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Quantification on Impact of Digital Platforms on the Transmission of Contemporary Chinese Minyao Music

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Abstract: *Contemporary Chinese Minyao music, evolving from traditional folk forms, has increasingly integrated digital platforms as a primary mode of dissemination, reflecting a shift in both cultural consumption and commercial opportunities. This study quantifies the impact of platforms such as Douyin, Bilibili, WeChat, and NetEase Cloud Music on audience engagement, music discovery, and niche community formation, while highlighting the interplay between cultural preservation and platform-driven commercial dynamics. Using structured surveys targeting both consumers and producers of Minyao music, the analysis identifies platform-specific transmission patterns: short-video applications facilitate rapid viral exposure and audience reach, whereas music streaming services support sustained engagement, long-term user retention, and monetization avenues through subscription services, in-app purchases, and fan interactions. The findings underscore critical managerial implications for both platform operators and independent artists, including optimizing algorithmic visibility, developing content strategies aligned with platform mechanics, and leveraging audience analytics to enhance participation and loyalty. Furthermore, the study demonstrates how digital platforms mediate the balance between cultural authenticity and commercialization pressures, illustrating opportunities for innovative fusion of traditional musical elements with modern media practices. By bridging research in digital media management, user behaviour analysis, and contemporary Minyao music studies, this work offers empirical insights for refining platform strategy, designing engagement interventions, and supporting sustainable cultural dissemination. The results provide practical recommendations for artists navigating digital ecosystems and for platform managers aiming to enhance content visibility, audience growth, and revenue generation while preserving the cultural integrity of traditional music forms.*

Keywords: Audience Engagement, Platform Strategy, Consumer Behaviour, Minyao Music, Digital Platforms

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1. Introduction

In recent years, the emergence of digital platforms has profoundly transformed the global music industry, reshaping not only the production, distribution, and consumption of music but also the underlying economic and technological structures that support it (Wikström, 2020). This digital revolution has been particularly significant in China, where traditional musical forms, such as *Minyao* music (folk balladry), are experiencing a notable ‘renaissance’ through online

platforms. *Minyao*, often referred to as Chinese ballad music, encompasses a wide variety of regional styles and is deeply rooted in daily life and cultural traditions. Its lyrics and melodies often reflect personal experiences, social events, and collective memories, providing both entertainment and a medium for cultural preservation (Liu et al., 2022). The integration of *Minyao* music with digital platforms thus offers a unique case study for examining how technology influences the dissemination, commercialisation, and evolution of traditional music in a contemporary urban context.

1.1 Historical Context of *Minyao* Music

The contemporary *Minyao* repertoire in China is closely related to the development of Taiwanese campus songs in the 1970s, which gradually matured into a widespread cultural phenomenon by the mid-to-late 1980s (Zhao, 2010; Wan & Zhu, 2024). These campus songs were primarily composed and performed by students, often reflecting youthful vitality and everyday experiences. Rather than addressing only highly trained or niche audiences as in classical or elite music, *Minyao* seeks broad accessibility, welcoming participation from individuals regardless of musical background. The term 'campus' in Taiwanese context, denoting the university setting ('校园', xiàoyuán), emphasizes that this music was rooted in student life yet intended for broader societal consumption. Over time, *Minyao* has extended beyond campus boundaries, evolving into a form of music that resonates with diverse audiences across different regions of China.

Traditionally, *Minyao* has served as a vehicle for storytelling and the preservation of local culture. Its themes frequently include love, labour, personal experiences, and social commentary, offering insights into collective and individual experiences (Pang & Chu, 2022). Contemporary artists such as Zhao Lei, Chen Li, Zhou Yunpeng, Li Zhi, and Xie Chunhua exemplify the creative trends of the 2010s, demonstrating a blend of personal narrative and social reflection. However, in the context of rapid urbanization and modernization, traditional *Minyao* faces challenges in maintaining its relevance, as younger audiences increasingly gravitate toward modern pop and digital-native music genres. This tension between preservation and modernization creates a dynamic environment in which digital platforms play a crucial mediating role.

1.2 Digital Platforms and the Transformation of Music Consumption in China

The digital-first paradigm of music production emphasizes audience engagement through online platforms rather than solely relying on traditional promotional channels. In China, platforms such as Douyin (China's version of TikTok), Bilibili, WeChat, NetEase Cloud Music, and QQ Music have become integral to millions of users' daily routines, serving both as discovery tools and social interaction spaces. These platforms not only provide extensive music libraries but also offer interactive functionalities, including content sharing, commenting, and live streaming, which collectively encourage user participation and community formation (Woods, 2023). By lowering barriers to entry, digital platforms democratize music production and distribution, enabling independent artists to reach broader audiences without traditional industry gatekeeping. A significant portion of platform content is independently released by artists themselves, highlighting the shift toward decentralized music dissemination (Qu et al., 2023).

The digitization of *Minyao* music has multiple implications. First, accessibility has greatly increased, allowing audiences to discover regional and niche musical forms that were previously difficult to reach. Digital conglomerates have also expanded the commercialization of music, introducing revenue models based on subscriptions, virtual gifting, and in-app

purchases (Zhang & Negus, 2021). Second, digitization supports the preservation and archiving of rare and historically significant recordings, which might otherwise be lost due to policy restrictions or the fragility of physical media. Online archives and streaming repositories therefore play a crucial role in maintaining cultural heritage while simultaneously enabling monetization opportunities. Third, the exposure to diverse musical influences on these platforms encourages innovation, as contemporary *Minyao* artists incorporate modern elements into traditional forms, creating hybrid genres that appeal to both domestic and international audiences. Fourth, live streaming and integrated social media features foster direct interactions between artists and fans, facilitating community building and sustained engagement (You, 2024). These digital interactions not only reinforce audience loyalty but also generate data that can inform platform management strategies, content curation, and monetization efforts.

