TAICCA

TAIWAN CREATIVE CONTENT AGENCY

文化內容策進院

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Taiwan Cultural Content Industries Survey Report

The Popular Music Industry

III

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Introduction

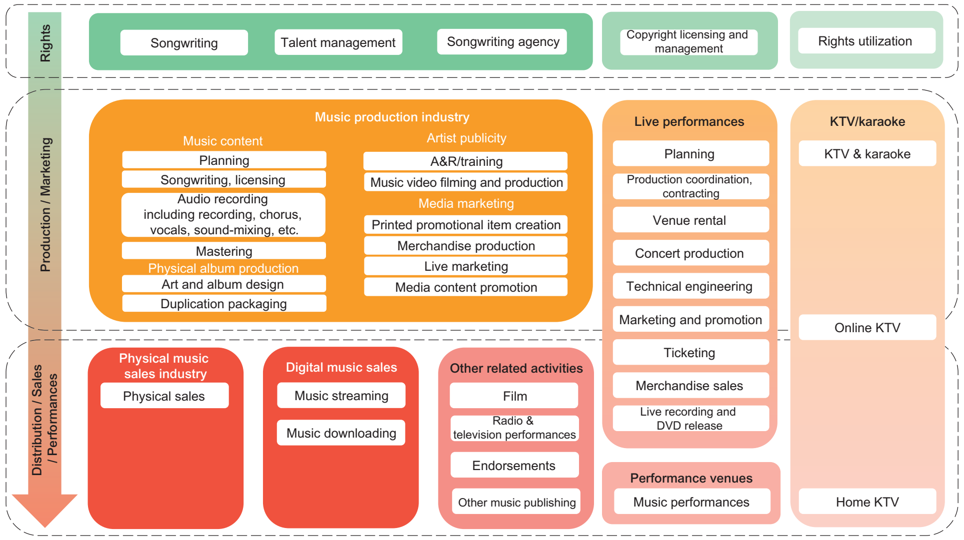
00

● 1. Scope of the Survey

This report was created in order to accurately reflect the current cultural content industry in Taiwan. It provides the government and the industry with the latest cultural content industry development trends and serves as a basis for the establishment of industry development goals and the implementation of policies. The Taiwan Creative Content Agency (TAICCA) consolidated the Ministry of Culture's industry survey projects into the Cultural Content Industry Survey Project in 2020. The industry surveys were divided into four separate volumes according to their industry relevance: the "Books, Magazines, Comics, and Original Graphics Industry," the "Motion Picture, Animation, and Broadcasting Industry," the "Popular Music Industry," and the "Games and E-sports Industry."

This is the third volume of the 2020 Cultural Content Industry Survey Project, which covers the popular music industry and other related sub-industries. The popular music industry was once dominated by the production of music products by record companies. However, due to changes in technology, the decline in revenue from physical music products, the rise of online music platforms, and live performances becoming a major source of income, the industry has gradually developed a systematic model with its value centered on artists. This resulted in a fundamental change in the industry's product portfolio, profit mechanism, and the strategic positioning of record companies. The increasing ubiquity of the Internet and mobile technology has made popular music products available in diversified formats, including Internet downloading and streaming services. This drives other key players to join the industry activities, such as digital music platforms and telecommunications companies. Subsequently, the relationship between popular music, the audience, and the media has also changed.

Therefore, the popular music industry is centered on the artists/bands, and the value of the artists/bands is continuously packaged and accumulated through multiple commercialization channels such as music/songs, other cultural contents, derivative activities, live performances, and other related products and services. In addition to the artists/bands, other key players in the business include songwriters, record companies, management agencies, performance event planning companies,



Source: Created by this survey.

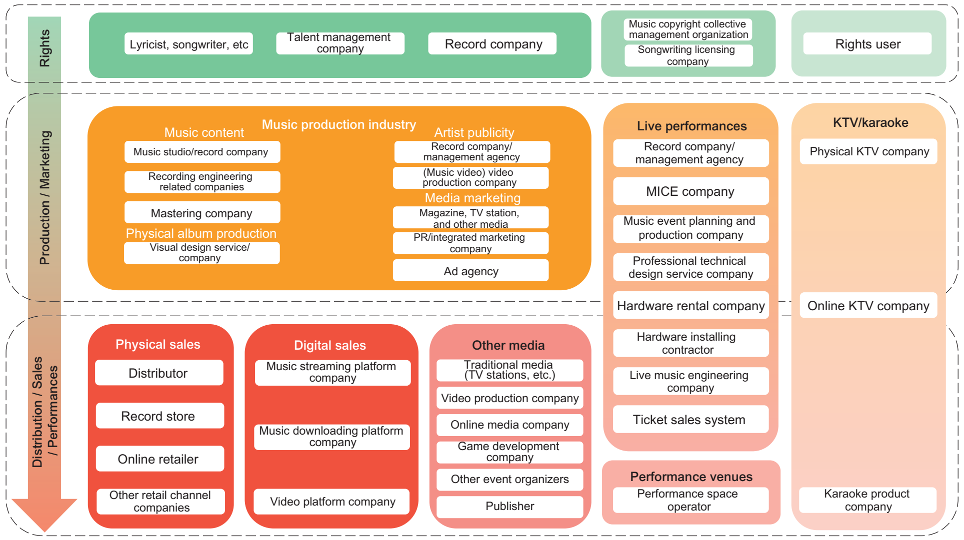
Figure 0-1: Activities in the popular music industry

copyright collective management organizations, as well as the backend sales and performance channels (record stores, KTVs, venues, etc.).

Furthermore, digital technology has increased the diversity and complexity of commercialization. It was once thought that digital technology might diffuse and weaken the role of record companies. However, from another perspective, record companies can be seen as playing an important role as a resource-sharing platform under the trend of increasing resource complexity. Aside from the artists/bands' creative processes and performances, the production of music also involves record companies integrating professional resources such as A&R, music production/distribution, copyright management, marketing, event planning, and entertainment management, and other professional resources for all artists/bands in addition to creative performance. As technology continues to evolve, the functions of a record company, much like an amoeba, continues to shift along with the trends. Other players in the industry chain also extend upstream or downstream to form different modes of operation with music creation/production.

As a result, there are record companies/management agencies centered around artists in the popular music industry, but there are also independent artists/bands that have created their own mode of communication with the mass audience without the help of record companies/management agencies. In addition, the digital music streaming/downloading platform industry and the performance space industry are also actively involved in the restructuring of the industry and its patterns.

In order to reflect the actual development of the popular music industry, this survey combines qualitative and quantitative methods, and is based on the up-, mid-, and downstream industry chain relationships between rights, production/promotion, distribution/sales/performances. It investigates the sub-industries such as collective management organizations and the copyright industry, the music production/distribution/talent management industries, the music streaming/downloading platform industries, the performance event planning and production industry, the performance collaboration industry, the performance space industry, the ticket-sales industry, the KTV industry, and the karaoke products industry.



Source: Created by this survey.

Figure 0-2: Participants in the popular music industry

2. Chapter Overview

"2020 Taiwan Cultural Content Industry Survey Project II: The Popular Music Industry" is split into three chapters. Chapter 1 is SPOTLIGHT, which presents significant and relevant statistical results of the survey that are of interest to the industry. Chapter 2 is OVERVIEW, which presents the results of each popular music sub-industry this year with a summary description of the sub-industries, such as the number of households, manpower, total revenue, revenue structure, etc. Chapter 3 is FORECAST, which presents the current trends of digital development, 5G technology applications, the impact of the pandemic, IP licensing, and other possible trends and future prospects of the industry.

SPOTLIGHT

01

1. Overview of the Taiwan Music Market Sales in 2019

According to the Recording Industry Foundation in Taiwan (RIT), 2019 sales in the Taiwan music market were approximately NT$2.123 billion, a decline of 4.29% from 2018.

