

The Effect of Technological Advances on Music in Tunisia

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Abstract: This article examines the effects of modern technologies on Tunisia's music creation and production. In a digital era, artistic and technical practices are evolving, leading musicians to take on multiple roles as creators, producers, and distributors. In Tunisia, this shift combines traditional and modern approaches. Based on theoretical reflections and real-world examples, the study highlights the emergence of new musical aesthetics, changes in production methods, and the main challenges linked to this transition. The aim is to understand how digital tools are reshaping the Tunisian music scene today.

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I. INTRODUCTION

The digital revolution and the emergence of new technologies have reshaped the global music scene, deeply transforming the way music is created, produced, distributed, and experienced. Since the earliest sound recordings, technological advances have played a key role in the evolution of artistic practices. Alongside these technical changes, it is important to remember that music creation remains an artistic process that brings together a variety of roles and skills. Every musical work begins with the input of an author who may be a lyricist writing the lyrics, a composer creating the melodies, an arranger structuring and enriching the piece, or even a translator adapting it from one language to another. Each role contributes to shaping the artistic identity of the work. Regardless of the specific function, their recognition depends largely on copyright systems, which highlight the importance of valuing these roles both artistically and professionally [1].

In the same context, music production represents a crucial stage where an artistic idea is transformed into a distributable work. It includes all the operations that turn an immaterial concept into a finalized product. This process is generally divided into two main phases. First, the preparation phase, during which pieces are selected, arrangements are developed, and demo recordings are created.

Second, the recording phase usually carried out in a studio where instrument and vocal tracks are recorded separately, then edited, mixed, and assembled into a coherent final version. While musical creation relies on a diversity of artistic roles, the production phase serves as its technical and organizational extension. Indeed, the quality of the final outcome and its impact on the audience depend heavily on the synergy between all contributors involved [2].

In Tunisia, we observe that these technological transformations are progressively reshaping musical practices on artistic, technical, and professional levels. The Tunisian musical which is rich in diverse styles ranging from Arabo-Andalusian *malouf* to *mezoued*, rap, rock, and electronic music, is now being reinvented at the intersection of tradition and innovation. Musicians no longer limit themselves to composing or performing; they also take charge of production, distribution, audience analysis, and direct communication with their audience.

This article explores the various ways in which new technologies are redefining musical practices, particularly in the Tunisian context. It explores the effects of technological tools on today's music scene in Tunisia. It examines their influence while highlighting the emergence of new sound aesthetics. The study also addresses the key challenges associated with this evolution, drawing on theoretical perspectives, practical insights, and real-world examples.

II. NEW TECHNOLOGIES IN SUPPORT OF MUSICAL CREATION

A. Computer-Assisted Music

The emergence of software such as Logic Pro, Ableton Live, FL Studio, Cubase, and Sibelius has opened new opportunities for many Tunisian musicians, enabling them to compose, arrange, and edit their works with greater accessibility. These tools have indeed transformed the landscape of musical creation by offering user-friendly interfaces to self-taught artists. Today, computer-assisted composition environments are no longer confined to isolated creative spaces. They are now capable of interacting with other software or external devices such as sensors, electronic instruments, or digital interfaces. This interconnectivity allows composers to manage the creative process more independently. For example, the software can capture external data such as sound, movement, or digital signals. It can then analyze this information in real time, store it, and adjust its behavior accordingly. They can also generate or modify musical elements automatically based on incoming information, allowing for dynamic and evolving forms of composition [3].

As part of this transformation, digital tools are also redefining the role of the musician. Unlike traditional practices, musicians are no longer tied to a fixed or permanent creative space. They can now compose, record, and produce music anytime and anywhere. This flexibility challenges the conventional image of the composer working in a studio. Thanks to the autonomy offered by new technologies, musical creation becomes a continuous, often fragmented and collaborative process. As a result, the musical work is seen as an ever-evolving object [4].

We can conclude that the artist is now becoming a versatile creator, capable of managing the entire music production process independently from composition to distribution. These tools also promote sonic experimentation, allowing for new ways to manipulate time, timbre, and musical texture, thus paving the way for emerging aesthetics. Moreover, the use of sound libraries and plugins now provides access to highly realistic sampled instruments. Some Tunisian musicians use these resources to reinterpret pieces from their musical heritage in more contemporary forms, redefining their relationship to cultural legacy and stylistic innovation. However, the easy access to virtual sounds also raises concerns about the potential loss of sonic identity and the risk of Tunisian music becoming too uniform.