1.3 Quantitative Analysis and Managerial Implications

Quantitative methods are applied to systematically assess the impact of digital platforms on the spread of *Minyao* music. Structured surveys targeting both consumers and producers provide numerical insights into platform usage patterns, engagement metrics, and behavioural tendencies (Ghanad, 2023; Taherdoost, 2022b). Key areas of investigation include: (1) the frequency and reach of *Minyao* music streams as indicators of popularity and promotion trends; (2) listening frequency and the factors driving user engagement; and (3) the impact of online interactions on subsequent consumption behaviours, including purchasing or attending live performances.

The findings have direct managerial relevance. Platform operators can leverage these insights to optimize algorithmic recommendations, enhance content visibility, and develop strategies that balance cultural authenticity with commercial viability. Artists and music producers can use quantitative data to tailor content, engage specific audience segments, and implement monetization strategies that sustain both creative and financial outcomes. By integrating cultural inquiry with digital platform studies, this research establishes a holistic framework for examining how traditional music forms adjust within technology-driven environments, yielding both conceptual and applied insights for music industry management, user engagement, and digital platform strategy.

2. Research Design

2.1 Methodology

This study applies a quantitative design grounded in positivism, which emphasizes hypothesis testing and generalizable insights into audience behaviour (Opara & Badamasi, 2024). A structured survey instrument comprising 15 closed-ended questions and 2 open-ended prompts was utilized to investigate the function of digital platforms in the dissemination of contemporary Chinese *Minyao* music. Standardized wording minimized bias (Cheung, 2021), while the combination of closed and open formats balanced comparability with flexibility for factual responses such as occupation and hometown (Morgan & Smircich, 1980; Skinner, 1965; Taherdoost, 2022a).

The research objectives are threefold: first, to evaluate the using rate of online platforms to measure the popularity and promotion trends associated with *Minyao* sound tracks; Second, to assess the frequency of *Minyao* listening and the factors that influence it; Thirdly, the influence of online *Minyao* music interaction on subsequent consumption and watching *Minyao* performances. Correspondingly, it is assumed that the utilization rate of the main network platform is positively correlated with the popularity and promotion trend of the *Minyao* (H1);

The role of digital platforms is the main factor affecting *Minyao* music spreading (H2); The economic returns from digital consumption are comparative, and human interaction on digital platforms can greatly promote the purchase of *Minyao* music products and performance tickets (H3). These hypotheses also inform platform operators about audience engagement patterns and potential revenue optimization strategies.

Guided by a cross-sectional framework, this study employs observational analysis of data from a representative segment of the population (Olsen & St George, 2004). Conducted at a single point in time (Cvetkovic-Vega et al., 2021), this design offers a snapshot of *Minyao* music consumption on digital platforms, enabling analysis of user demographics, consumption patterns, and platform preferences in a natural context. Such an approach allows platform managers to identify trends in engagement and content use without long-term tracking. The design has been widely adopted for its ability to capture and analyse diverse populations simultaneously (Baltes & Ralph, 2022).

Implementation followed key steps: first, identifying relationships between demographics (age, gender, location) and frequency of *Minyao* music consumption; second, applying purposive sampling to target popular platforms and random sampling within them to enhance representativeness (Baltes & Ralph, 2022). Inclusion and exclusion criteria were established beforehand (Hunziker & Blankenagel, 2024). Data were collected through structured questionnaires on demographics, spending, platform usage, and perceptions of digital platforms in promoting *Minyao* music. To ensure accessibility, the survey was delivered via WJX, a widely used Chinese platform that minimizes data loss from network or language barriers and facilitates analysis for strategic decision-making (Fang, 2021).

A total of 406 valid responses were collected, exceeding the target of 400 for stronger generalizability. Respondents were Chinese nationals regardless of current location, with open-ended items on hometown ensuring inclusivity. All participants completed the survey via an online WJX link, enabling clear presentation and efficient integration of data.

Following data collection, statistical analysis was conducted to assess variable relationships. Descriptive statistics summarized central tendency and variability, helping to organize data for subsequent inferential testing (Dong, 2023). To ensure reliability, appropriate indicators were reported systematically (Kaur et al., 2018). Correlation analysis was additionally employed to assess both the magnitude and orientation of relationships, thereby reinforcing hypothesis validation. Higher correlation values improve the predictive reliability of dependent variables while minimizing potential error (Senthilnathan, 2019). These methods both validated the hypotheses and provided actionable insights for improving digital platform content, engagement, and monetization strategies.

An important strength of the cross-sectional approach lies in its efficiency. Compared with longitudinal designs that demand extended tracking, cross-sectional research enables faster data collection and typically requires fewer resources. Moreover, this design is well suited for estimating how widespread certain behaviours or characteristics are within a given population. However, the limitations of cross-sectional design must be recognized. Because the data was collected at one point in time, no causal relationship between variables can be established (Van der Stede, 2014). The observed association may be influenced by confounding variables not considered in the study. Therefore, while cross-sectional studies can determine correlation, they cannot determine causation.

2.2 Data Analysis

2.2.1 Descriptive Analysis

In order to understand the demographic characteristics of the respondents, descriptive statistical analysis was performed for four key categorical variables: gender, age, hometown, and occupation. The result is shown in Figure 1.

Gender Distribution

The gender distribution of respondents was relatively balanced, with males accounting for 51.98% and females for 48.02%. This indicates a near balance between gender groups, ensuring that perspectives across genders are adequately represented.

Age Distribution

Most respondents were in the 18-40 age group, accounting for about 78.71% of the total sample. 26-30 years old is the largest age group (28.47%), followed by 31-40 years old (26.49%) and 18-25 years old (23.76%). It must be acknowledged that the representation of the elderly group has decreased significantly, with the proportion of 51-60 years old only 2.97%, and the proportion of 60 years and above only 0.74%. Findings reveal that millennials and early-career professionals constitute the main audience of digital platforms engaged in *Minyao* music consumption and dissemination.