Table 1-1. Music market sales in Taiwan 2015-2019 (NT$100 million)

	2015	2016	2017	2018	2019	Compared to 2018 YoY
Revenue - Singles	0.23	0.29	0.22	0.21	0.14	-33.76%
	1.16%	1.24%	1.01%	0.94%	0.65%	
Revenue - Albums	6.79	6.98	4.99	4.35	3.88	-10.81%
	33.96%	30.03%	23.24%	19.62%	18.29%	
Vinyl Records	0.24	0.66	0.59	0.85	0.63	
CD	6.54	6.31	4.17	3.28	3.22	
SACD	0.01	-	-	-	-	
Other Recorded Products	-	0.01	0.23	0.23	0.03	
Revenue - Music Videos	1.49	1.35	0.95	0.56	0.43	-22.10%
	7.46%	5.80%	4.41%	2.52%	2.05%	
DVD-Video	1.49	-	-	-	-	
Revenue - Physical Products	8.51	8.61	6.15	5.12	4.46	-12.97%
	42.58%	37.07%	28.65%	23.08%	20.99%	
Revenue - Digital Downloading	0.8	0.55	0.68	0.56	0.32	-43.92%
	4.01%	2.37%	3.18%	2.54%	1.49%	
Singles	0.48	0.26	0.18	0.16	0.13	
Albums	0.29	0.27	0.27	0.3	0.18	
Music Videos and Others	0.04	0.02	0.24	0.11	0.01	
Revenue - Digital Streaming	9.69	13.16	13.7	15.83	15.98	0.90%
	48.50%	56.62%	63.82%	71.37%	75.25%	
Subscriptions	8.41	10.99	11.48	13.03	12.34	
Sharing	1.28	0.83	0.92	0.82	1.24	
Videos	0	1.34	1.29	1.98	2.4	
Revenue - Mobile Digital Music Products	0.98	0.92	0.93	0.67	0.48	-27.51%
	4.92%	3.94%	4.35%	3.00%	2.28%	
Revenue - Digital Products	11.47	14.63	15.31	17.06	16.78	-1.69%
	57.42%	62.93%	71.35%	76.92%	79.01%	
Total Revenue	19.98	23.24	21.46	22.18	21.23	-4.29%
Video Broadcasting Royalties	-	0.24	0.5	0.32	0.45	42.57%

Notes: 1. The RIT changed the statistical items in 2016 (and back-calculated the sales in 2015) to conform to development trends in digital music.

2. The RIT statistics include that of sales channels, and thus, its scope covers the top 12 domestic music record companies and independent releases. However, these numbers should only be used as a reference to observe market scale and structural changes, as there are still limitations to its coverage.

3. The source of the royalties data is ARCO.

4. The year-over-year (YoY) ratio is calculated using the original data.

Source: The Recording Industry Foundation in Taiwan (RIT)

2. Overview of Popular Digital Music Streaming Platforms in 2019

Digital music streaming platform charts show that the collaboration ratio between music and film or television works was about 15% to 18%.

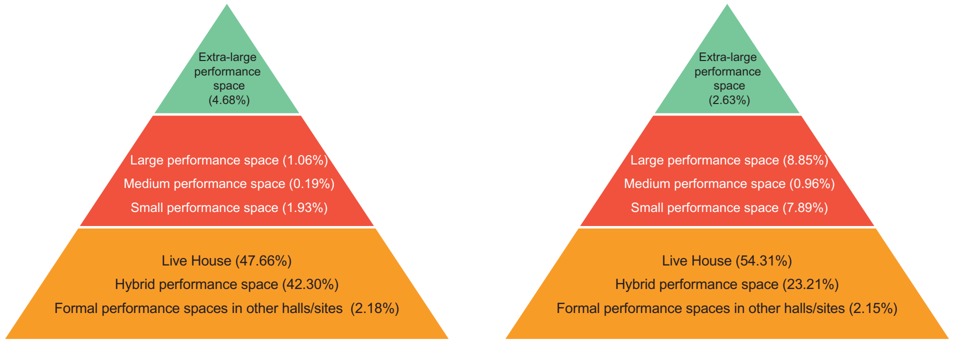
Table 1-2. Ratio of film and television works on the Spotify and KKBOX annual charts

Category	Spotify	KKBOX (Mandarin)	KKBOX (Taiwanese)
	Ratio of Songs	Ratio of Songs	Ratio of Songs
General	82.00%	84.00%	81.00%
Songs from Film and Television Works	18.00%	15.00%	18.00%
Songs from Gaming Products	0%	1.00%	1.00%
Total	100%	100%	100%

Source: Spotify “Top 50 Hot Hits in 2019 (Taiwan)”, KKBOX "Top 100 Mandarin Singles on the Yearly Chart” and “Top 100 Taiwanese Singles on the Yearly Chart” in 2019.

3. Number of Ticketed Performances by Domestic and Foreign Artists in 2019

Taiwanese and foreign artists tend to perform in live houses and hybrid performance spaces in recent years, which may be related to the rapid increase in the number of these venues in recent years. It can also be due to the fact that live houses and hybrid performance spaces are venues to cultivate new talent, and have enough space of various types to provide varied nurturing to artists in their different stages of development, which is conducive to the development of a healthy performance ecosystem.



Overview of ticketed performances by Mandarin artists (%)

Overview of ticketed performances by non-Mandarin artists (%)

Notes: 1. Extra-large performance venues: accommodates 10,000 people or more; large performance venues: accommodates 3,000 to 10,000 people; medium performance venues: accommodates 1,000 to 3,000 people; small performance venues: accommodates 1,000 people or less.

2. The information in the Cultural Activities Information System has already excluded non-popular music events; the content of the events is declared by the businesses themselves.

3. This table does not include outdoors and other venues.

Source: The Cultural Activities Information System of the Ministry of Culture - 2019 popular music events (performances and festivals), the systematic events information of major music venues compiled by this survey.

Figure 1-1. Distribution of ticketed performances by domestic and foreign artists in 2019 - by Mandarin/non-Mandarin-speaking

4. Participation in Popular Music Events in Taiwan

The general public participation rate in popular music events in 2019 was about 16.5% (the frequency of participation was 0.4 times/year). Additionally, the general public participation rate through listening to music online or downloads in Taiwan during 2016 and 2019 were generally about 60%.

Table 1-3: Participation in Cultural Activities - Popular Music

Survey Year	Overall Sample Size	Overall Participation Rate	Overall Participation Frequency (Times/Year)	Sample Size of Participants	Participation Frequency of Participants (Times/Year)
2019	10,121	16.5	0.4	1,746	2.8
2018	10,146	19.3	0.5	2,074	2.8
2017	10,296	19.9	0.5	2,151	2.8
2016	10,236	19.9	0.6	2,001	3.1
2015	10,115	18.4	0.5	1,762	2.7
2014	10,097	22.7	0.7	2,185	2.9
2013	4,147	25.5	0.7	1,018	2.8
2012	2,065	20.5	0.55	424	2.96

Notes: The numbers in this table are the participation rates in physical mediums/live events.

Source: Cultural statistics published over the years.

Table 1-4. Participation rate of cultural activities via the Internet - listening to music online or downloading

Survey Year	Overall Sample Size	Participation Rate (%)
2019	10,121	63.6
2018	10,146	60.0
2017	10,296	56.1
2016	10,236	61.9

Source: Cultural statistics published over the years.

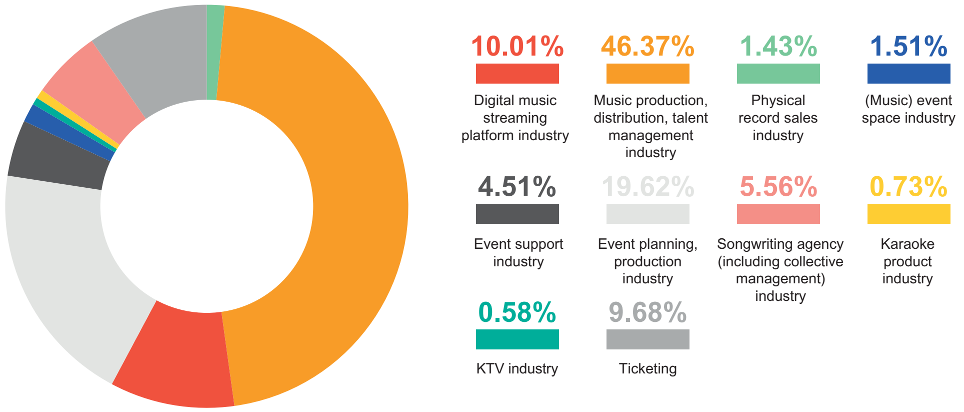
OVERVIEW

02

1. Overview of the Overall Industry

1.1 Overview of the Taiwan Popular Music Industry Total Revenue in 2019

The total revenue of the popular music industry in Taiwan in 2019 was NT$25.471 billion.



