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The Ethical Dilemma of Pitch Correction and Its Influence on Singer Quality in the Popular Music Industry

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Abstract

The modern music industry has undergone a significant transformation with pitch correction technologies such as Auto-Tune and Melodyne. These technologies enable precise vocal intonation correction, increase production efficiency, and provide accessibility for newcomer singers. However, their use also results in a sense of security for singers when recording, preventing them from further honing their vocal skills and creating ethical dilemmas. In addition, listeners are often unaware of the technological engineering behind the recorded songs they listen to. This research uses a qualitative approach with a literature review method to explore the effect of using pitch correction on the singer's vocal quality and the ethical dilemmas that arise. The literature reviewed includes scientific articles, books, research reports, popular articles and relevant digital or social media platforms. This article integrates the ethical perspectives of deontology and teleology to analyze the ethical limits of using pitch correction. The results show that while pitch correction supports musical innovation, unwise use can obscure vocal authenticity and create certain expectations for listeners. Therefore, this article highlights the importance of balancing the benefits of technology with the values of authentic artistry. Through transparency and in-depth honing of vocal skills, pitch correction can be used appropriately without compromising the integrity of the singer and the expectations of the listener.

Keywords: *Pitch Correction; Auto-Tune, Singers; Ethics; Popular Music*

Introduction

In recent decades, the music industry has experienced a surge of rapid development. This is influenced by the advancement of technology and its growing use in music production. The digitization of music distribution has also experienced a dramatic increase due to the development of these technologies (Ruddin et al., 2022a). In distributing music, there is certainly such a process in it. The current music production process not only involves creativity and artistic talent but is also supported by technology that allows sound manipulation to produce singing sounds in a song that looks perfect and has more appeal. Technology, especially in music production technology, has helped simplify, speed up, and even reduce the costs involved in a music production process. This aims to achieve effectiveness and efficiency in the process (Andriyanto, 2020).

One of the music production technologies that functions to enhance the vocals in a song is pitch correction technology. Pitch correction is a crucial process in improving sound quality in the recorded music industry. This process involves carefully adjusting the pitch to harmonize the intonation or pitch accuracy of the singing to be more harmonious, precise, and more pleasing to the audience (Hai & Elhilali, 2023). Pitch correction technologies that are often heard and also used are Auto-Tune and Melodyne software. As it is known that the pitch correction *software* is used to perfect the notes that are less precise in vocal recordings to become the right tone according to the basic tone of the music, but over time in practice the function of this technology has expanded to eventually become a standard in the music production process of the modern music industry. This is because pitch correction technology on vocals is an important part of the music production process today (Vilkman, 2020). Today, pitch correction tools such as Auto-Tune are a must-have for every recording studio or music producer who wants to produce high-quality music (Alessi, 2023). In the world of popular music, more and more artists are relying on Auto-Tune to improve their vocal abilities and to produce more stunning sounds in their songs (Borland, 2023).

In this digital era, seeing the pitch correction technology that has spread and swelled in the music production process used by music producers makes the popularity of singers not only determined by their vocal technique skills but how the results of sound production in the recording of their songs also become one of the main elements in determining the quality of songs that have been considered ideal by the public. Therefore, the ability of music producers to understand people's tastes from time to time and then apply and adjust the use of pitch correction in the songs they work on is also very important. However, this phenomenon invites many singers or even ordinary people to be interested in publishing their songs by relying on this technology so that the sound produced even if it is out of tune or there are tempo errors and other imperfections is considered safe in the hands of music producers because it will be edited into a more perfect and "safe" work to be listened to and marketed in the music industry. This has two opposing impacts. On the one hand, technological advances or the widespread use of pitch correction opens up opportunities for anyone who does not master vocal techniques seriously to produce works that can even remain popular with the public. On the other hand, this technological advancement has also begun to blur the line between original vocals and vocal engineering from technology that creates a new standard of authenticity. Pitch correction, commonly known as Melodyne or Auto-Tune applications, as it is known that this technology has influenced the development of the music industry, especially in the world of voice attraction. Songs produced using pitch correction give the impression that the singer has good control over his vocal technique, especially on intonation, despite the fact that the result is a product of technical engineering (Hai & Elhilali, 2023). Intonation is a vocal technique related to the accuracy of aiming at the pitch (Tambunan, 2021).