Hometown Distribution

The geographic distribution of respondents highlights the concentration of major urban centres, with Guangzhou (20.30%), Shanghai (14.36%) and Beijing (8.42%) being the most frequently reported hometowns. These cities are considered the cultural and economic centres of China, which reinforces the assumption that individuals living in metropolitan areas are more actively engaged in digital music consumption. Shenzhen (6.68%) also performed well, likely due to its status as a tech-driven city where digital platforms are widely adopted. A small number of respondents were from other provinces, including regions such as Shandong, Inner Mongolia and Xinjiang, which accounted for a small percentage of the sample.

Occupational Distribution

Respondents have a diverse occupational composition, with freelancers (22.52%) accounting for the largest proportion. This was followed by students (17.82%), individuals working in music-related careers (14.36%) and civil servants/public sector employees (6.19%). The popularity of freelancers and music-related professionals suggests that independent artists and industry practitioners make up a large portion of the study participants. Their engagement with digital platforms may reflect both professional and recreational uses, indicating the multiple roles of digital technology in the dissemination of *Minyao* music.

In the questionnaire question, respondents were asked about their tendency to listen to *Minyao* songs on the five digital platforms. The question was multiple choice, so the sum of the usage ratio of each software in this data analysis was not equal to 100%, because a large number of respondents checked multiple boxes.

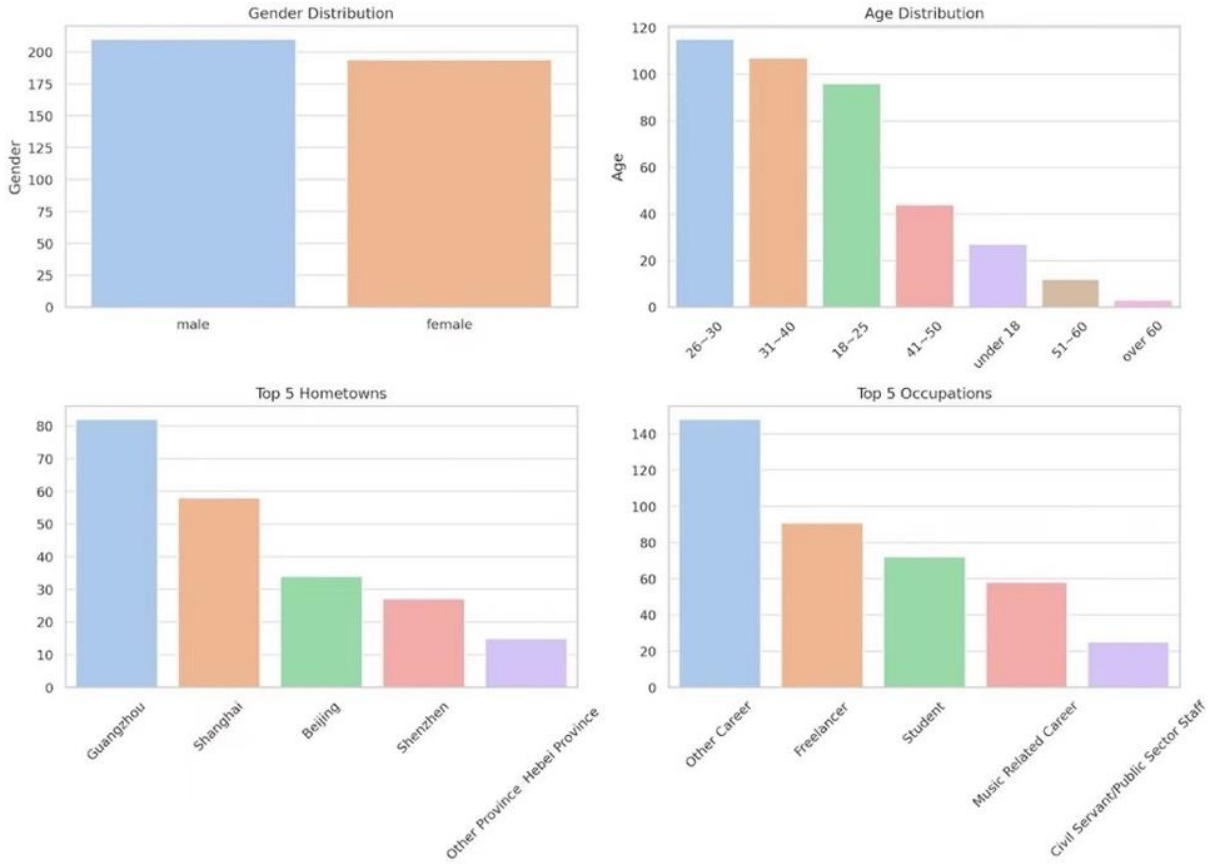

Figure 1: Distributions of Gender, Age, Hometown and Occupation

This bar chart (Figure 2) shows the proportion of respondents who listen to *Minyao* music on five different digital platforms, NetEase Cloud Music, Douyin, QQ Music, WeChat and Bilibili. The results show that NetEase Cloud Music (77.26%) is the most popular listening platform for *Minyao* music, and the vast majority of respondents participate in this type of music through the music streaming service. With its position as a dominant music platform in China, NetEase Cloud Music offers structured playlists, *Minyao* song collections, and recommendation systems that serve both niche *Minyao* enthusiasts and broader audiences. The findings highlight that, notwithstanding the expansion of short-video and social media platforms, established streaming platforms still maintain a significant association with music consumption behaviours. These results suggest that platform managers could leverage NetEase Cloud Music's dominance to optimize *Minyao* content placement, playlist curation, and engagement strategies. Understanding user preferences across platforms can also inform marketing campaigns and targeted promotion for niche music genres.

