

The Functionality of Music Production Technology in The 21st Century

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Abstract

This study focused on how technology functions in the production of music in the 21st century. Prior to the end of the 20th century, music producers were knowledgeable in the use of analogue technology in the production of music which has enormous rigour and time-wasting in the process of music production. The introduction of information and communication technology in the 21st century creates access to new inventions particularly digital technology that has permeated nearly all fields of life endeavour including music production. The paper examined the impact of technology on music production as it relates to a music album. It employs the ethnographic music method of data collection as well as the literal interpretation analysis respectively. The paper found that digital technology makes music production very fast, easy and qualitative and makes recorded music widely distributed. The paper concludes that the use of technology, especially digital technology has made the production of music a global phenomenon. Therefore, the paper recommends that music producers use modern technology in the 21st century in the process of music production. It also recommends that internet-driven devices should be engaged in the music production processes.

Key Words: Functionality, Technology, Music, Production, 21st Century

Introduction

Technology in the 21st century has become the mainstay in nearly every facet of the business world. The function of technology is all-inclusive. Its impact is seen in the way technological devices have been deployed in the production of music in the 21st-century music production practice. Hillyer (2002), revealed that technology has drastically shaped the way we think and the way we do things. This implies that technology has increasingly

influenced our lives and practices. The growing impact of technology in the 21st century was attested to in the study by Yamin (2019), noting that every society and profession globally is being highly affected by the emergence of technology is being deployed to facilitate information, and many professional practices provided there is computer network connected to the internet services. Thus, the adoption of technology in music production has created a paradigm shift in the music industry.

Music producers have embraced the use of technology in the process of music production. A majority of music producers that have adopted technological devices such as the Musical Instrument Digital Interface (MIDI), Digital Audio Work Station (DAW) and other devices such as the Sampler and the Synthesizer discovered that music production is made easy when technology is involved. Camillo (2022) recommends the use of technology for the production of music. The author found that technology fuels music production. This is because, the availability and function of adoptable musical technology make it easier to learn, create, produce and distribute music products that through many social media platforms, driven by the internet could be widely accessed and consumed. It is against this background that this paper examined the function of technology in music production in the 21 century.

Statement of the Problem

Some music producers don't understand how technology works in the music creation process. This has prompted its application in the production of music to be overlooked. Such producers favour the analogue technology that was extensively employed during the 20th century. This is set against the backdrop of the development of new technology, which has led to the digitalization of music practice in the 21st century. Music producers will be confronted with the rigor involved with music creation unless they adjust their approach and embrace the technological tools of the 21st century.

The objective of the Study

The study is to examine

- i. The functionality of technology in the production of music in the 21st century.
- ii. Identify music technology of the 21st century.
- iii. Explain the impact of music technology on music producers.

Music Technology in the 21st Century

Music production has witnessed tremendous change and improvement due to the emergence of 21st-century technology. Music like any other profession has benefited from modern technology. Music technology implies the use of any device mechanism, machine

or tool by a musician or composer to make or perform music, to compose, notate, analyze playback or record songs or pieces or to analyze or edit music. In a similar vein, the National Association for Music Education (2023) describes the term in the following, stating, "Music technology, such as computers and software, to the creation and performance of music". According to brainjump.net (2017), "music technology is any device, activity, or concept that supports the production of music". From the preceding, it is clear that music technology involves devices that when used or applied to music making, makes the process faster, more convenient and suitable to achieve high-quality music product that is widely shared and distributed. The knowledge of these musical technologies, therefore, needs to be identified so that music producers would become acquainted with the available and affordable items for their selection.

A list of musical technological devices with a relative effect on the production of music is contained in the study by Frizeel (2023). Eight of these are listed and they are briefly discussed as follows.

i. Orba by Artiphon:

Orba is a handheld synthesizer, looper, and MIDI controller that is used in the making of music immediately. With Orba's integrated looper, the producer can layer Drum Bass, Chord, and Lead parts to create beats and songs on the fly which can play through the built-in speaker or use the 1/8" jack to connect headphones or amplifiers. This device could be paired wirelessly to the Orba app to customize the instrument and share the producer's creations with friends.

ii. MIDI Fighter by DJ Techtools:

This is another functional technological electrical instrument. The Midi Fighter is a high-performance line of controllers designed for serious DJs and musicians that need reliable instruments on stage and studio. It is designed for stage performances by musicians.

iii. Erea Touch by Ernbodme:

This is a musical technology in the form of a tablet with Keys, drum-pads, sliders, sequencer, launch-pad, polyphonic, ultra-sensitive and reactive. It brings the produced music to light.

iv. Jammy Evo:

This is a MIDI controller tool. It advances guitar playing into full-fledged music creation.

v. Subpac:

This is a patent-pending sensory audio platform that combines hardware, software, and cutting-edge materials to produce bass that is deeply enveloping, expressive, and has a much wider dynamic range than what is typically heard from speakers and headphones.

