contemporary techniques. As discussed in this paper, Modern compositional techniques in music, driven by deep learning and AI methods, offer numerous advantages in terms of multi-level music generation and access to vast information resources. However, there are also challenges related to maintaining human creativity and evaluation the artistic quality of AI-generated Music. Future research should focus on addressing these challenges and finding a balance between human creativity and the potentials of AI in music composition. Although contemporary music composition techniques have its drawbacks and benefits, today's composers can use a variety of techniques to achieve different results and to ease the process of their compositions.

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