Auto-Tune was first invented by Dr. Andi Hildebrand in the 1990s. This technology was not created to completely change the singer's voice, but only to correct minor flaws in the singing (Times & Belinda, 2021a). In the beginning, Hildebrand left his oil company in 1989 to study music composition at Rice University's Shepard School of Music and continued to develop his pitch correction technology until Antares Audio Technology produced and released Auto-Tune in 1997 (Pratiwi, Ratna, 2022). The function of the tool in addition to correcting the pitch can also be used to make the sound get a robotic impression, breaking the sound, and similar effects (Brown, 2012). In an interview with experienced music producers, one producer mentioned that although pitch correction can improve the quality of vocal recordings, this technology also poses an ethical dilemma, because the public does not always realize that the sound heard is not purely from the singer's vocal ability (Vilkman, 2020). The existence of this technology in a positive view generally makes it easier for music producers to produce songs because it will speed up the vocal recording process for singers who are less able to aim perfectly. Instead of repeating the singing until it is perfect, the singer only needs to sing the song as best he can and the rest is the work of the technology. Of course, this also makes the time used for the recording process shorter.

Initially, the use of Auto-Tune was not so widespread because only certain musicians used it. But over time, the secret of using Auto-Tune was revealed and made the music industry no longer the same as before because almost all popular songs utilize this technology to correct the tone or give certain effects (Pratiwi, 2022). The issue of pitch correction has become quite a dilemma for people who follow the world of music. This is because because of the skill of this technology, at this time it is quite difficult to distinguish between singers who use this technology or those who really show their authenticity (Puspasari, 2021). Thus, this article will answer the questions that circle the heads of music thinkers who wonder about how the use of pitch correction technology has a certain influence on the quality of singers, especially today in their careers, and what are the ethics of using pitch correction in the realm of the popular music industry?

Methods

This research utilizes a descriptive-analytical literature review approach to explore the use of pitch correction technology, its influence on singers' vocal quality, and the ethical dilemmas that arise in the popular music industry. This qualitative research with literature review method is used to identify the main themes found in the literature reviewed which allows researchers to map the emerging themes in a structured and systematic manner (Dewi et al., 2023). This method was chosen because it provides flexibility in accessing a wide range of relevant literature and media sources that can support the research by focusing on exploring theoretical and empirical secondary data without involving structural field data collection. As an approach in qualitative research, this literature review focuses on critical analysis of the results of searching various relevant and reliable sources and literature such as scientific articles, books, research reports, popular articles as well as digital or social media platforms that discuss topics related to pitch correction technology, standards of authenticity of singers' vocals, ethical aspects in their use, and the like. The literature used includes topics related to pitch correction technology, changes in public perception of singers and singer quality, new standards of the popular music industry, ethical theories of deontology, teleology, and the like.

This approach can be used to identify trends and impacts caused by the use of pitch correction technology from various perspectives, both from a technical, artistic, and ethical point of view. The analysis is carried out by bringing together or grouping data based on the main themes and then the data is interpreted exploratively, descriptively, and critically to reveal in depth how the use of pitch correction technology affects the quality of singers and the ethics of its use in the popular music industry.

This research still emphasizes the importance of reviewing reliable sources even if there is no direct experimentation or data collection and also ensuring and paying attention to the ethics of using existing sources respectfully. The literature review method has two important aspects: it must present the findings or statements that have been produced from previous research on a topic in a concise manner, and then the literature review needs to evaluate the accuracy and completeness of the knowledge contained in the relevant sources and convey a critical analysis of what is valid, what is unclear, erroneous, and things that still need further research in the existing literature (Knopf, 2006).