Notes: 1. This is the revenue data of the major companies.

2. Some companies engage in cross-field content businesses. Due to the nature of the data, the core business type of a company is used for categorization. Thus, some data may potentially have been counted twice when referencing other content industries or other industries.

3. This data may be lower than the actual revenues of the companies, as some of the companies adopt tax-saving or tax-exempt (triangular trade) practices, or small-scale operators (companies) with a monthly revenue of less than NT$200,000 are subject to business tax according to the assessment.

4. For the purpose of comparing with the data of previous industry surveys, only the revenue of the KTV companies and the karaoke product companies that contribute to the popular music industry (copyright) were calculated in this year's industry survey in comparison to 2018, as the revenue from catering by KTV companies and equipment rental/trade by karaoke product companies are not core businesses of the popular music industry.

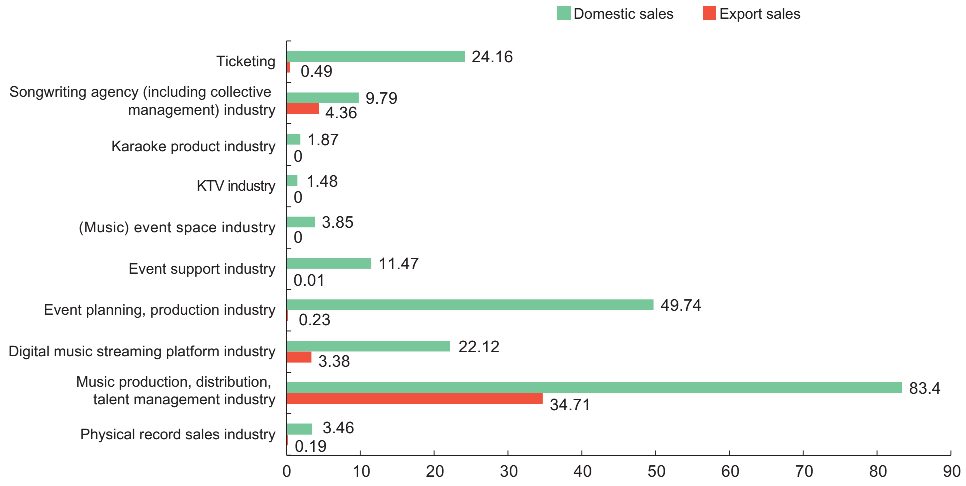
5. Additionally, the calculation of production value in this report included the physical record sales industry, the event support industry, and the ticketing industry.

Source: This survey was compiled from the information provided by the Financial Information Agency of the Ministry of Finance.

Figure 2-1. Total revenue structure of the popular music industry in 2019 (NT$ 100 million)

1.2 Overview of the domestic and export sales in the popular music industry in Taiwan in 2019

In terms of the domestic and export sales, the sales structure of the popular music industry in 2019 shows that the domestic sales revenue in Taiwan was NT$21.133 billion (82.97%), while the export sales revenue was NT$4.337 billion (17.03%).



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5. Additionally, this year's calculation of production value included the physical record sales industry, the event support industry, and the ticketing industry.

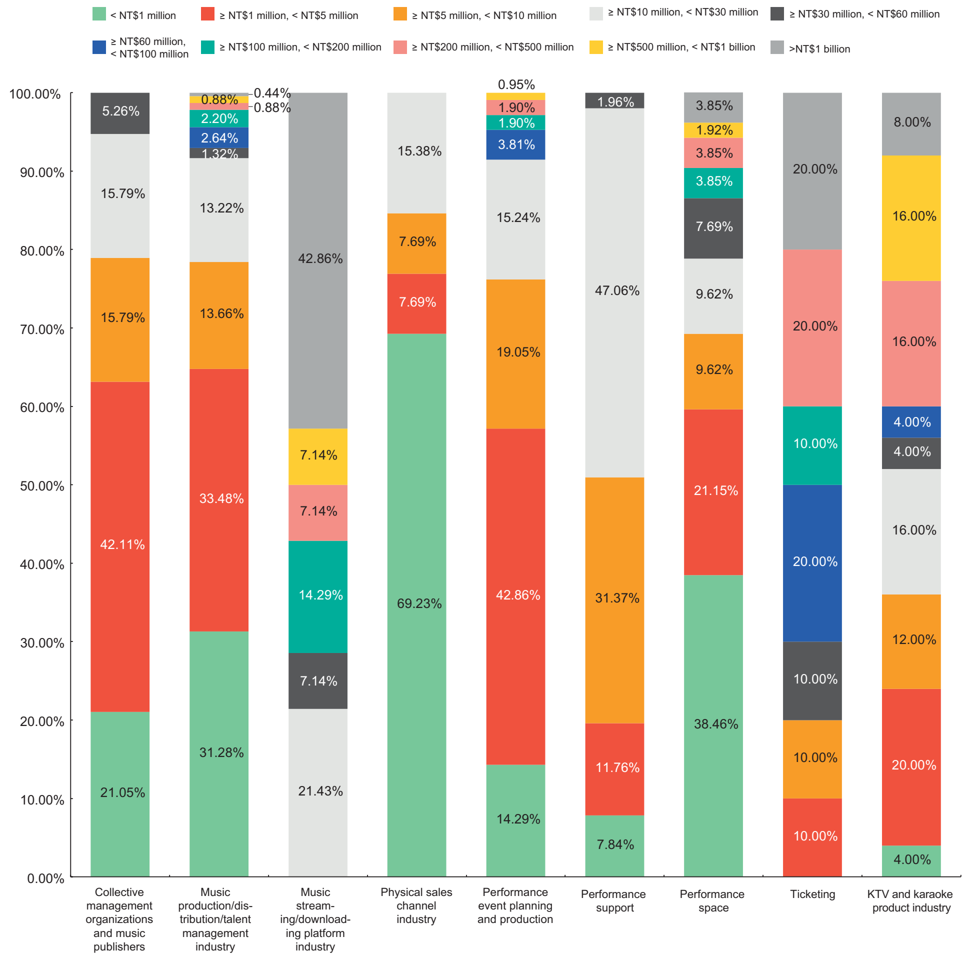
6. The export sales revenue of the karaoke product industry in 2019 was NT$898,400.

Source: This survey was compiled from the information provided by the Financial Information Agency of the Ministry of Finance.

Figure 2-2. Domestic and export sales structure of the popular music industry in 2019 (NT$ 100 million)

1.3 Overview of Capital Distribution in the Popular Music Industry in Taiwan in 2019

In terms of registered capital, most of the companies in a business category in the popular music industry in Taiwan have a capital of NT$5 million or less. Generally, those with a capital of over NT$100 million are diversified cross-field companies, such as: LINE MUSIC, YouTube MUSIC, udn Ticket Sales website, Kham Ticket Sales System, ERA Ticket Sales, etc.



Notes: The data may not total 100% as the numbers are rounded off.

Source: This survey.

Figure 2-3. Capital distribution among businesses in the popular music industry

1.4 Overview of the Number of People in the Popular Music Industry in Taiwan in 2019

In terms of the number of people in the industry, the companies in the popular music industry in Taiwan vary in their numbers, which depend on the nature of their business. The numbers of people in the music production/distribution/talent management industry and the performance event planning and production industry were both around 2,000 people, accounting for about 29% to 33% of the total number of people in the industry.

Table 2-1. Overview of the number of people in the popular music industry

Industry	Number of People	Ratio
Collective management organizations and music publishers	133	1.99%
Music production/distribution/talent management	2,209	33.06%
Music streaming/downloading platforms	375	5.61%
Performance event planning and production	1,976	29.58%
Performance support	470	7.04%
Performance space	1,260	18.86%
Ticketing	258	3.87%
Total	6,681	100%

Notes: 1. In order to avoid bias in the survey, the number of people in the physical music sales channel industry was not estimated for the time being, as the ratio of part-time employees in the physical music sales channel industry is rather high.