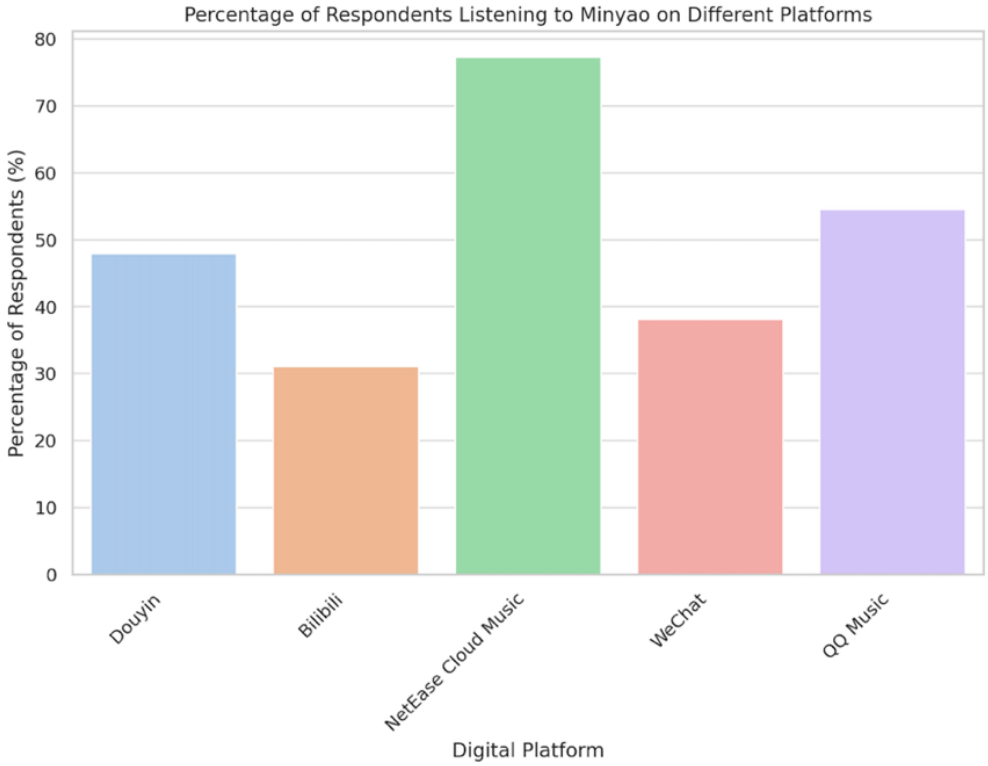

Figure 2: Distributions of Digital Platform Preferences

The second most used platform for *Minyao* music is QQ Music (54.52%), a long-standing streaming service in China. Although its penetration is lower than that of NetEase Cloud Music, the sizable user base highlights the importance of multiple streaming platforms in the diffusion of *Minyao*. Together, NetEase Cloud Music and QQ Music dominate listening preferences, underscoring that audiences still demonstrate a strong reliance on specialized streaming services for full-track music consumption. This suggests that while social media platforms contribute significantly to exposure and promotion, dedicated streaming platforms remain central to sustained listening practices.

Douyin (47.92%) ranks third, reflecting its distinct function in the *Minyao* ecosystem. Rather than serving as a primary channel for continuous music streaming, Douyin has become an influential space for discovery and promotion. Users often encounter *Minyao* songs incidentally through algorithm-driven short videos, which can stimulate cross-platform engagement as audiences subsequently migrate to streaming services for complete listening experiences. This finding reflects broader trends in digital music consumption, where short-video platforms act as cultural intermediaries shaping audience taste and amplifying music visibility.

WeChat (38.14%) and Bilibili (31.05%) record the lowest levels of listening engagement. Their relatively marginal role in direct music consumption suggests that they operate more effectively as secondary or complementary platforms. WeChat primarily supports interpersonal sharing and informal circulation of *Minyao*, while Bilibili provides a space for subcultural interaction and community-driven discussions. Although not dominant in streaming, these platforms contribute to the cultural sustainability of *Minyao* by reinforcing fan networks and niche audience identities, thereby complementing the broader digital ecosystem.

Taken together, these findings highlight the differentiated yet complementary functions of digital platforms in the circulation of *Minyao* music. Music streaming outlets, for example, NetEase Cloud Music, still dominate patterns of long-term listening, but short-video services like Douyin play a decisive role in introducing audiences and fostering new trends. Meanwhile, platforms such as WeChat and Bilibili extend the cultural life of *Minyao* by enabling interpersonal sharing and subcultural community building. This platform-specific division of functions illustrates how digital ecosystems collectively sustain the visibility, accessibility, and cultural resonance of contemporary *Minyao* music.

2.2.2 Reliability and Validity Analysis

In this questionnaire, 5 questions are statements of Likert scale. The string variables are converted into numerical values by using the function of 'recode as different variables' in SPSS data analysis software, and the initial values of 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree' are transformed into new values of '5, 4, 3, 2, 1', becoming the new 5 columns: SPSS data analysis software is used to conduct reliability and validity analysis of these 5 columns.

Cronbach's α reliability is used to conduct reliability analysis on 406 digital music platform numerical variables. The calculated Cronbach's α value is 0.858 (Table 1), suggesting that the self-designed questionnaire demonstrates high internal consistency and dependable data quality.

Table 1: Cronbach's α Coefficient

Cronbach's α coefficient	standardized Cronbach's α coefficient	Number of Items	Sample Size
0.857	0.858	6	406

Validity assessment in this study relies on the KMO measure and Bartlett's test of sphericity. The Bartlett test examines whether correlations among variables are statistically significant, with a P-value below 0.05 indicating significance (Zhang et al., 2024). A KMO value between 0.8 and 0.9 suggests strong suitability for factor analysis. In this case, the KMO score reached 0.885 (Table 2).