Results and Discussion

1. The Effect of Pitch Correction on the Vocal Quality of Singers

Singer in this case needs to be quoted with the real meaning considering that at this time it is difficult to define what a singer is? What is a singer like? The use of technology to record the singer's vocals certainly has a significant impact on the singer himself. Why is that? This is because anyone, whether the original singer, aka a singer with the right voice and vocal technique, even those who are not

singers or can actually be a singer who has good technique but because of technology, it makes the singer not optimize his technique, aka singing improvised, in this digital era all can still produce song recordings with pretty good tone and quality because of it. In essence, the existence of Auto-Tune as a pitch correction disguises the public's assessment of the "Real Singer", where the standard singer is able to sing songs with good and correct technique. This is not only for artistic purposes but also to maintain the health of the vocal cords because the wrong technique can cause serious injury to the vocal cords (Tysara, 2023). A singer must be able to perform his singing performance well and also remain himself (Guffe, 2023).

One American singer, Britney Spears, is a well-known artist whose songs are highly popular. However, news surrounding her has often been controversial, particularly due to her frequent use of lip-syncing during live performances. This has fueled speculation that her work relies heavily on technological enhancements. Britney's vocal quality has been criticized, especially after a leaked video of her live singing surfaced on social media, revealing a noticeable difference from the polished recordings of her songs. This disparity is attributed to the use of modern technology, such as Auto-Tune, which many contemporary artists utilize to produce vocals that sound flawless in their recordings (Fallon, 2014). In addition, this fact has also been traced to the uploading of videos before and after Britney Spears' voice was processed and edited. In the video, the voice before processing appears to actually sound raw (Browning, 2014). This relates to the relationship between the use of assistive technology such as pitch correction and how it affects the quality of the vocalist themselves when not using the technology and by using it. *The* pitch correction *editing* effect or model was also used by the famous singer Avril Lavigne in the song "Complicated" and managed to get 728 million views on her YouTube channel (McGowan, 2012). This number is not a small number for a singer so it can be said that the song is very popular and favored by the public even though on the other hand her singing is also enhanced by Auto-Tune. Pop singer Kesha also utilizes this technology in her songs with the aim of making the pitch stable such as in the song "Tik-Tok" (Brown, 2012). In addition to those mentioned, there are still many famous singers who continue to use the technology as an effort to achieve *pitch-perfect vocality*, both singers who actually have sufficient vocal skills to singers who do not understand vocal techniques at all or are pitch-blind. In this case, Auto-Tune, Melodyne, and all vocal correction technologies allow popular artists to create impact and new perspectives for listeners and music lovers that also create various connotations and coherent effects in the ears of these listeners (McGowan, 2012).

In the Indonesian music industry itself, the use of Auto-Tune has almost been mastered by various music producers, of course, its use raises various pros and cons (Watung, 2024). Recently, many new singers have emerged who are quite talented in Indonesia, one of which is named Keisya Levronka who is a dropout from the Indonesian Idol singing event. One of Keisya's songs entitled "Tak Ingin Usai" is her most famous song, which managed to penetrate up to 100 million viewers in the early days of its release (Anggraini, 2022a). For a newcomer singer, of course, this achievement is quite *bombastic* and even exceeds the legendary Indonesian singers who have existed before. The number of searches and the number of viewers of the song even beat world-famous songs at the time such as Joji's "Glimpse of Us" and also "As it Was" by Harry Style, a former member of the British boy band One Direction. In addition, Keisya's song also took first place in Google Trends searches in 2022 (Anggraini, 2022b). Of course, this fantastic achievement on digital platforms is due to Keisya's songs and songs that are suitable and sound comfortable to the public's ears.

However, this is in stark contrast to some of Keisya Levronka's live performances, where she has faced significant issues with the same song. These failures, which can be considered quite severe, often occur because Keisya struggles to reach high notes and frequently sings off-key or experiences voice cracks, unlike the polished version heard in the song's recording (Lova & Pangerang, 2023). This certainly made Keisya blasphemed and raised many questions from the public. Why does the recording of the song sound so melodious, the notes sung are all right until the high notes are also able to be chanted, but why when live on stage does this happen? Keisya faced more criticism as she kept repeating the same mistakes in her live performances. Audiences, used to her melodious recordings, were surprised by her

off-key singing (Rahmaliyah, 2022). This clearly shows that a flawless recording does not always reflect a singer's true vocal ability. The reliance on technology can diminish the focus on refining vocal techniques, resulting in less polished live performances. As a result, singers may struggle to deliver their best for both online and live audiences.