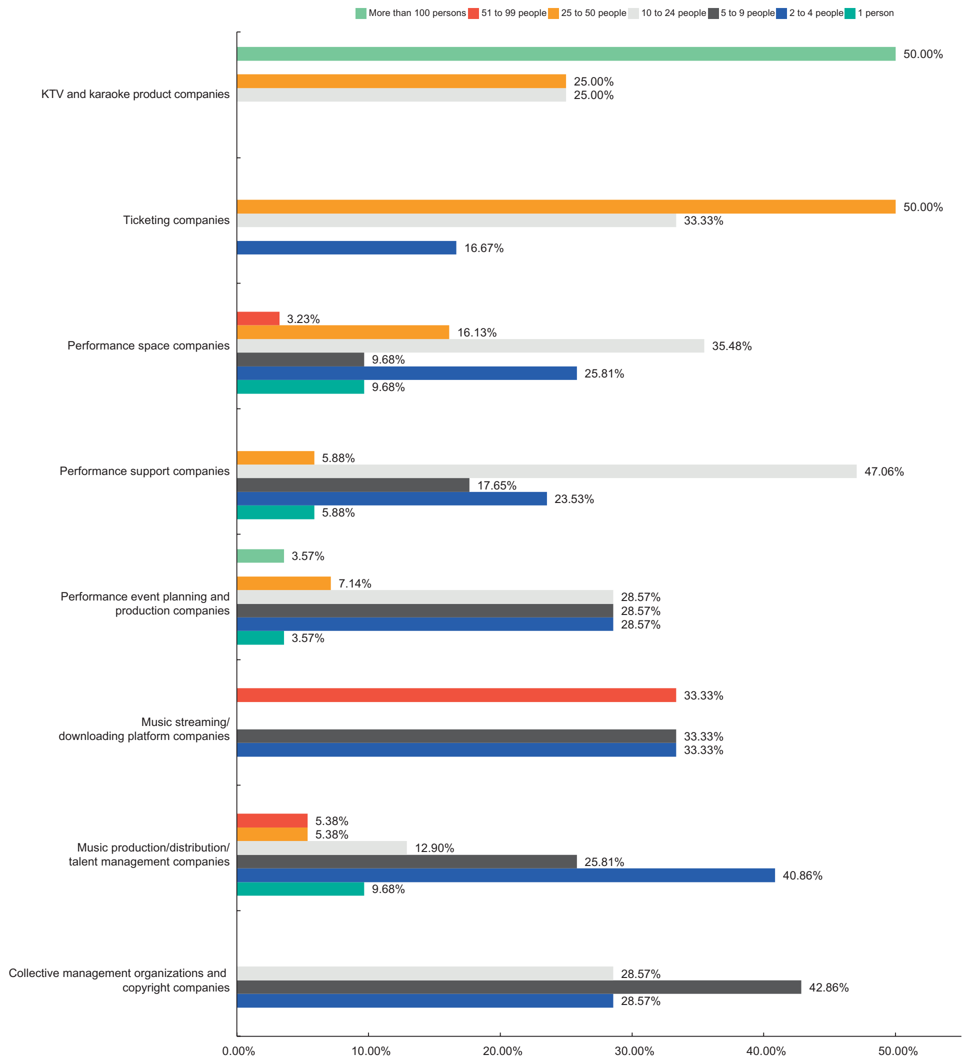
2. The number of people in the KTV and karaoke product industries was estimated to be 12,360 due to the demand for more service staff and catering staff. However, this number was not included in the table to avoid misunderstandings by the reader, as only the music copyright of these industries concerns the popular music industry.

3. The data may not total 100% as the numbers are rounded off.

Source: This survey.

1.5 Overview of the Scale and Distribution of Manpower in the Popular Music Industry in Taiwan in 2019

In terms of the industry distribution of the people, the results show that most of the popular music industry employs 24 people or less. The KTV and karaoke product industry alone has a business demand that leads to 50% of the industry employing more than 100 staff members, while 40.86% of the music production/distribution/talent management industry's average number of employees falls between 2 to 4 people, as there have been more single-artist agencies and business outsourcing in recent years.



Notes: The data may not total 100% as the numbers are rounded off.

Source: This survey.

Figure 2-4. Distribution of the number of people by sub-industry in 2019 (%)

2. Revenue and business model

2.1 Overview of the Revenue Structure of the Popular Music Industry in Taiwan in 2019

The music production/distribution/talent management industry has entertainment management (29.37%) as its main source of revenue, followed by music production (16.03%), song licensing and copyright management (14.62%), and digital music streaming/downloading (15.34%). The industry has even acquired revenue from event planning (6.71%), indicating that it has become more diversified.

Table 2-2. Operating revenue structure by sub-industry in 2019 (%)

Industry	Collective management organizations and copyright industry (N=8)	Music production/ distribution/ talent management (N=91)	Music streaming/ downloading platforms (N=2)	Performance event planning and production (N=25)	Performance support (N=13)	Performance space (N=30)	Ticketing (N=6)	KTV and karaoke products industry (N=3)
Music production industry	0.00	16.03	0.00	2.20	0.00	1.33	0.00	0.00
Physical music sales industry	5.00	6.81	0.00	0.20	0.00	0.00	0.00	0.00
Song licensing and copyright management industry	72.39	14.62	0.00	0.20	0.00	0.00	0.00	0.00
Digital music streaming/ downloading	19.25	15.34	99.00	0.20	0.00	0.00	0.00	0.00
KTV and karaoke products	3.25	1.68	0.00	0.20	0.08	0.00	0.00	67.33
Talent management	0.00	29.37	0.00	6.04	0.00	0.83	0.00	0.00
Peripheral products	0.00	1.64	0.00	2.66	0.00	0.87	0.83	1.33
Event space operation	0.00	0.54	0.00	2.91	0.00	74.60	2.03	0.00
Event planning	0.00	6.71	0.00	46.33	7.62	11.07	14.17	0.00
Event production/ engineering	0.00	2.23	0.00	27.08	89.31	4.27	1.67	0.00
Ticket sales services	0.00	0.04	0.00	7.07	0.00	1.67	64.97	0.00
Other cultural content fields	0.00	2.47	0.00	0.80	0.77	1.43	16.33	0.00
Other	0.11	2.51	1.00	4.11	2.23	3.93	0.00	31.33
Total	100	100	100	100	100	100	100	100

Notes: The data may not total 100% as the numbers are rounded off.

Source: This survey.

As for the performance space industry, there is a difference between the positioning of the performance space and the nature of business between live houses and non-live houses. Therefore, the main source of revenue for live houses is event space operation (47.50%) and event planning (24.00%), while for non-live house spaces, it is event space operation (84.45%), as most non-live house venues solely positions itself for space rentals and do not involve other business income.

Table 2-3. Performance space revenue structure in 2019 - by type (%)

Revenue Type	Live House (N=8)	Non-live House (N=22)
Music production industry	5.00	0.00
Physical music sales industry	0.00	0.00
Song licensing and copyright management industry	0.00	0.00
Digital music streaming/ downloading	0.00	0.00
KTV and karaoke products	0.00	0.00
Talent management	3.13	0.00
Peripheral products	0.75	0.91
Event space operation	47.50	84.45
Event planning	24.00	6.36
Event production/engineering	12.88	1.14
Ticket sales services	4.38	0.68
Other cultural content fields	1.13	1.55
Other	1.25	4.91
Total	100	100

Notes: The data may not total 100% as the numbers are rounded off.

Source: This survey.

2.2 Music Production Costs and Distribution in the Popular Music Industry in Taiwan

From 2017 to 2019, the average production cost per song increased every year, rising to NT$195,500 in 2019.

Table 2-4. Average production cost per song 2016-2019 (N$10 thousand)

	2016 (N=72)	2017 (N=67)	2018 (N=54)	2019 (N=62)
Average production cost	19.8	16.6	17.67	19.55

Notes: The survey subject from 2016 to 2018 was the popular music audio publishing industry.

Source: The 2018 Popular Music Industry Survey Report, and this survey.