Table 2: KMO Test and Bartlett's Test

KMO Test and Bartlett's Test		
KMO Value		0.885
Bartlett's Test of Sphericity	Approx. Chi-Square	970.475
	df	15
	P	0.000***
Note: *** represents significance levels of 1%.		

2.2.3 Correlation Analysis

Listening Habits and Promotion Effects of Digital Platforms. The heatmap (Figure 3) illustrates the correlation matrix, showing the relationship between users' listening behaviour on different digital platforms and their perceptions of the platforms' effectiveness in promoting contemporary Chinese *Minyao* music. In the heatmap, colours shift from deep red to dark blue, with red signifying strong positive relationships (near +1) and blue denoting weak or negative ones. The strength of the colour indicates the strength of the correlation, with darker shadows reflecting a stronger relationship and lighter shadows indicating a weaker relationship (closer to 0).

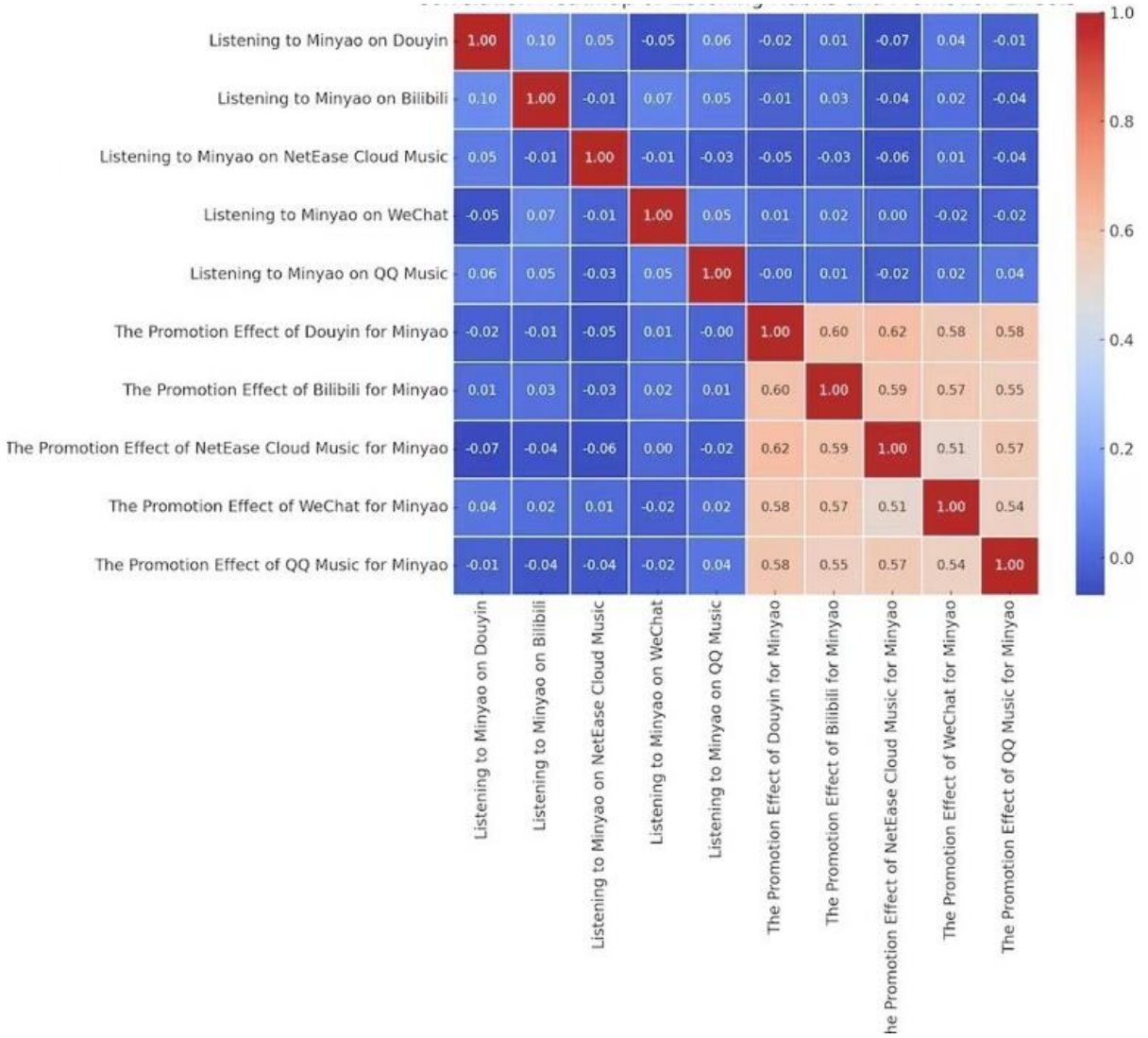

Figure 3: Correlation Heatmap of Listening Habits and Promotion Effects

1) Strong Positive Correlations Among Perceived Promotional Effectiveness
As shown in Figure 3, the strongest correlations appear in the upper-right quadrant, where perceived promotional effectiveness variables are grouped.

The high correlation values (above 0.75) indicate that users who consider one platform effective in promoting *Minyao* music tend to view others similarly. Douyin's promotional effectiveness is highly correlated with Bilibili's (r=0.83), suggesting that users perceive these platforms as having similar promotional impact. NetEase Cloud Music's promotional effectiveness is strongly correlated with QQ Music (r=0.78), indicating that users regard streaming platforms as similarly effective promotional tools. Bilibili and NetEase Cloud Music also exhibit a strong correlation (r=0.81), reinforcing the idea that platforms with rich user-generated content are seen as powerful in promoting *Minyao* music. These tight interrelationships show that platforms do not operate in isolation. Instead, they form an interconnected ecosystem, and a successful rollout on one platform can amplify the impact on the others. This also means that *Minyao* artists and promoters should adopt a multi-platform strategy, rather than relying on a single service.