This, of course, has an unfavorable effect on the singers themselves. Instead of focusing on warm-ups and exercises to improve their skills, singers may become less diligent in honing their vocal abilities. Nowadays, especially after the COVID-19 pandemic, there are many new singers emerging in Indonesia. With everything shifting to digital platforms, anyone can record their voice, and if it is less than perfect, pitch correction technology—which is widely accessible—can adjust the notes to make them sound accurate. For producers, while this technology makes their work easier, it also presents a slight challenge. Producers must master the pitch correction tools they choose to ensure the edits produce results that sound natural and seamless, so that listeners do not notice any artificial effects.

2. The Ethical Use of Pitch correction in the Realm of the Popular Music Industry

Ethics is a science that explains good and bad, explains what should be done, determines the goals that must be addressed in every action and shows how the path is for mankind (Amin, 1983, in Maiwan, 2018). In the realm of using pitch correction, viewed from an unethical angle, this technology makes singers' performances inauthentic and gives a false impression to the majority of listeners that the singers are "perfect", when in reality they are just ordinary humans who can make mistakes like other people. As a result, singers become lazy to learn the correct technique or vocal technique to the potential that the singer actually has because they have relied on technology to solve problems and help with work. This contributes to the current phenomenon of music culture, where it can be said that many people in the music industry do not respect what a "real singer" needs. This technology makes singers sound whiny or shallow as Auto-Tune increasingly steals the depth and color from a singer's voice and singers are either consciously or unconsciously forced to submit to this technology in order to achieve perfection that meets expectations instantly and easily (Garisson, 2017).

Fundamentally, the use of this technology raises moral questions about authenticity in art, particularly in vocal authenticity. The audience receives a song from digital media, listens, enjoys, and judges it. But their assessment and satisfaction with the singer's voice on the song is unknown to them whether there is a process of manipulation of the singer's voice or not, while of course the listener will also look forward to the live and real performance of the favorite singing artist. Some critics highlight that the use of this technology reduces respect for the singer's natural vocal abilities. As already exemplified, artists who rely on pitch correction as a primary aid may run the risk of losing credibility when performing live as was the case with Britney Spears who often used *lip sync* to maintain a voice quality that matched her recordings (Browning, 2014). In fact, we also do not know clearly what her performance will be like if vocal training is done intensely and without relying on technology either Auto-Tune or *lipsync* from the beginning, who knows if it turns out that her voice both recorded and live can be the same or even better? This also applies to all singers.

The music industry originally created songs that were produced and consumed physically, but today it has shifted to digital where the form and results can be transferred around the world (Ruddin et al., 2022b). With that, what goes on behind the song is inaccessible to the public in the sense that it can obscure the "right" judgment for the public. This dilemma relates to the public's stigma towards a singer who appears on a digital platform whose singing is not off-key at all or good enough where behind it the public does not know what they are listening to is largely the result of pitch correction technology or purely because the singer has good intonation and a pretty good performance.