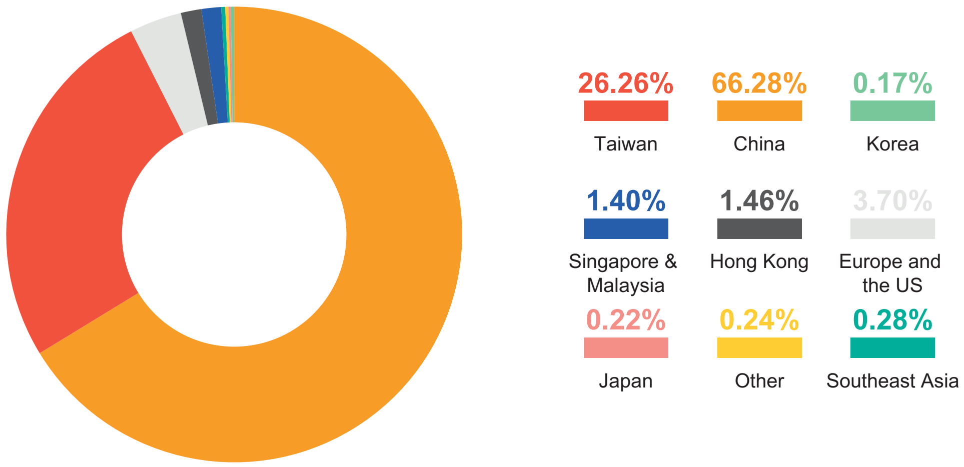
In terms of the distribution end, the ISRC data was used as the basis for the statistical analysis, and the results showed that the a total number of 8,113 albums/singles and 19,550 songs were released in 2019.

Table 2-5. Overview of the Taiwan music distribution market in 2019

	Number of copies released	Number of tracks released
Total number released	8.113 albums/singles	19,550 tracks

Source: ISRC - the International Standard Recording Code query system.

In terms of artist nationality, 66.28% of the tracks released in the Taiwan music distribution market in 2019 came from mainland Chinese artists, followed by Taiwanese artists (26.26%), and European and American artists (3.70%).



Notes: The data may not total 100% as the numbers are rounded off.

Source: ISRC - the International Standard Recording Code query system.

Figure 2-5. Overview of the Taiwan music distribution market in 2019 - by artist nationality

3. Trends in IP Licensing in the Popular Music Industry in Taiwan

In terms of the ratio of domestic and foreign music licensing revenue, the music production/distribution/talent management companies, as well as the collective management organizations and copyright companies all derive their music licensing revenue mainly from domestic sources.

Table 2-6. Domestic and overseas licensing revenue ratio of the music production/distribution/talent management companies 2015-2019 (%)

Item	2015	2016 (N=54)	2017 (N=62)	2018 (N=55)	2019 (N=39)
Domestic	82.34	50.80	58.10	60.80	67.87
Foreign	17.66	49.20	41.90	39.20	32.13
Total	100	100	100	100	100

Notes: The survey subjects from 2015 to 2018 are the popular music audio publishing industry.

Source: The 2018 Popular Music Industry Survey Report, and this survey.

Table 2-7. The domestic and overseas licensing revenue ratio of the collective management organizations and the copyright companies 2015-2019 (%)

Item	2015	2016 (N=7)	2017 (N=13)	2018 (N=14)	2019 (N=8)
Domestic	84.2	77.4	74.68	78.87	65.44
Foreign	15.8	22.6	25.32	21.13	34.56
Total	100	100	100	100	100

Notes: The survey subjects from 2015 to 2018 are the copyright companies and collective management organizations.

Source: The 2018 Popular Music Industry Survey Report, and this survey.

In terms of the licensed user type, digital music streaming/downloading platforms were the main licensed users of music production/distribution/talent management companies, collective management organizations, and copyright companies in 2019.

Table 2-8.The music production/distribution/talent management industry licensed user type in 2019 - by licensing revenue (%)

Licensed User Type	2019 (N=42)
(1) Digital music streaming/downloading platform	69.31
(2) Record company	5.36
(3) Karaoke product	3.80
(4) Event and performance	12.44
(5) Radio & television	6.06
(6) Other	3.03
Total	100

Source: This survey.

Table 2-9. Licensed user type of the collective management organizations and the copyright companies 2015-2019 - by licensing revenue (%)

Licensed User Type	2015	2016	2017	2018	2019 (N=8)
(1) Digital music streaming/ downloading platform	73.70	24.29	31.47	39.42	35.85
(2) Record company	-	6.07	8.37	5.84	14.63
(3) Karaoke product	-	-	-	7.36	6.90
(4) Event and performance	5.50	15.96	8.76	13.48	9.00
(5) Radio & television	7.34	23.59	17.65	14.99	28.63
(6) Other	13.46	30.09	33.75	18.91	5.00
Total	100	100	100	100	100

Notes: 1. The survey subjects from 2015 to 2018 are the copyright companies and collective management organizations.
2. Other non-profit, secondary transmissions, and others.
3. The data may not total 100% as the numbers are rounded off.

Source: The 2018 Popular Music Industry Survey Report, and this survey.

In addition to direct song licensing, a representative case in the Taiwan popular music industry in recent years is Rock Records In Love, in which Rock Records selected 20 of its classic songs from 2015 and adapted them into TV movies based on the lyrical context of the songs. After the broadcast of the first season of Rock Records In Love, it received wide acclaim and a NT$13 million (Note 1) grant from the Ministry of Culture. The license of the series will also be sold to Mainland China regions. Furthermore, show creator Vincent Fang also indicated that Mainland China is currently moving towards adapting music IPs into film and television productions (Note 2); for instance: 20 songs from Jay Chou's "Secret" were collected to be developed into a stage musical (Note 3).

1. Bureau of Audiovisual and Music Industry Development of the Ministry of Culture, "2015 List of Grant Recipients for HD TV Programs", https://www.bamid.gov.tw/information_194_64253.html (Read on: Feb 24, 2021).
2. Chiu Li-ling, "Music IP in Film and Television, New Opportunities for the Entertainment Industry", https://www.chinatimes.com/newspapers/ 20170626000115-260210?chdtv (Read on: Feb 24, 2021).
3. Liu Hui-Ru, "[Full Article] Broadway Team Creates Jay Chou 'Secret' Musical for EU, US Market", https://www.mirrormedia.mg/story/20170925insight001/ (Read on: Feb 24, 2021).

4. Industry Observation Indexes

4.1 Overview of Digital Music Streaming

4.1.1 2019 Spotify Music Charts

Spotify's 2019 "(Taiwan) Top 200" weekly charts show that 50.74% of the streamed songs were Mandarin songs, while 43.05% were European or American.

Table 2-10. Overview of Spotify "Top 200 (Taiwan)" weekly charts in 2019

Item	Japan	Korea	Europe and the US	Mandarin	Total
Number of appearances on the chart (song)	88	590	4,364	5,558	10,600
Ratio of the number of appearances on the chart (song)	0.83%	5.57%	41.17%	52.43%	100%
Total streaming traffic	4,436,913	40,223,425	309,443,197	364,763,854	718,867,389
Ratio of streaming traffic	0.62%	5.60%	43.05%	50.74%	100%
Number of tracks on the chart	10	98	546	444	1,098
Ratio of the number of tracks on the chart	0.91%	8.93%	49.73%	40.44%	100%
Number of artists on the chart	6	45	210	160	421
Ratio of the number of artists on the chart	1.43%	10.69%	49.88%	38.00%	100%
Average number of appearances on the chart per artist	14.67	13.11	20.78	34.74	25.18
Average number of appearances on the chart per track	8.80	6.02	7.99	12.52	9.65
Average streaming traffic per track	443,691.30	410,443.11	566,745.78	821,540.21	654,706.18

Notes: 1. The total streaming traffic is the cumulated volume over the 53 weeks of the charts.
2. The data may not total 100% as the numbers are rounded off.
Time period of the data: From Dec 27, 2018 to Jan 1, 2020, 53 weeks total.
Source: Spotify "Top 200 (Taiwan)" weekly charts in 2019.

4.1.2 2019 KKBOX Singles Chart

Analysis of the 2019 KKBOX "Weekly Top 50 Mandarin Singles Charts" and "Weekly TOP 50Taiwanese Singles Charts" showed that the years in which songs on the Weekly Taiwanese Singles Chart were released were quite dispersed. This was due to the smaller number of Taiwanese songs released and their longer life cycle than Mandarin songs.

Table 2-11. Overview of the years in which singles on the 2019 KKBOX "Weekly Top 50 Mandarin Singles Charts" and "Weekly Top 50 Taiwanese Singles Charts" were released

Year	Mandarin		Taiwanese	
	Number of appearances on the chart	Ratio of the number of appearances on the chart	Number of appearances on the chart	Ratio of the number of appearances on the chart
1997-1999	-	-	270	10.19%
2000-2005	-	-	592	22.34%
2006-2010	-	-	415	15.66%
2011-2015	114	4.30%	245	9.25%
2016-2018	1,324	49.96%	773	29.17%
2019	1,212	45.74%	355	13.40%
Total	2,650	100%	2,650	100%

Notes: The data may not total 100% as the numbers are rounded off.
Time period of the data: From Dec 28, 2018 to Jan 2, 2020, 53 weeks total.
Source: 2019 KKBOX "Weekly Top 50 Mandarin Singles Charts" and "Weekly Top 50 Taiwanese Singles Charts".