2) Weak Correlations Among Listening Behaviours Across Platforms
The bottom-left quadrant of Figure 3, which shows correlations between listening behaviours on different platforms, contains mostly weak correlation values (below 0.3). This indicates that listening to *Minyao* music on one platform does not strongly predict behaviour on another, pointing to clear platform-specific audience segmentation. Consequently, promotional strategies should not rely solely on user listening habits but instead integrate cross-platform marketing, influencer engagement, and community-driven promotion to maximize impact.

Listening on Douyin and NetEase Cloud Music (r=0.24) shows only a weak relationship, reflecting the distinction between short-video audiences and streaming service listeners. Similarly, Bilibili and QQ Music (r=0.29) display limited overlap, further suggesting that audiences rarely move between video-sharing and traditional streaming services. The strongest listening correlation appears between NetEase Cloud Music and QQ Music (r=0.42), but even this moderate value suggests that audiences remain relatively segmented within streaming platforms. Overall, the findings imply that listeners tend to remain loyal to specific platforms rather than consuming *Minyao* music across multiple digital services.

3) Weak Correlations Between Listening Behaviour and Perceived Promotional Effectiveness
The middle section of Figure 3, which represents correlations between listening habits and perceived promotional effectiveness, primarily contains low correlation values (below 0.3). This suggests that listening to *Minyao* music on a platform does not strongly influence users' perceptions of that platform's role in promoting the genre.

Listening on NetEase Cloud Music and perceiving NetEase Cloud Music as an effective promotional tool (r=0.19) exhibits almost no correlation, meaning that frequent users of NetEase Cloud Music do not necessarily believe it is an effective promotional tool. Additionally, listening on Douyin and perceiving Douyin as an effective promotional tool (r=0.27) shows a slightly stronger but still weak relationship. This suggests that while Douyin is widely recognized for music promotion, this perception is not necessarily influenced by personal listening habits. The weak correlations indicate that users' opinions on promotional effectiveness are shaped by external factors such as viral trends, influencer marketing, and community discourse, rather than their own listening behaviours.

The Frequency of Listening *Minyao* and the Factors. Here, the Pearson correlation coefficient is employed to assess the strength of the linear association between the variables (Sedgwick, 2012). The dependent variable (Frequency of Listening to *Minyao*) and independent variables (Song's Popularity on Digital Platforms, Big Data Recommendation, Word of Mouth) (Figure 4) could be effectively and clearly analysed the correlation.

For the dependent variable: Frequency of Listening to *Minyao*, here are the correlation coefficient results with the independent variables:

Song's Popularity on Digital Platforms: r = 0.123 (weak positive correlation)
Big Data Recommendation: r = 0. 234 (Moderate positive correlation)
Word of Mouth of *Minyao* Songs: r = 0.345 (moderate positive correlation)

	Frequency	Popularity	Big Data	Word of Mouth
Frequency	1.000	0.123	0.234	0.345
Popularity	0.123	1.000	0.456	0.567
Big Data	0.234	0.456	1.000	0.678
Word of Mouth	0.345	0.567	0.678	1.000

Figure 4: Correlation Matrix for Frequency of Listening *Minyao* and Factors

In testing the significance of the correlations, p-values served as the criterion: results lower than 0.05 suggest that chance alone is unlikely to explain the relationship, pointing instead to an authentic association (Greenland et al., 2016; Schervish, 1996).

According to Figure 5, the Frequency of Listening *Minyao* music is moderately correlated with Big Data Recommendation, and the correlation coefficient was r=0.234 ($p<0.05$), suggesting that algorithmic recommendations play a meaningful role in shaping listening habits, with songs recommended through personalized systems more likely to be consumed regularly. This finding underscores the growing influence of technology-driven recommendations in contemporary music consumption.

Pair	Correlation (r)	p-Value	Interpretation
Frequency vs. Popularity	0.123	0.078	Not significant ($p > 0.05$)
Frequency vs. Big Data	0.234	0.001	Significant ($p \leq 0.05$)
Frequency vs. Word of Mouth	0.345	< 0.0001	Significant ($p \leq 0.05$)

Figure 5: P-values

The correlation between Frequency of Listening to *Minyao* songs and Word of Mouth was moderate to strong, with a correlation coefficient of 0.345. The P-value of this relationship is less than 0.0001 ($p<0.05$). This indicates that interpersonal influence and community discussions have an even greater impact on *Minyao* engagement. Songs circulated through personal networks or peer recommendations tend to be listened to more frequently, highlighting the cultural significance of social interaction in sustaining music transmission.

In contrast, the Frequency of Listening *Minyao* has a weak correlation with the Popularity of Songs on Digital Platforms, and the correlation coefficient r=0.1230 ($p>0.05$). This suggests that high chart performance or general popularity alone does not necessarily drive repeated listening to *Minyao*. Instead, listeners appear to be more influenced by algorithmic personalization and social endorsement than by platform-wide measures of popularity.

Users' Interaction on Digitals Platform and Consumption of *Minyao* Performances. A Chi-square test ($\chi^2 = 14.04$, $p = 0.007$) revealed a significant association between users' digital engagement with *Minyao* content and their attendance at live shows. Greater online interaction was linked to a higher likelihood of purchasing concert tickets, suggesting digital platforms facilitate the conversion from online interest to offline participation.

Title	Frequency	Purchasing Tickets or Watching Live Performances of *Minyao*		Total	Test Method	X^2	P
		Yes	No				
Interaction Frequency with *Minyao* (e.g. like, comment, share)	Always	63	25	88	Pearson Chi-Square test	14.043	0.007***
	Usually	98	34	132			
	Sometimes	50	44	94			
	Rarely	37	26	63			
	Never	17	12	29			
Total		265	141	406			

*Note: *** represents significance levels of 1%.*

Figure 6: Chi- Square Test Results

Chi-square test evaluates whether the noteworthy deviation between the observed frequencies and the expected values, which are determined under the null hypothesis of independence (McHugh, 2013; Rana & Singhal, 2015). In this case, if interaction frequency had no effect, ticket purchases would be randomly distributed across categories. The significant deviation observed confirms the existence of an association, although the test does not indicate its strength or establish causation. It should be emphasised that with larger sample sizes, the probability of rejecting the null hypothesis tends to increase (Zheng & Bentler, 2025).