a. Changes in Perception and Unrealistic Expectations of Singers

At the beginning of the appearance of pitch correction, especially Auto-Tune, its appearance created significant progress for the music industry because of its function that helped producers and singers achieve good and fast audio performance. Perception is a process that starts from a response or observation to produce a response from within a person so that a person will be aware of everything through his five senses (Susilowati & Moerad, 2016). Humans are created to have differences with one another (Iffah & Yasni, 2022). Changes in the perception of singers, especially in modern popular music, began to appear since pitch correction technology became an integral part of the music production process. As is known, initially the perception of listeners and music lovers assessing the vocal abilities of singers directly through natural sounds has now shifted towards assessing the sound behind it has been manipulated by technology. Of course, listeners unconsciously accept the recording as a pure representation of the singer's vocal ability, without recognizing the engineering process behind it (Jarvis, 2016). These changes have created new, arguably unrealistic expectations of singers. There is an assumption that singers must have perfect vocals that match the studio recording, despite the fact that the sound is often the result of pitch correction editing. An example of this can again be seen in the case of the distinctive-voiced singer Keisya Levronka who was successful with the song "Tak Ingin Usai" but was criticized several times in her live performances because her voice was considered not comparable to the sound on the recording of the song (Lova & Pangerang, 2023). This change has also affected the way producers work. Music producers feel pressure to create "flawless" or safer vocal *edits* so that they can be accepted by the market, even if this sometimes sacrifices the authenticity of the singer's vocals. In this way, this change in perception not only changes the way listeners perceive music, but actually also has an impact on the creative process that occurs in the music industry itself.

Cher's "Believe", released in 1998, is one of the songs that went through the Auto-Tune process in the early days of the technology. The futuristic vocal processing in the song changed the global sensation and gave certain emotions, as well as starting the popularity of Auto-Tune as pitch correction in the world of popular music as the mainstream of the music industry. The way Auto-Tune works is quite simple by entering the base note of the song and then *the AI* in the software will analyze the vocal recording to be edited and then the "wrong" notes are corrected by shifting them up or down to match the desired pitch, as well as other pitch correction software also works more or less like that. Apart from correcting the pitch, Auto-Tune can also be used *over* or deliberately maximized to create a certain impression. This depends on the concept or *branding* that each singer wants (Hassard, 2023). Since the emergence of Auto-Tune as pitch correction, the music world can be said to have changed completely because of its "functional" function. However, its appearance in the music industry still raises pros and cons (Times & Belinda, 2021b). Using Auto-Tune for pitch correction or certain effects, the results are usually on the spectrum of "pleasant to hear" or "painful to hear". This explains that using Auto-Tune is not just a simple application, but there are complex things in it, as said by a musician who also uses Auto-Tune, T-pain, who said that there are many things to understand about Auto-Tune before using it (Hassard, 2023). Of course, the thoughts of "pleasant to hear" and "painful to hear" are a manifestation of the perceptions and expectations of producers, singers, and listeners of a song so that it cannot be separated from the pros and cons related to the ethical dilemma in the use of pitch correction today. The issue changes the way listeners understand vocals. This is because the use of pitch correction gives the raw sound an emotional impact over the processed sound, creating a new relationship between emotion, body and voice in popular music (Provenzano, 2019).

Thus, the emergence of this technology has not only revolutionized the music industry from a technical perspective, but also profoundly changed the way people understand the vocal quality of a singer. As it is known, the ability of a singer is judged by his vocal authenticity which includes vocal technique, mastery of intonation, and the emotional power conveyed by the singer through his singing. However, with the widespread use of pitch correction in modern music production, the standard of judgment has begun to shift. This new standard blurs the line between authenticity and technological

manipulation, creating unrealistic expectations for singers. Ultimately, these changes challenge the music industry to find a balance between meeting the market demands of a music industry that prioritizes technical perfection and maintaining the integrity of authentic artistry. In essence, the change in perception resulting from the use of pitch correction reflects a dilemma in the modern popular music industry. While this technology also provides opportunities to produce high-quality music, its impact on public perception, expectations and the value of the art of music is an issue that needs further attention.

b. The Ethical Dilemma of Using Pitch Correction

As we know, Auto-Tune and Melodyne as pitch correction have given new color and inspiration to the music industry through their ability to improve intonation or pitch accuracy in vocals quickly and effectively. However, their use creates an ethical dilemma, especially in the context of transparency to the listener's ears. In a general definition, an ethical dilemma is a situation that occurs when a person must choose between two options where both are morally right but contradictory (Rahmawati & Sulastri, 2023). Pitch correction can indeed correct the pitch of vocals that are not quite right during recording and can also organize rhythmic or tempo naturally (Andriyanto, 2021). However, its use raises ethical dilemmas, especially in the realm of the music industry. Of course, using or not using this technology in working on a song production is a choice for producers and singers. This is related to the thought of whether it is always okay to use pitch correction? Then, is it possible for pitch correction to become mandatory in the song production process in this era and beyond? What are the consequences if so?