B. The Home Studio as an Important Space for Creation

The emergence of home studios in Tunisia has led to a significant shift in how music is conceived, produced, and distributed. Thanks to the increasing accessibility of professional-quality recording equipment and powerful software, many enthusiasts have been able to set up fully functional mini-studios at home. The growing access to budget-friendly microphones, audio interfaces, and music production software has played a key role in the development of home studios in Tunisia. This trend has allowed independent artists to produce high-quality recordings

without relying on traditional studios. At the same time, the COVID-19 pandemic accelerated this movement. Health restrictions, lockdowns, and the broader social context pushed many musicians to turn their bedrooms into recording spaces. Despite the challenges brought by the crisis, this rapid adaptation enabled many musicians to maintain continuity in their creative work. The home studio thus became a solution for artists who could no longer access professional studios due to various constraints. Moreover, thanks to digital technologies and collaborative software, musicians were able to interact remotely, share files, and work together while preserving the collective dynamics of music creation despite physical isolation.

In addition, responses collected from Tunisian musicians working in home studios provide clear insight into how new technologies have influenced their creative process. For the majority of respondents, this creative environment has made music production more accessible, offering greater creative freedom, more flexibility, and reduced equipment costs. However, some musicians also mentioned certain drawbacks related to home studio use, including a tendency toward uniformity in musical output and a decrease in human interaction.

In this context, Tunisian festivals have provided valuable opportunities for artists by recognizing and presenting home studio creations. As a result, artists have felt more encouraged to use technological tools and try new arrangements to produce original works. In particular, the Festival of Tunisian Song and the Carthage Music Days, have taken steps to promote original music by introducing categories and competitions dedicated to independent projects. These efforts have helped reveal a greater musical diversity, highlighting the wide range of influences and creative approaches among Tunisian artists.

Moreover, the growth of home studios in Tunisia also seems to be influenced and supported by major artistic events such as performances by the National Orchestra and the Symphony Orchestra. Given their artistic significance, there is an increasing demand for specialized skills such as music transcription, arrangement, and composition tailored to the themes of each concert.

C. Artificial Intelligence, in Music Creation and Production

Today, artificial intelligence (AI) has become an essential tool in various areas of the music field, including creation, distribution, and personal consumption. However, the automation of the creative process raises important questions about ownership and the originality of AI-generated productions.

Despite these concerns, some musicians have started to explore the creative possibilities offered by AI. Systems are now used to suggest harmonies, melodic patterns, and sound textures within a co-creation process where the human guides and selects the machine's proposals. This collaboration between human and machine stimulates creativity and opens new perspectives for composers. It also allows for the stylistic reproduction of various musical genres. The interaction

between technology and human sensitivity challenges traditional concepts such as subjectivity, inspiration, and artistic control.

AI also enables producers to increase the speed and accuracy of musical performances. This technological advancement is transforming professional practices and creating new paths for innovation. Still, it is essential to remain cautious about potential side effects, such as aesthetic standardization or the loss of artistic control.

Furthermore, AI is now capable of generating lyrics, melodies, and even full musical compositions. This ability to automate parts of the creative process raises a critical debate about the future role of artists and composers. If AI can produce music independently, what role will remain for the human creator? This question is particularly important because style, originality, and emotion are at the heart of artistic value. Understanding these changes is key to anticipating how musical forms might evolve in the coming decades.

III. MUSIC PRODUCTION AND CHALLENGES ON NEW TECHNOLOGIES

A. *The Role of Digital Distribution Platforms*

Before the arrival of new technologies, listening to music required purchasing a physical medium such as a vinyl record, cassette, or CD. Later came MP3 files and digital downloads. In the past, listening to music meant owning it on a vinyl record, a cassette, a CD, or as a digital file stored on a computer. Music was something you kept, something that belonged to you, whether on a shelf or in a folder. Today, with an internet connection and an affordable subscription, it is possible to stream almost any music from anywhere in the world, at any time, from a phone, car, or computer. Platforms like Spotify, Deezer, and Apple Music have become everyday tools, accessible everywhere. This shift allows artists to share their music more widely and gain greater visibility. However, it also invites us to reflect on how we listen to and appreciate music today, in a world where everything is instantly accessible [5].

This new way of accessing music has profoundly reshaped listening habits. In a constantly evolving environment, the use of digital platforms is giving rise to new dynamics. For several years, the global music market has experienced a steady decline, especially in physical formats like CDs. In contrast, online music continues to expand. Streaming and download platforms are developing with diverse approaches. Some, like Qobuz, focus on high-quality sound and a catalog dedicated to classical music, while others, such as Jamendo, offer free and open-access content. Strategic partnerships, such as the one between Deezer and Orange, reflect an effort to broaden audiences through integrated services. However, to survive and stand out in a landscape still affected by illegal downloading, these platforms must constantly innovate and adapt their business models [6].

We can conclude that this innovation has deeply transformed the entire chain of music creation and production, while also reshaping how music is distributed and accessed. As a result, it has opened up new creative and economic opportunities.