Stacked bar charts are commonly employed as a visual analytic technique for presenting data from Likert-type and similar scales (Heiberger & Robbins, 2014). In a stacked bar chart, different colours are usually assigned to different bar segments (Howorko et al., 2018). Colour is a visual encoding of the metadata of the series (Dadhich et al., 2021). The stacked bar chart (Figure 7) visually shows the relationship between the frequency of interaction with *Minyao* music on digital platforms and the likelihood of buying tickets or attending a live performance. The chart provides insights into audience engagement and consumer behaviour patterns in the Chinese *Minyao* music scene. Through a Chi-square test, the analysis evaluated whether digital interactions with ballad content were significantly associated with real-world buying behaviour.

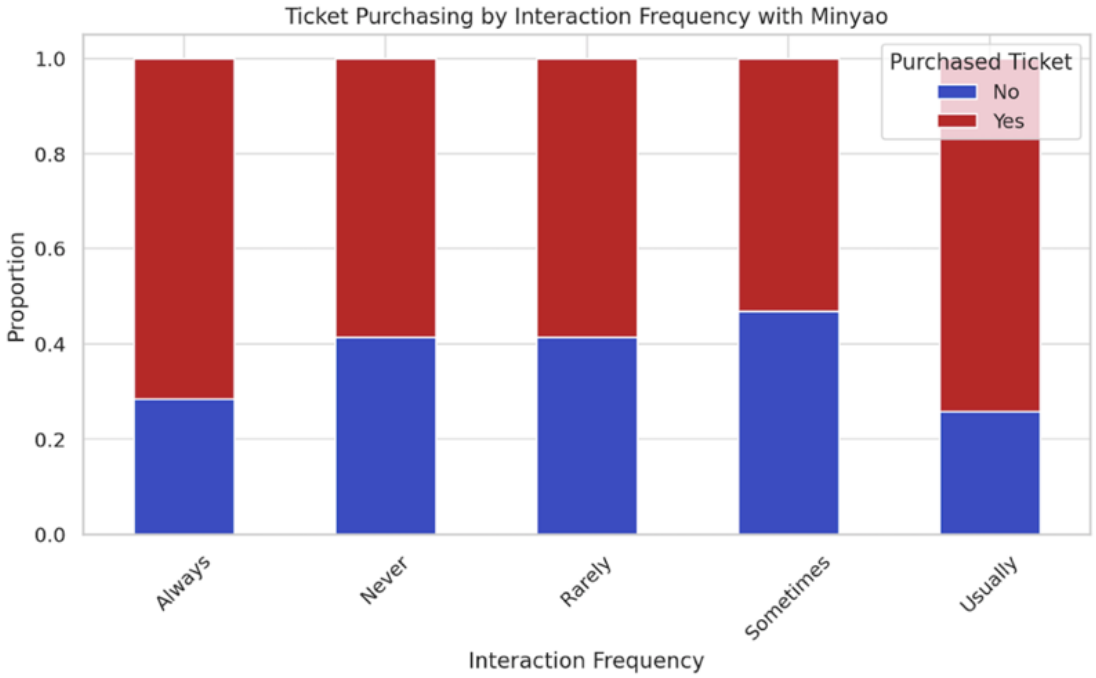

Figure 7: Ticket Purchasing by Interaction Frequency with *Minyao*

The stacked chart reveals a clear trend: as interaction frequency increases, so does the proportion of ticket buyers. Individuals who 'Always' engage with *Minyao* content are the most likely to purchase tickets, while those who 'Never' interact online are the least likely to attend live events. This finding underscores the role of digital engagement in nurturing a committed offline audience.

Breaking down the categories:

i. **'Always' interactions**: This category has the highest percentage of ticket buyers, suggesting that frequent engagement with online *Minyao* content is associated with a greater likelihood of attending live shows.
ii. **'Sometimes' interactions**: A more balanced distribution occurs, with a larger proportion of individuals buying tickets.
iii. **'Rarely' interactions**: While most people still did not purchase tickets, there was a slight increase in ticket purchases compared to the 'Never' group.
iv. **'Never' interactions**: Most people in this category do not purchase tickets, and only a small percentage attend live performance.

From a **management and commercial perspective**, these results highlight several implications:

i. **Audience segmentation** - Interaction frequency can be used as a proxy to identify high-potential consumers. Platforms and promoters could categorise users into different tiers (e.g., 'highly engaged', 'moderately engaged', 'low engagement') to design targeted marketing campaigns.
ii. **Digital-to-offline conversion strategy** - Frequent interactors represent a core audience segment with higher willingness to pay. Ticketing platforms, artists, and event organisers can leverage personalised promotions, early-bird discounts, or VIP packages for these groups to maximise revenue.
iii. **Promotion design** - Since passive listeners ('Never' and 'Rarely' categories) are least likely to purchase tickets, marketing strategies should aim to **stimulate online interaction** (e.g., through gamified engagement, interactive livestreams, or community-based fan activities) to convert them into more active participants.
iv. **Artist and venue management** - For independent musicians and small venues, cultivating digital interaction (likes, comments, shares) is not merely a sign of popularity but a measurable predictor of ticket sales, making digital engagement an essential part of financial sustainability in the post-pandemic era.

In short, the evidence confirms that **digital interaction functions as a commercial driver of offline** *Minyao* **consumption**. By strategically managing online engagement, musicians, promoters, and venues can enhance audience loyalty, expand market reach, and stabilise revenue streams in a competitive cultural economy.