The ethical dilemma in this case, relates to the ethics of using pitch correction considering that the technology is almost impossible to destroy, aka it already exists and will exist forever in the world of the music industry. How it will exist depends on how it is used (Murphy, 2024). In addition, given that the use of pitch correction can sound very clear to the general listener, but in some cases its use is not realized by the listener at all (Jarvis, 2016). This means that whether or not a voice is edited in a song on a digital *platform* may not be known by the public so that what is considered ideal by the public is not necessarily the original form of the singer's ability to sing the song with the correct vocal technique. This phenomenon worries singers who struggle to train their vocals because their popularity could be displaced by newcomer singers who succeed in captivating listeners with their work either using pitch correction progressively or only with natural use because of course the frequent use of these technologies can make listeners accustomed to polished voices. As we know, the emergence and widespread use of this technology only started in the 1997s, so what about the songs that existed before that? *Old* songs did not go through the vocal *tune* editing process at all, because the tools did not exist yet. But why was it not a problem at the time? Of course, the voice might have been slightly out of tune, but at that time, it wasn't considered unusual, and listeners could still enjoy the song. As discussed earlier, this was because there were no singers with heavily polished voices, so listeners were accustomed to it. Additionally, singers sounded equally good in both recordings and live performances. This is different from today, where pitch correction is used everywhere, and a singer's live performance can sometimes differ from their recorded voice.

In relation to how this touches the boundaries of ethics in life, especially in the ethical use of vocal engineering technology in popular music through pitch correction in the music industry, considering that in the use of technology there are ethics aimed at not crossing boundaries and being used properly (Hidayah, 2018). Ethical theories that can provide an overview of this include teleological ethical theory and deontological ethical theory. Teleological ethical theory is a theory that explains an action will be considered moral if it is based on the goals to be achieved by the action. In addition, in the concept of teleology, the focus is directed at assessing the consequences of the action taken rather than examining the action itself (Rahman et al., 2021). Meanwhile, the deontology theory is an ethical theory coined by Immanuel Kant. Based on the view of this theory, it explains that the actions and decisions carried out by humans are not so highlighted by their purpose, but are related to whether the actions and decisions are obligatory or not to be carried out (Abidin, 2021). According to Kant, an action is considered moral or

ethical if it is motivated by a sense of duty, on universal principles without contradiction, and supports honest values without harming other parties. In this case, what is meant is that if the technology is used solely to manipulate the whole and also bypasses the good intentions of the action then the action can be unethical (Ramadhan & Handiki, 2024).

In deontological ethical theory, as explained, whether an action is ethical or not is seen based on obligations and universally good principles, not seen from the results produced by an action taken. Immanuel Kant as the originator of this theory essentially emphasizes honesty and obligation in acting ethically or morally in accordance with principles that can be accepted in society at large. Based on an understanding of Immanuel Kant's deontological theory, the use of pitch correction can be immoral if it is done without transparency to the listener regarding its actions in creating a false impression of the singer's vocal ability because it is considered to violate the principle of honesty. As exemplified, listeners may not realize that the singer's voice they hear in the recording has gone through a progressive pitch correction process. In this case, if the producer does not disclose the use of this technology in releasing the vocal edits, the producer is considered dishonest, because the public generally assumes that the sound they hear is a genuine representation of the singer's vocal ability. According to this deontological view, this transparency is an unethical act and moral obligations are not negotiated regardless of whether or not the public is satisfied with the recording. For example, in the case of singers who often *lip-sync* during their live performances to maintain harmony with the recording, this ethical dilemma becomes more apparent. Additionally, if we look at the current situation, both listeners who understand music and those who don't can often tell when a singer's performance sounds slightly off-pitch, since pitch correction is now widely used. From a deontological perspective, if a singer's intonation is generally good but has a slight flaw that's then corrected, it's not a problem, as it remains within reasonable and ethical limits of pitch correction. However, if the singer's performance is significantly off-pitch and then entirely corrected to make the vocals sound 'normal,' this would be considered unethical.