vi. Joue Play:

The Joué Play app may be used to mix all sounds, apply effects, and make beats and melodies. The app recognizes the Pad when it is placed on the Board and provides a selection of instruments to perform right away. Without spending hours setting up production software, mixing and song creation are simple tasks due to the interface's attractive interface and visual.

vii. stimuli. Roli Lumi:

Here we have a controller. It enables MPE (MIDI Polyphonic Expression) (enabled) software instrument makers with four axes of control. The most recent and important is Glider, which enables left/right key movements for pitch bending on a note-by-note basis. Instead of using a Synthesizer, this is handled on a normal steady-state keyboard controller, which increases the usefulness and reliability of the MPE technology.

viii. Livid Instruments Minim:

Livid's Minim is a wireless controller for iOS and Mac OS X that has fifteen buttons, a slider bar, and eight touch-sensitive pads. Connect through Bluetooth to an iPhone, iPad, or Mac desktop computer to begin creating music with a favourite app or other music software. Additionally, 3D motion control opens up new possibilities for manipulating movement to modify audio. The long-lasting battery in the controller allows for its use while travelling to develop song ideas, play drum machines, create loops, regulate the transit in a DAW app, or execute any other MIDI-controllable activity.

The above-listed devices are not all that exist for selection and application for music production by music producers. Southern Utah University (2023) confirmed the above view by noting that there are a lot of other cutting-edge musical technologies available for use in music production. Cited examples of technological devices meant for music making are the modern audio workstations, as well as musical software-based virtual instruments which can be programmed into a computer system, and manipulated in the process of music production by music producers. The functionality of musical technology driven by the internet makes music production an easy job.

Technology in Music Production

Technology functions in music production in many ways. This attests to the importance of the adoption of 21st-century technology in the making of music. This view is acknowledged in the work by Trueschools. in (2015) where it was reasoned that technological advances, such as programming have helped to speed up a tempo, compress some of the sounds, and even remove some of the background noises. This indicates that technology functions favourably by infusing devices like software that can be programmed into a computer so that music-making becomes easy and simplified. In addition, JMC (2023) confirmed that technology has changed music production. This means that the function of technology when applied to the making of music is of great value. Producers in the music industry rely on technological apparatus seeing they have discovered the usefulness of the many recently developed devices. Technological devices related to music production have been identified in the work by Visible Music (2023) where a list of items was listed to include:

1. Computer Hardware:

The computer is an electronic device. It is used as a tool to provide output in the form of an alphanumeric representation of standard music notation or the actual printing of that notation. Thereafter, the notated music is performed by musicians using standard instrumental and vocal ensembles.

2. Musical Instrument Digital Interface:

MIDI is the short form of the term Musical Instrument Digital Interface. This is one of the technologies used for music production that allows electronic musical instruments to communicate with one another and with computers.

3. Audio Interface Hardware:

An audio interface acts as the front end of the computer recording system. It is connected to a microphone which a musician to record his or her singing. The microphone converts the physical vibration of air into an equivalent (i.e., "analogue") electrical signal, which travels down the connecting cable into the interface's microphone input. From there, it goes into the interface's built-in microphone preamplifier, which boosts the low-level microphone signal up to a hotter line level – something that's necessary for recording. (The quality of both the microphone and preamp has a significant impact on how good the recording sounds.)

4. Microphone:

A microphone is a device that translates sound vibrations in the air into electronic signals and scribes them to a recording medium or over a loudspeaker. Microphones enable many

types of audio recording devices for purposes including communications of many kinds, as well as music vocals, speech and sound recording.

5. DAW (Digital Audio Workstation):

A DAW or Digital Audio Workstation is music production software that gives the music producer the ability to record audio and produce music on the computer. The DAW is designed for those in the recording industry. The digital audio workstation's user interfaces replicated many of the same features of a multi-track tape recorder.

6. Studio Headphones:

Audio feedback monitoring - Artistes and instrumentalists use studio headphones to hear a mix of the track while they record their parts. Producing - Music producers use studio headphones to produce music when they're not using studio monitors.

Each and or / all of these have a significant function in the making of quality music.

The Impact of Technology on Music Production

Technology has impacted the making of music in modern times because of the many advantage technology has brought to the music industry. Southern Utah University (2023)

underscores the impact of technology on music production when it stated, "Innovative music technologies are also integral to the creation of a lot of modern music. Software-based virtual instruments and MIDI technology allow people to use millions of sounds in the production of their music, which musicians can program and manipulate in complex ways". Based on the above statement, it can be deduced that technology is very impactful because it has brought innovation to the music industry. It was found that technology assists massive products of music and standardized sound quality of music. Further, it is shown from the above statement that producers now have access to millions of sounds, and employ digitalization in the process, which makes production fast, flexible and cost-effective. Efurhiewe (2020) thinks that the rise of technology in the 21st century has shaped the world of music production and has greatly improved the process thereby; music-making has become easy. She further states that technology application has greatly enhanced producers' performance, provides storage facility and guarantees quality music production. Hence, it is assumed what music producers of yesteryears could not achieve is now being accomplished through the touch of a button because of the impact of digital systems on music production.