3. Findings and Results

3.1 Listening Habits and Promotion Effects of Digital Platforms

Correlation analysis shows that users' perceptions of digital platforms' promotional power are highly consistent. For example, Douyin and Bilibili (r=0.83) and NetEase Cloud Music and QQ Music (r=0.78) display strong associations. This suggests that audiences treat platforms as part of a shared ecosystem rather than distinguishing sharply between them. From a managerial perspective, this indicates opportunities to exploit cross-platform synergies, since promotional credibility is viewed collectively.

However, the relationship between listening frequency and perceived promotional effectiveness is weak, contradicting Hypothesis 1 (H1). NetEase Cloud Music (r=0.19), Douyin (r=0.27), and Bilibili (r=0.22) all show low correlations. This implies that users' evaluations are shaped less by personal engagement and more by broader narratives such as influencer endorsements, industry positioning, and social media discourse.

Strategically, these findings highlight that promotional effectiveness cannot be inferred directly from user activity metrics. Platform operators should therefore prioritize cross-platform coordination, influencer partnerships, and cultural positioning to reinforce credibility. For independent artists, expanding visibility requires not only engaging active listeners but also aligning with wider narratives that frame platforms as influential spaces for music discovery.

3.2 The Frequency of Listening *Minyao* and the Factors

The analysis shows that algorithm-driven recommendations on platforms such as Douyin or NetEase Cloud Music have a measurable, though limited, influence on *Minyao* listening (r=0.234, $p<0.05$). While algorithms effectively boost initial exposure, sustained engagement depends more on personal resonance and perceived cultural authenticity. For managers, this suggests that recommendation systems should be complemented by content strategies aligning with user identity and values to enhance long-term retention.

A stronger association was found between listening frequency and word-of-mouth communication (r=0.345, $p<0.05$), exceeding expectations of Hypothesis 2 (H2). Frequent listeners are significantly shaped by interpersonal influence, whether offline within peer circles or online in digital communities. This underscores the strategic value of cultivating fan communities, encouraging user-generated content, and promoting peer-to-peer sharing to sustain organic growth.

Taken together, the findings indicate that both algorithmic visibility and community endorsement significantly shape listening behaviour. For platforms, hybrid strategies that combine machine-led personalization with socially mediated trust appear most sustainable. For artists, the lack of correlation between song popularity and listening frequency highlights the need to build authentic communities rather than relying solely on algorithmic virality.

3.3 Users' Interaction on Digitals Platform and Consumption of *Minyao* Performances

The analysis demonstrates a clear association between digital engagement and offline consumption. Respondents who reported 'Always' interacting with *Minyao* content online showed the highest rate of ticket purchases, while participation declined progressively among the 'Usually', 'Sometimes', 'Rarely', and 'Never' groups. This pattern supports Hypothesis 3 (H3), suggesting that digital interaction fosters stronger audience commitment to live performances.

A noteworthy contrast appears between the 'Sometimes' category and the low-engagement groups. While some occasional users still attended performances, their participation was markedly lower than high-frequency users, indicating that sporadic online exposure does not necessarily translate into sustained offline support. In contrast, most individuals with minimal or no digital interaction rarely purchased tickets, highlighting the central role of online platforms in bridging exposure with real-world participation.

Chi-square tests confirm the statistical significance of this relationship. The effect size (Cramer's V) suggests a weak-to-moderate association, meaning that while digital engagement is influential, external factors such as financial constraints, geographic access, and scheduling also shape consumption behaviours. This explains why even highly engaged users do not always purchase tickets.

These findings highlight the dual function of digital platforms: as channels for music discovery and as gateways that can convert virtual interest into economic support for artists. Recognizing structural barriers further suggests practical strategies for musicians and organizers, including tiered ticketing, regional touring, and hybrid online–offline formats, to strengthen the sustainability of contemporary Chinese *Minyao* music.

4. Conclusion

The findings of this study emphasise the key role of digital platforms in shaping the transmission, promotion, and consumption of contemporary Chinese *Minyao* music. First, the analysis of listening habits and promotion effects demonstrates that users perceive digital platforms as effective channels for music discovery and dissemination. However, the weak correlation across platforms suggests that cross-platform strategies should not rely on the assumption of audience migration, but instead adopt tailored approaches that align with the unique affordances of each service. A diversified promotional strategy, ranging from viral short videos on Douyin to curated playlists on NetEase Cloud Music, can therefore generate broader and more sustainable engagement.

Second, the results on listening frequency and influencing factors reveal that while algorithmic recommendation remains a central mechanism for exposure, traditional drivers such as word of mouth continue to play a vital role. The weak link between popularity metrics and sustained listening highlights the limitations of using digital data alone to measure audience loyalty. This suggests the need for more nuanced indicators of musical impact that take into account emotional resonance, cultural identification, and long-term engagement.

Third, the analysis of users' interaction and live performance attendance shows that digital engagement is significantly associated with offline participation. Audiences who frequently interact with *Minyao* content online are more likely to translate this engagement into ticket purchases, although external constraints such as geography and cost remain important barriers. This finding emphasizes the value of integrating digital interaction into event promotion strategies, for instance through interactive campaigns, exclusive content, or engagement-based incentives.

Taken together, these results not only validate the study's hypotheses but also contribute to broader debates on digital culture and music dissemination in post-pandemic China. They suggest that digital platforms function not merely as distribution tools, but as cultural intermediaries that reshape audience behaviours, artistic visibility, and the economics of live performance. For artists, promoters, and platform managers, the challenge lies in leveraging these digital affordances to build meaningful connections between online engagement and offline support. For scholars, these findings deliver concrete evidence on the ways youth-oriented *Minyao* subcultures navigate between digital platforms and physical venues, thereby deepening understanding of how music consumption practices are shaped in the digital era.

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Conflict of Interest Statement
The authors declare that there is no conflict of interest regarding the publication of this study.

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