4.1.3 2019 KKBOX Album Chart

Analysis of the 2019 KKBOX "Weekly Top 50 Mandarin Album Charts" and "Weekly Top 50 Taiwanese Album Charts" showed that most Mandarin albums on the chart were released after 2016, accounting for 73.32% of the albums, while Taiwanese albums were mostly released after 2016, accounting for 42.57% of the albums. The total percentage of albums released between 1970 and 2010 was 47.77%.

Table 2-12. Overview of the years in which albums on the 2019 KKBOX "Weekly Top 50 Mandarin Album Charts" and "Weekly Top 50 Taiwanese Album Charts" were released

Year	Mandarin		Taiwanese	
	Number of appearances on the chart	Ratio of the number of appearances on the chart	Number of appearances on the chart	Ratio of the number of appearances on the chart
1970-1999	1	0.04%	301	11.36%
2000-2005	104	3.92%	521	19.66%
2006-2010	192	7.25%	444	16.75%
2011-2015	410	15.47%	256	9.66%
2016-2018	997	37.62%	735	27.74%
2019	946	35.70%	393	14.83%
Total	2,650	100%	2,650	100%

Notes: The data may not total 100% as the numbers are rounded off.
Time period of the data: From Dec 28, 2018 to Jan 2, 2020, 53 weeks total.
Source: 2019 KKBOX "Weekly Top 50 Mandarin Singles Charts" and "Weekly Top 50 Taiwanese Singles Charts".

4.2 Overview of Performance Events

4.2.1 Regional Distribution of Popular Music Events in Taiwan in 2019

The Cultural Activities Information System of the Ministry of Culture - 2019 popular music events (performances and festivals) and the systematic events information of major music venues inventoried by this survey show that 5,723 popular music events took place in 2019, and nearly 50% were concentrated in the northern region.

Table 2-13. Overview of performance events in 2019 - by region

Region	General music event	Non-special music event	Music festival special event	Street music event	Holiday music event	Total
North	37.91%	46.73%	43.95%	82.96%	41.73%	49.12%
Central	8.82%	30.60%	23.79%	0%	20.86%	10.59%
South	44.51%	19.05%	23.39%	17.04%	33.09%	34.18%
East	8.17%	2.64%	4.44%	0%	3.60%	5.43%
Outlying islands	0.59%	0.97%	4.44%	0%	0.72%	0.68%
Total	100%	100%	100%	100%	100%	100%

Notes: 1. General music event: Music-themed performance events; non-exclusively music events: final presentations, non-music-themed performance events; dedicated music festivals: music-themed festival performance events; street music events: music performance events that take place on the streets; holiday music events: music performance events in the name of holidays.

2. The information in the Cultural Activities Information System has already excluded non-popular music events; the content of the events is declared by the businesses themselves.

3. The data may not total 100% as the numbers are rounded off.

Source: The Cultural Activities Information System of the Ministry of Culture - 2019 popular music events (performances and festivals), the systematic events information of major music venues compiled by this survey.

4.2.2 Overview of Popular Music Venue Ticket Sales in Taiwan in 2019

In terms of the number of ticketed events, large or medium performance venues and live houses were mainly commercial in nature, so 90% or more of the events were ticketed.

Table 2-14. Overview of ticketed and free events in 2019 - by venue type

Category	Ticketed	Free	Other	Total
Extra-large performance space	90.53%	3.16%	6.32%	100%
Large performance space	94.74%	3.51%	1.75%	100%
Medium performance space	41.18%	47.06%	11.76%	100%
Small performance space	64.65%	34.34%	1.01%	100%
Live House	94.20%	3.42%	2.38%	100%
Hybrid performance space	61.02%	8.90%	30.08%	100%
Formal performance spaces in other halls/sites	15.02%	80.20%	4.78%	100%
Outdoor space	1.00%	97.68%	1.33%	100%
Other	25.07%	72.88%	2.05%	100%
Total	38.88%	52.84%	8.28%	100%

Notes: 1. Extra-large performance venues: accommodates 10,000 people or more; large performance venues: accommodates 3,000 to 10,000 people; medium performance venues: accommodates 1,000 to 3,000 people; small performance venues: accommodates 1,000 people or less.

2. The information in the Cultural Activities Information System has already excluded non-popular music events; the content of the events is declared by the businesses themselves.

3. The data may not total 100% as the numbers are rounded off.

Source: The Cultural Activities Information System of the Ministry of Culture - 2019 popular music events (performances and festivals), the systematic events information of major music venues compiled by this survey.

4.2.3 Number of Performances by Domestic and Foreign Artists in 2019

Domestic and foreign artists mostly perform in live houses and hybrid performance spaces. The ratio of these artists' performances in hybrid performance spaces is high, and this phenomenon is potentially related to the rapid increase of hybrid performance spaces in recent years.

Table 2-15. Distribution of the number of performances by domestic and foreign artists in 2019

Category	Mandarin	Japan	Korea	Southeast Asia	Europe and the US	Multinational	Total
Extra-large performance space	1.58%	5.31%	5.56%	0%	1.89%	0.99%	1.66%
Large performance space	0.39%	7.96%	44.44%	0%	2.83%	0.33%	1.00%
Medium performance space	0.21%	2.65%	0%	0%	0%	0.99%	0.30%
Small performance space	1.29%	14.16%	22.22%	0%	0.94%	1.32%	1.73%
Live House	15.94%	46.90%	24.07%	29.41%	50.94%	36.09%	18.38%
Hybrid performance space	22.59%	16.81%	0%	11.76%	24.53%	21.19%	22.19%
Formal performance spaces in other halls/sites	5.20%	2.65%	3.70%	23.53%	9.43%	2.32%	5.12%
Outdoor space	39.02%	3.54%	0%	29.41%	2.83%	31.79%	36.87%
Other	13.78%	0%	0%	5.88%	6.60%	4.97%	12.76%
Total	100%	100%	100%	100%	100%	100%	100%

Notes: 1. Extra-large performance venues: accommodates 10,000 people or more; large performance venues: accommodates 3,000 to 10,000 people; medium performance venues: accommodates 1,000 to 3,000 people; small performance venues: accommodates 1,000 people or less.
2. The information in the Cultural Activities Information System has already excluded non-popular music events; the content of the events is declared by the businesses themselves.
3. The data may not total 100% as the numbers are rounded off.

Source: The Cultural Activities Information System of the Ministry of Culture - 2019 popular music events (performances and festivals), the systematic events information of major music venues compiled by this survey.

4.2.4 Overview of the Income and Expenditure of Popular Music Performance Events in Taiwan in 2019

In terms of event production costs, the production costs of artists performing in languages other than Mandarin in various sizes of spaces are higher than those of artists performing in Mandarin. A further look into the event expenditure ratio will reveal that the expenditure items of Mandarin artist and non-Mandarin artist events are both dominated by event production costs and artist performance fees.

Table 2-16. Production cost of performance events in 2019 (NT$10 thousand)

Scale of the Event	Mandarin Artists	Non-Mandarin Artists
(1) 1,000 people or less	41.71	83.55
(2) 1,001 to 3,000 people	138.00	475.00
(3) 3,001 to 5,000 people	494.00	650.00
(4) 5,001 to 10,000 people	1,140.26	1,100.00
(5) 10,001 people or more	1,953.33	-
(6) Outdoor music festival venue	122.50	-

Notes: N=14.

Source: This survey.

Table 2-17. Overview of performance event expenditure ratios in 2019 (%)

Scale of the Event	Mandarin Artists	Non-Mandarin Artists
(1) Event production fee	21.63	25.71
(2) Event software and hardware engineering fee	22.60	12.57
(3) Event space venue commission	10.23	12.14
(4) Event music licensing fee	1.81	2.71
(5) Event artist performance fee	29.15	20.00
(6) Event ticketing system commission	1.75	3.43
(7) Event reception/temporary staff fee	8.08	8.00
(8) Event tax	2.71	10.57
(9) Other expenditures	2.05	4.86
Total	100	100

Notes: 1. N=20.
2. The ratios of each item for Mandarin and non-Mandarin artists are affected by the total expenditure amount; please compare each item according to Mandarin artists or non-Mandarin artists in interpreting the data.