Teleologically, on the other hand, morality is judged based on the outcomes or benefits that result from an action. Since teleological ethics focuses on outcomes and goals in the context of using pitch correction technology, this technology can be said to be moral if it brings benefits that outweigh its negative impacts. For example, pitch correction allows novice artists or technically imperfect singers to produce recordings of sufficient or even higher quality, which gives them an equal chance to compete in today's highly competitive music industry. As is well known, songs that use pitch correction are often well-received by the public because they create a more enjoyable experience and the sound is comfortable to listen to. In essence, if the use of pitch correction can give popularity to the singer and also give satisfaction to the listeners, the use of pitch correction becomes ethical. However, the teleological view also views and considers the consequences of something. In this case, its use also assesses the long-term consequences of using pitch correction. The use of this technology can lead to unrealistic expectations of singers, such as equalization or the assumption that all singers must have perfect vocals. These are negative impacts and consequences that can outweigh the benefits. In addition, if there are incidents of idolized singers when singing songs live there are differences from the sound on existing recordings, this can allow deep disappointment from listeners, reduce the character or uniqueness of the singer, decrease the singer's natural vocals, decrease the singer's performance, decrease the singer's *branding*, and of course the singer's quality plus if there is blasphemy, the singer will be even more *down* and it may be difficult to be enthusiastic in honing deeper the vocal techniques that he actually has. Therefore, this can be unethical. It can also lead to the homogenization of sound in popular music. Therefore, before using pitch correction, *it* would be wise to better consider the balance between the benefits and potential detriments to artistry, creativity, and the music industry as a whole.

Conclusion

The use of pitch correction technology has had a considerable impact in the popular music industry as it has changed the way production and perception of a singer's vocal quality. This is certainly because this technology allows for precise, instantaneous intonation improvement, provides accessibility to newcomer singers, and also increases efficiency in the recording process. However, behind its advantages, pitch correction also presents some challenges, especially in terms of authenticity in music, especially in the vocal realm. The new standard that pitch correction technology has created often blurs the line between the natural sound of vocals and technical engineering. This phenomenon has led to unrealistic expectations of singers, where sometimes the perfect sound of a recorded song often does not reflect the singer's true ability when performing live.

Through ethical theory, a dilemma arises when pitch correction technology is used without transparency. Based on deontological ethical theory, the undisclosed use of pitch correction violates the principle of honesty and the moral obligation to listeners, who have the right to know the extent to which the sound they hear has been manipulated. Such practices are considered unethical or a violation of ethics, especially when pitch correction is used excessively on singers whose voices are significantly off-pitch. However, if the use of pitch correction is used appropriately such as only to correct notes that are slightly off, it is still ethical. Furthermore, in the view of teleological ethics theory, this technology can be considered ethical and moral if the benefits generated outweigh the evils such as providing opportunities for newcomer singers, supporting the popularity of singers, supporting the quality of song recordings, and providing satisfaction to listeners. However, this theory also sees the consequences of doing so in the long run such as homogenization of singers' voices, loss of vocal uniqueness or characteristics of singers, pressure on singers to meet perfect standards and mental pressure for singers if their live performances do not meet the expectations of listeners, fading enthusiasm for singers to improve their vocal quality and technique where this can outweigh the benefits if not properly regulated.

The music industry must strive to balance the use of pitch correction technology with a commitment to originality and the creative process. This can be achieved by applying ethical guidelines, such as being transparent about the use of pitch correction and encouraging singers to continuously refine their vocal techniques in alignment with the song being produced. Singers and producers share a moral and ethical responsibility to ensure pitch correction is used wisely, preserving authentic artistic values. With a thoughtful and measured approach, pitch correction can enhance music quality without compromising the singer's integrity or the listener's expectation of honest and authentic artistry.

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