Moreover, with the rise of technologies such as fiber optics and Wi-Fi, digital access continues to evolve and now plays a key role in various fields: online radio, television, music streaming platforms, and social media. Listeners can access extensive music catalogs through subscriptions. They can also upload their musical creations to digital platforms and generate income through streaming. This shift in access and distribution sets the stage for understanding the current state of music production in Tunisia.

Today, Tunisian musicians operate in an environment where the ways of creating and sharing music have changed significantly. In addition to traditional circuits, we now see the emergence of local festivals, cultural events supported by public and private institutions, and the growing use of streaming platforms, social media, and online distribution channels. These low-cost tools have opened many opportunities for music promotion. However, music production in Tunisia often suffers from a lack of creativity. A clear trend is the focus on covering or reimagining traditional music using modern technologies.

While this approach can lead to artistic refinement and technical improvement, it also risks distorting the original productions. At the same time, the growing use of music software, virtual instruments, and home studios has made music creation more accessible, but it has also shifted the focus from artistic expression to technical proficiency.

Today, a Tunisian musician must not only master digital tools and online communication but also understand how digital distribution works. This evolution reshapes the profession and creates a gap between those who have access to these tools and those who do not. Despite the opportunities offered by digital technologies, music production in Tunisia remains relatively stagnant. Much of it still relies on heritage repetition or commercial productions, often limiting opportunities for original expression. However, a few artists still manage to create original and high-quality productions that shows real artistic talent that should be encouraged and supported.

IV. NEW MUSICAL AESTHETICS

The use of digital technologies in music creation has brought new musical styles, combining different traditions and modern sounds. In Tunisia, many young artists blend local musical heritage with international trends to produce original pieces. This meeting of tradition and innovation is supported by computer music software, which offers a wide range of sounds, effects, and tools to shape musical textures.

These technologies have also changed the way Tunisian artists think about their creative process. With constant exposure to music from around the world through online platforms and media, some composers feel uncertain about their artistic direction. They try to protect their cultural roots while also adapting to the preferences of an audience shaped by global influences. This situation creates a delicate balance between staying authentic and being modern, which can sometimes limit their personal creativity.

Using computers for composing, arranging, and recording allows for more technical accuracy, but it may also reduce the emotional and expressive depth of the music [7].

Digital tools give artists more independence, but they can also create isolation by reducing real collaboration. They also increase the pressure to succeed commercially, where visibility and profit often take priority. This raises the issue of how to preserve Tunisian musical identity in a globalized world.

At the same time, the rise of digital tools has changed the core concept of musical skill. In the past, being a skilled musician meant mastering an instrument.

Today, it also includes knowing how to combine the use of music software, digital programming, and audio engineering skills. In Tunisia, this shift is especially visible among self-taught artists who have learned through online tutorials, forums, and collaborative platforms.

In this context, beatmakers and DJs have played a key role in bringing new musical styles into the Tunisian scene. They act as cultural bridges, mixing local sounds with electronic music, hip-hop, and global influences. This blend has also helped Tunisian rap grow in popularity and find its own identity. The Tunisian music scene has changed significantly with the arrival of new tools, the creativity of DJs and beatmakers, and the mixing of genres. These changes show that music can go beyond borders, reflect social and economic changes, and open new artistic paths.

V. CONCLUSION

Technological advancements have triggered a complex evolution in Tunisia's music creation and production, full of opportunities but also marked by significant challenges. The rise of home studios, computer-assisted music production, artificial intelligence, and streaming platforms has placed Tunisian artists in a constantly changing environment. This new context reshapes their working methods, their public relationships, their status, and their role within the national musical scene. These advancements have made music creation more accessible, encouraging the growth of an independent scene and supporting new forms of aesthetics and distribution.

However, this openness also brings risks. It can push artists to follow trends, standardize content, and weaken support structures for original creation. While digital tools enhance creative freedom, they also require musicians to master technical tools, stay visible online, and manage their careers.

In this context, the digital transition in the music sector must be accompanied by deeper reflection on economic and educational issues. It is crucial to build effective strategies for digital practice, strengthen support for innovative creation, promote cultural identity on international stages, and raise awareness among young artists about the challenges of the digital age. The future of Tunisian music will not depend only on the tools used, but on how these tools are integrated and adapted to the local context. The challenge lies in finding balance between preserving cultural heritage and exploring new artistic paths, while also supporting both individual creativity and collective collaboration. The key challenge is to build a musical ecosystem that supports artistic ambition while respecting Tunisia's cultural identity.

While new technologies have reshaped the current state of music, composition, creation, and production have become more accessible, they also raise essential questions about the traditional role of instrumentalists in the creative process. Digital tools give composers more freedom, but they can also weaken the human connection. Focusing only on technology can sometimes hide the importance of human expression. It is therefore important to find a balance, not by opposing humans and machines, but by encouraging interaction between them to enrich musical expression.

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