Source: This survey.

In terms of the ticket prices of Mandarin artists and non-Mandarin artists, the ticket prices for non-Mandarin artists are generally higher than those of Mandarin artists due to the greater event production costs.

Table 2-18. Overview of ticket sales of ticketed performance events in 2019 (NT$)

Ticket Price	Mandarin Artists	Non-Mandarin Artists
(1) Lowest price	515	964
(2) Average price	1,320	2,256
(3) Highest price	2,486	3,914

Notes: N=17.

Source: This survey.

4.3 Overview of Popular Music Performance Spaces in Taiwan in 2019

There are differences in the nature of live houses and non-live house performance spaces. Consequently, in terms of popular music venues, 74.20% were live house performances. Similarly, among the self-hosted popular music events, the ratio of self-hosted events in live houses (41.57%) was higher than that in non-live house spaces (17.37%).

Table 2-19. Overview of the ratio of the popular music events to the total number of events in 2019 (%)

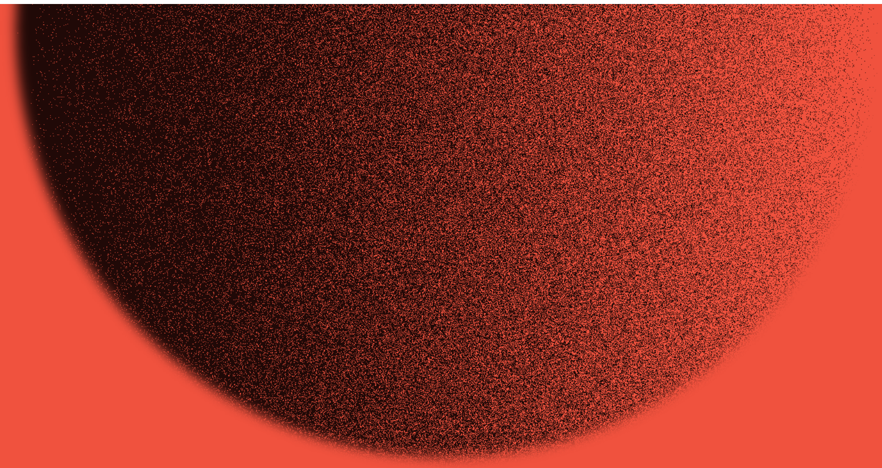
	Overall (N=29)	Live House (N=10)	Non-live House (N=19)
Ratio of popular music events	31.94	74.20	12.96

Source: This survey.

Table 2-20. Overview of the self-hosted events by event space operators in 2019 (%)

Item	Overall (N=26)	Live House (N=7)	Non-live House (N=19)
Self-hosted events	23.88	41.57	17.37
Space rentals only	76.12	58.43	82.63
Total	100	100	100

Source: This survey.



FORECAST

03

1. Digital Development Trends

The development of the popular music industry is inextricably linked to digital technology. Music creation, production, distribution, and performance are all affected by digital technology, creating new and innovative opportunities for the entire creative economy.

1.1 Diversifying Music Creation Formats

Technological advances have a direct impact on musical styles, for example, the development of hip-hop and electronic dance music (EDM) is closely connected to technological advances. Music created with electronic synthesizers and mixers, or by mixing traditional instruments with the aforementioned digital technologies, has sparked even more musical innovation and will become increasingly difficult to distinctly categorize in the future.

1.2 AI Tools Simplify Music Production and Distribution Methods

Extensive application of AI tools in the future will change music production and distribution operations, allowing them to become easier and more affordable. This trend will enable thousands of music creators worldwide to create high quality and professional work on their own, but it will be difficult to reduce production costs in the short-term because the technology is yet to be widely available. However, with the help of AI tools, the time it takes for music creators to produce music will be greatly reduced. There will be opportunities to see the general public with the tools needed to produce music by professional musicians in the foreseeable future. People in all parts of the world could become artists in the future.

1.3 Automation will Reshape the Marketing of Music

In 2019, Spotify added more than 40,000 songs per day; in February 2020, Spotify was adding nearly 60,000 songs per day (Note 4). Furthermore, as AI technology expands and the volume of songs released grows globally, this trend will change the way popular music is marketed. Music marketing will require automated tools to analyze which songs on which platforms are more likely to drive mass streaming, allowing record companies to further target their investment in songs that sell.

4. TIM INGHAM, "OVER 60,000 TRACKS ARE NOW UPLOADED TO SPOTIFY EVERY DAY. THAT'S NEARLY ONE PER SECOND.", https://www.musicbusinessworldwide.com/over-60000-tracks-are-now-uploaded-to-spotify-daily-thats-nearly-one-per-second/ (Read on: Feb 24, 2021).

1.4 Changes in Music Experience Formats

In recent years, the number of small, medium, and large music festivals has continued to rise. More space and opportunities have been made available for concert events due to the completion and opening of two new major popular music centers in Taipei and Kaohsiung. They also provide more professional support and services for production units, thus boosting momentum for new types of performances. The COVID-19 pandemic has accelerated the development of virtual concerts online worldwide, and many artists have recently switched to virtual concerts to engage with their fans online. Wearable tech devices will enhance the authentic experience of virtual concerts online in the future.

1.5 Blockchains will have an Impact on Music Copyright Management

As the digital music environment and emerging music services evolve, more effective and transparent management and analysis methods will be needed to help creators, record companies, online streaming platforms, and other users better understand the payment and revenue generated from their music copyrights. This technology is already being used in Taiwan to help make music copyright management more transparent and faster. For example, "Soundscape" was established in early 2018 and provides music distribution services to digital music platforms around the world. The platform allows musicians to retain 100% of the copyright and provides ISRC and UPC barcodes. More importantly, it incorporates banking cash flow services, and applies blockchain technology for digital asset registrations and transfers, which enables the platform to not only monitor song performance and revenue trends in real time, but also shorten the royalty payment procedures (e.g., automatic revenue division for co-creators) (Note 5, Note 6). Another example is "Music Bravo", which was co-developed and co-launched in 2020 by the Science and Technology Law Institute of the Institute for Information Industry (III) and Music Bravo. It also uses blockchain technology to record songs, singers/performers, lyrics, and other information in real time, and can distribute profits through intelligent contracts (Note 7, Note 8). Basically, the application of this type of technology is aimed at finding a fair and secure environment for creative work, so that the popular music industry can move towards a more prosperous future.

5. Soundscape, https://www.soundscape.net/distribution.
6. Chang Ting-yu, "Hope for Musical Artists! Soundscape, Taiwan's First Block Chain Music Release Platform Launched", https://www.bnext.com.tw/article/47772/kkfarm-soundscape-blockchain (Read on: Dec 24, 2020).
7. Peng Hui-ming, "Music Bravo and III Create Mandarin Music Management Platform with Blockchain", https://udn.com/news/story/7240/5013520 (Read on: Dec 24, 2020).
8. Mash Yang, "III and Internet Startup Music Bravo Launch Digital Mandarin Music Management Platform, Blockchain Decentralization Resolves Creative Copyright Issue", https://www.cool3c.com/article/158043 (Read on: Dec 24, 2020).

2. 5G Applications in the Popular Music Industry

2.1 Predicted and Actual 5G Applications in the Popular Music Industry

The trend of 5G applications in the popular music industry can be examined in four aspects: production, education, performance, and promotion and marketing. Practical applications may include lossless audio products, remote education, live multi-location performance overlaid streaming, augmented reality (AR), multi-view and high-definition video, and real-time interaction:

- Production: The data quality and speed of 5G technology can be used for remote live recordings or co-productions. Furthermore, music creations or performances will also be assisted by 5G technology to enhance the specifications of the finished productions.
- Education: With the help of 5G technology, music skills can be shared and taught in real time. Even the collection of massive amounts of data is possible, to create a database that can help the public learn music.
- Performance: 5G increases the possibility of VR performances. The public can experience a full concert or festival, etc., in a space other than the live venue. The audience can customize their experience, for example, by selecting from multiple camera angles or choosing to focus on specific elements of the performance (e.g. specific members of a group). Additionally, artists from around the world can perform simultaneously online using 5G technology.
- Promotion & Marketing: UHD (4K) high-definition video can be viewed on various mobile devices to further promote popular music products to the public through high-quality audiovisual products. In addition, the advantage of 5G's connectivity and customization will help artists and related industries to utilize the features of vertical industries to learn the data and personal preferences of the audience (including potential customers).