The study by Umeh (2021) found that the music industry is a huge beneficiary of the positive impacts technology has made on all sectors of the economy. According to the author, Technology has altered how music is transmitted, preserved, performed and composed. The author's observation implies that the music industry has become technologically compliant. In the same vein, Eyiuche and Adebowale (2020) appraised the extent to which digital technology aids music teachers and students. The authors found that technology simplifies the way music is taught and the way music is learnt. In other words, the adoption of technology for the training and education of musicians and other practitioners in the music industry is found to be an impactful experience in most modern classrooms. The impact of technology on music production is particularly discussed in several studies.

Wiley (2022) identified six major contributions technology has positively affected the music industry. An outline of this is given as follows:

1) Sharing & Accessibility:

The possibility brought about by technology driven by the internet makes sharing and accessibility of music a simplified activity for individuals and groups of individuals which were not possible before the advent of technology in the 21st century. Due to the effect of technology, the dynamics of sharing music have become globalized and also accessible globally. Time and space is no more a barrier to communicating music products with the presence of high-speed data transfer, music can be downloaded, and uploaded within a twinkle of an eye. This is a huge advantage of music brought about by technology.

2) Multi-track recording:

The National Museums Liverpool (2023) defines multi-track recording to mean a way of recording music in which separate recordings of multiple sound sources are made which are then used to create a single recording. This is made possible as a result of technology. It is against this backdrop that Multi-track recording is a vital technology in music that helps music producers record separate parts of a song and add them together. Before the advent of this technology, every element must feature in a piece of music. Thus, the positive impact of music technology favours music production. Within this process, each instrument or voice is recorded onto an individual 'track' (often at different times) and can then be played back simultaneously. Each track can also be mixed to the correct volume through a mixing desk and a variety of audio effects (such as reverb, delay, compression etc) can be added. This is the most common method of recording popular music and virtually all popular music is now made in this way

3) The lower technical ability bracket:

Technology has improved the performance abilities of musicians. This is so that musicians may perform their songs more easily and without as much stress thanks to the majority of technical musical instruments. With all of these fantastic new electronics comes a lower entry hurdle for writing what is occasionally very difficult music. Nowadays, music can almost exclusively be about ideas rather than how swiftly or brilliantly you can play your instrument.

4) Digital production software:

Technology enhances music production because of the different type of software that is manufactured for music production. Digital software for instance is the biggest game-changer for the music industry in the aspect of production. Digital Software has changed the way music is produced. This is because, it allows producers to record, write, and produce their songs to a high quality with greater ease. The employment of standard technologies in the process of music production has added a lot of improvement to the music industry. A majority of music producers rely on Virtual Studio Technology in the production of their music. This technology integrates effects units and software synthesizers into digital audio workstations to produce quality music sound. 9

5) Digital streaming software:

Digital streaming software has made many improvements in music as it allows us to listen to music anywhere we want and at any time. The tech industry is looking for ways to make video game streaming as natural as streaming music and movies.

6) New Synthetic sounds

New synths, sample manipulations, and new noises that we've never heard before will greatly impact how people compose music. Writing and recording music becomes easier, which allows much more people to partake in the activity. With advances in technology, it becomes easier to create. These evolutions are changing the way we listen to music, view, think about, and create music.

Through technology, people have increased access to music of different genres. According to Efurhievwe (2019), "recording technology has led to profound musical change and had led listening to music an interesting experience among the Nigeria youths today". Technology has other positive impacts on the music industry. It eliminates manufacturing, cataloguing, and promotional costs that are associated with music production. Artistes can also increase their distribution rates across the world in a very short time. However, technology has led to a breach of copyright through piracy. Although general logic reveals

how the increased distribution has translated to increased revenues, especially upon the elimination of manufacturing and cataloguing costs, the onset of technologies such as iTunes has led to decreased revenues in the music industry.

Conclusion

The relationship between technology and music production in the 21st century as it is discussed in this study reveals that there are both positive and negative aspects to the advancement of contemporary technology. The advancement of technology powered by the internet proves that music producers now have access to fundamental electrical equipment designed for music production. The music industry has made tremendous earnings as a result of the enormous impact. The research arrives at the conclusion that the use of technology has made producing music simpler.

Recommendations

The paper proposes the following recommendations,

- I. Music producers should make use of technology in the process of music production since it simplifies the production of music. 10
- II. Emerging researchers in the field of music production should adopt the latest music technology involving software in their work.

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