Proceedings Bali Bhuwana Waskita: Global Art and Creativity Conference
2024, Volume 4, pages 36-41, ISSN 3026-233X (online)

PROCESSING OBJECT SOUNDS, AN EXPLORATION OF SAMPLING IN DIGITAL MUSIC

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ABSTRACT
The practice of sampling-capturing, manipulating, and recontextualizing sounds from the physical world-has become the cornerstone of digital music production. Among the diverse ranges of sampled sounds, object sounds-auditory impressions derived from everyday items and environments-offer unique creative possibilities. This study explores the process of incorporating object sounds into digital music, examining how they can be recorded, manipulated, and transformed through various digital tools and techniques. The ability to sample objects provides musicians and sound designers with a rich palette to create unconventional textures, rhythms, and sonic landscapes. Additionally, this exploration delves into the psychological and emotional impact of object-based sounds on listeners, considering how they evoke memories, sensations, or associations. By investigating the intersection of field recording, digital processing, and music composition, this study underscores the artistic potential of object sounds in shaping the future of experimental and mainstream music production. As digital tools evolve, the role of object sounds continues to expand, thereby encouraging new forms of auditory expressions and interactivity in the music industry.

KEYWORDS
Sampling, Object Sounds, Digital Music, Sound Design

Introduction

The evolution of digital music production, particularly sampling, has significantly transformed the landscape of sound creation and manipulation. Sampling, which involves taking segments from existing recordings—whether instrumental, vocal, or environmental—has become a fundamental practice in various musical genres, especially hip-hop and electronic music. This technique allows producers to integrate diverse sounds into new compositions, thereby expanding the creative possibilities within the digital music realm [1],[2].

The integration of sophisticated software and hardware tools has further enhanced the capabilities of music producers, enabling them to manipulate sounds in innovative ways. Digital Audio Workstations (DAWs) have democratized music production, allowing individuals with minimal musical training to create high-quality music that rivals

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professional standards [3]. This accessibility has led to a proliferation of new musical styles and trends, as producers experiment with unconventional sounds sourced from everyday life, which can carry intrinsic contextual meanings that influence the musical discourse. The manipulation of these sounds not only enriches the aesthetic quality of music but also raises questions about the cultural implications of using non-traditional sound sources in contemporary compositions [4].

Moreover, the concept of embodied cognition in music production has gained traction, emphasizing the physical interaction between musicians and their instruments or sound sources. This approach fosters a deeper connection to the music being created, as producers engage with sounds in a tactile manner, often using gesture-sensing technologies to control digital sounds [5],[6]. Such advancements highlight the blurring of lines between the physical and digital realms, as producers increasingly rely on their physical movements to shape musical outcomes. This embodied experience is essential for understanding the nuances of sound manipulation and the emotional responses it elicits from both creators and listeners.

Object sound sampling in contemporary digital music production is a multifaceted topic encompassing historical, technical, aesthetic, and cultural dimensions. To understand its significance, it is essential to trace the evolution of sampling from its origins to current applications across various musical genres.

Historically, sampling has emerged as a revolutionary technique in music production, allowing artists to incorporate pre-recorded sounds into new compositions. This practice was rooted in early hip-hop and electronic music, where producers utilized vinyl records and tape loops to create innovative soundscapes. The advent of digital technology has further transformed this landscape, enabling more sophisticated manipulation of sound. As noted by Landy, the transition from traditional music-making to sample-based compositions has democratized music production, allowing a broader range of artists to engage with sound in creative ways [7]. This shift has been facilitated by advancements in software such as ProTools and Reason, which provide tools for recording, mixing, and manipulating sound samples [8].

From a technical perspective, object sound sampling involves various hardware and software tools utilized by contemporary producers. The integration of digital audio workstations (DAWs) has allowed extensive editing capabilities, enabling artists to layer, pitch-shift, and apply effects to sampled sounds. The design framework proposed by Horvath et al. highlights the potential of 3D modeling and digital fabrication in sound design, suggesting that the interplay between sound and physical objects can yield novel artistic outcomes . Moreover, the ability to sample sounds from diverse sources, ranging from natural environments to urban soundscapes, opens up new avenues for creativity in music production.

Object-sound sampling offers unique artistic possibilities. This allows musicians and sound designers to explore the sonic qualities of everyday objects, transforming them into musical instruments. This practice not only enriches the auditory palette available to composers but also challenges traditional notions of what constitutes music. Landy emphasizes the collaborative nature of contemporary sampling culture, where artists can engage with each other's work, fostering a community of creativity that transcends individual authorship. This collaborative spirit is evident in genres such as electronic music, in which sampling is a [9], foundational element that encourages experimentation and innovation.

However, the cultural and legal implications of object-sound sampling cannot be overlooked. The use of sampled sounds raises significant copyright issues, as artists must navigate the complexities of intellectual property rights. The legal landscape surrounding sampling has evolved, with landmark cases influencing how artists use existing recordings in their work. This has led to ongoing debates on the ethics of sampling and the balance between artistic expression and copyright protection. The democratization of music production, while empowering many artists, also raises questions about the ownership and originality of sampled material.

Method

The study of object sound sampling in digital music production requires a comprehensive understanding of various methodologies, particularly through a mixed-methods approach. This approach allows for a nuanced exploration of the historical and contemporary practices surrounding sampling techniques, as well as the technological and creative dimensions involved.

Literature Review: A thorough literature review is essential for contextualizing the findings within the broader discourse of sound studies and digital music production. This method has been effectively employed in various studies to synthesize existing knowledge and identify gaps in the literature. For instance, the work by Cheng et al. illustrates the importance of a mixed-methods approach in educational research, emphasizing how triangulation of qualitative and quantitative data can enhance the validity of findings [10]. Similarly, Oliveira's research on DIY music careers highlights the utility of mixed methods to capture diverse perspectives within independent music scenes, thereby enriching the understanding of sampling practices [11].

Case Studies: The analysis of specific case studies featuring object sound sampling is crucial for understanding the creative choices made by producers. Close listening and deconstruction of notable tracks can reveal insights into the artistic and technical decisions that shape the final product. This aligns with the findings of Björk et al., who advocate for mixed-methods research in music education to better understand complex musical processes [12]. A detailed examination of case studies allows for a deeper

appreciation of how sampling is employed across different genres and contexts, reflecting both commercial success and avant-garde experimentation.

Interviews and Surveys: Conducting interviews and surveys with industry professionals provides valuable qualitative data that can illuminate current trends, challenges, and innovations in object sound sampling. The mixed-methods approach, as discussed by Crossley and Edwards, is particularly effective in capturing the multifaceted nature of social phenomena, such as the collaborative processes in music production [13]. By engaging with producers and sound designers, this study can gather firsthand accounts that reveal the intricacies of sampling practices and the evolving landscape of digital music production.

Technical Analysis: A technical analysis of the software and hardware used in object sound sampling is vital for understanding the tools that facilitate these creative processes. This includes an examination of Digital Audio Workstations (DAWs) and sampling libraries, which are integral to modern music production. The systematic review methodologies employed by various studies, such as those by Tricco et al., demonstrate the effectiveness of structured analyses in synthesizing technical information across disciplines [14]. This technical insight complements the qualitative findings from the interviews and case studies, providing a holistic view of the sampling landscape.

Ethnographic Observation: Ethnographic observation at music production workshops and festivals offers a practical lens through which to observe the application of object sound sampling in real-world contexts. This method allows researchers to witness firsthand the interactions and practices of musicians and producers, thereby enriching our understanding of how sampling is integrated into live performance and collaborative settings. The importance of observational methods in music research is underscored by the work of Levac et al., who emphasize the value of qualitative insights in advancing methodological approaches [15].

Discussion

The research revealed several key findings regarding the practice of sampling object sounds in digital music:

1. Technological Advancements: The rise of sophisticated software tools has allowed for a more nuanced manipulation of object sounds, including the ability to stretch, pitch-shift, and filter recordings with greater precision. Tools like Ableton Live, Logic Pro, and specialized plugins offer unprecedented control over the transformation of sound, enabling producers to create entirely new sonic textures from seemingly mundane sources.

2. Increased Popularity in Experimental and Genre-blending Music: While sampling has long been integral to hip-hop and electronic genres, object sound sampling has seen significant adoption in experimental and genre-blending music. Producers are increasingly incorporating sounds from everyday objects—such as the hum of a refrigerator, the clink of coins, or the rustle of paper—into their compositions to add unique sonic layers and enhance the emotional impact of their music.

3. Aesthetic Value and Creative Exploration: Object sounds are often chosen not only for their sonic qualities but also for their ability to evoke specific emotions or memories. These sounds are frequently employed to create a sense of intimacy, nostalgia, or surrealism. The growing interest in "found sound" and field recordings reflects a wider cultural shift toward valuing authenticity and imperfection in music production.

4. Cultural and Legal Considerations: The practice of sampling, including object sound sampling, raises complex questions regarding copyright and intellectual property. While some argue that object sound sampling democratizes music production by making it accessible to a broader range of creators, others express concerns about the ethical implications of using recordings without permission. Legal frameworks around sampling continue to evolve as new challenges emerge in the digital age.

5. Impact on Music Education: Sampling has become a critical component of modern music education. Institutions are increasingly offering courses and workshops on sound design and sampling techniques, reflecting the growing recognition of sampling as an art form. Moreover, the accessibility of digital audio software has lowered the barriers to entry for aspiring producers, enabling more people to experiment with object sound sampling from the comfort of their own homes.

Conclusion

Creative and technical dimensions of digital music production. This practice has opened up new avenues for sound exploration and has fostered greater experimentation within various musical genres. As technology continues to evolve, the boundaries of what constitutes a sample will likely continue to expand, further blurring the lines between original composition and manipulation of pre-existing sounds. The aesthetic possibilities presented by object sound sampling encourage a deeper engagement with the material world, inviting listeners to reconsider the sonic landscape that surrounds them. At the same time, the legal and cultural complexities surrounding sampling demand that artists, producers, and legal experts work together to find a balance that respects both creativity and intellectual property rights. In conclusion, object sound sampling is not only a technical tool but also a profound form of artistic expression, one that challenges

our understanding of music production, sound, and creativity in the digital era. Employing a mixed-methods approach that encompasses literature reviews, case studies, interviews, technical analyses, and ethnographic observations provides a comprehensive framework for studying object sound sampling in digital music production. This multifaceted methodology not only enhances the depth of analysis but also fosters a richer understanding of the creative and technical dimensions of sampling practices.

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