Table 3-1. 5G applications in the music field

	Examples
Production	■ Elk Audio and Ericsson are collaborating on a remote real-time music production project.
Education	■ In 2019, The world's first 5G music course was taught by musician and songwriter Jamie Cullum, enabling online skill sharing thanks to the low latency of 5G. ■ Ericsson and King's College London co-developed various 5G applications. One of the projects is for renowned composer and pianist Mischa Dohler. It digitizes his piano skills by tracking and recording finger movements with a tactile glove and storing the data in a database, allowing people everywhere to download tutorials and learn the instrument through muscle memory.
Performance	■ The Cruïlla Festival and the Mobile World Capital Barcelona Foundation are working together to make Cruïlla the first 5G music festival in Europe. The venue offers an immersive 360-degree virtual reality (VR) experience, allowing audience members in other locations to watch 360-degree streaming media images using headphones, enabling them to experience being on stage, and more. This project is part of Barcelona's 5G initiative, which aims to turn Barcelona into a 5G digital hub in Europe. ■ Genie Music has created a hologram of the late artist Yoo Jae-ha performing the song "Past Days" with the band Sweet Sorrow. This work demonstrates that visual content has become the core element of music streaming media services. In the future, Genie Music will provide more visual content on the music streaming platform to meet consumers' needs.
Promotion & Marketing	■ SoftBank, a Japanese telecommunications company, is using Japan's largest music festival, FUJI ROCK FESTIVAL, to test 5G real-time transmission and VR video display services. One particularly notable feature was the use of 5G streaming technology to connect multiple cameras at the event to provide "real-time crowd imaging" services, allowing fans to adjust their schedules based on this data.

Source: This survey.

2.2 Issue of 5G Applications in the Popular Music Industry in Taiwan

Currently, most of the 5G applications in Taiwan and abroad are case studies or experiments, and we have yet to find any strategies for the integration of content, platforms, networks, devices, and other software and hardware integration. Taiwan first launched 5G technology in 2020, and the popular music-related software and hardware industries are still in the exploration phase. The main issues of 5G applications in the popular music industry can be summarized from the opinions of the content, platform, network, device, and venue companies related to "popular music" X "5G".

There are still some issues to overcome in the development of 5G applications in the popular music industry in Taiwan, such as data attribution, operation risks, talent cultivation, platform transmission, and others. The following is a summary of the issues from four aspects: content (C), platform (P), network (N), and device (D).

2.2.1 Content (C)

■ Talent cultivation

Cross-industry talent is the only way to evaluate the feasibility of a technology, to transform wild ideas for performances into concrete and practical solutions, or to understand the technological limits of and the keys to technological breakthroughs. However, some companies believe that there is not much overlap between the popular music industry and the technology industry in Taiwan, resulting in a lack of cross-industry talent. It may not be possible to fill the cross-industry talent pool in the short term, but as technology deepens its impact on the content industry, the demand for this type of talent will become stronger.

■ Copyright management

Currently, 5G technology is being used to present a 360-degree (multi-view) concert in video, allowing consumers to watch the performance in their preferred perspective. The artist's entire body could be used. This may prompt the artist or agencies to think of new related contracts in the future. Current standard copyright contracts often contain restrictions or clear limitations on the scope of use, which will further increase the cost of communication between artists or agencies and telecommunications companies or technology industry companies. This phenomenon will have an impact on the collaboration between the content industry and the technology industry in Taiwan.

■ Cost structure

The largest portion of the cost structure of popular music performance events in the past was usually occupied by the artist's performance fee. However, if 5G and other related technology applications are included in the popular music performance events, such as AR/VR, remote control, AI, and others, the event growth structure will change dramatically, and the event production costs increase due to 5G and other related technologies. This is particularly true in the existing development environment of our nation. For example, most of the performance spaces are not yet equipped for 5G network, and technology applications are not yet ubiquitous, making the cost of technology, equipment, and manpower still rather high.

Further, if the overall cost of the event increases, the ticket price will increase to enable the event organizer to maintain a certain level of revenue. However, since consumers are sensitive to ticket price hikes and most ticketed music events are held in small performance venues, it is expected that it will be difficult for the event organizer to increase their revenue. This phenomenon also explains why most of the music events in Taiwan that use 5G and other related technologies are experimental or project-based, and require corporate sponsorship.

■ Operation risk

Since live performances emphasize a one-time experience, even within the same series of performances, the interaction of different participants can create a different atmosphere from one performance to the next. Therefore, the main consideration of the organizers is ensuring that each performance can run smoothly. However, various tech applications using 5G mostly emphasize remote or wireless control. The new technology will add additional risks to the performance. Also, since the network is controlled by the telecommunications companies, they will be involved in repairing the network. Given the multiple risk factors, most event organizers choose to ensure a live experience for the consumers, rather than apply innovative technology to the show.

■ Market demand

In the current stage of popular music performance event development, most events do not have a demand to use 5G and related technologies. The majority of the events that adopt 5G are experimental events to demonstrate the properties of 5G. Currently, most of the network technologies required for popular music performance events can be handled with 4G. Therefore, for the time being, most of the event organizers or producers do not have an urgent need for 5G when designing their shows. In the absence of significant market demand, the application of 5G and related technologies in popular music performance events will be hindered, because gradual improvements and addressing technological limitations through market response is only possible when the technology is actually applied.

2.2.2 Platform (P)

■ Platform transmission

Currently, the demand from domestic and foreign non-specialized or specialized broadcasting platforms (e.g. OTT platforms) to broadcast Mandarin popular music performances events remains low, and likewise for VR and extended reality (XR) platforms. Although this phenomenon may be due to the fact that most video platforms use a buyout mechanism, unlike music streaming platforms, which calculate profits through streaming traffic. This results in video platforms choosing the content of music performance events based on the level of market acceptance. For example, at the moment, the music performance event content available on domestic and foreign video platforms (including VR platforms) are mostly international superstars that are popular on the market. By adding the content to each platform, it is possible increase the content visibility on the Mandarin or international market. This also benefits the development of a niche and one-source multi-use opportunities when implementing VR and XR content in the future.

2.2.3 Network (N)

■ Development environment

Most nations began to develop 5G around 2019 and 2020, which shows that the global 5G network environment is not yet mature. This will affect the development of 5G network technology in the field of live multi-location performance overlaid streaming, because it is currently mainly implemented based on the assumption of a fixed latency between two locations, and also involves cable hubs, switches, and other devices. Therefore, live multi-location performance overlaid streaming has yet to realize true real-time performance in either audio or video. It may be possible to achieve true live multi-location performance overlaid streaming in the short term with a private 5G network between two locations connected by a telecommunications company. However, a breakthrough can be expected only after the 5G network environment in Taiwan is installed and running with operational maturity.

■ Data attribution

With the increasing diversity of channels for the public to access the popular music industry, consumer preferences have become more difficult to learn. Furthermore, most of the market data are held on domestic and foreign platforms, making it more difficult for domestic popular music industry companies to learn and predict consumer preferences, behaviors, and other information. In the future, through 5G vertical industry applications, private network consumer data can be obtained. Consumer preferences and behavioral changes can also be predicted through the accumulated data. However, the problem of consumer data attribution and personal data obtained through private networks may become a issue that will require a solution.

In the case of data attribution, the private network may be installed directly in the performance space or be applied by the event organizer from the telecommunications company. If the private network is directly installed in the performance space, the data may be attributed to the performance space operator or to the telecommunications company. If the event organizer applies for a private network directly from the telecommunications company or rents a private network line from the performance space, then attribution of data will be more complicated. Due to considerations for the Personal Data Protection Act and user privacy, the data may still be in the hands of the telecommunications company, making it difficult for companies in relevant industries to further utilize the data.

2.2.4 Device (D)

■ Vertical integration

In addition to the popular music industry and telecommunication companies, 5G and related technology applications require more developers, software vendors, innovative designers, and translators to integrate the various content industries involved in 5G and related technologies, and to implement consumer preferences and behavior data-driven analysis. Currently, there is a lack of integration from the industry to the market, and an integrated industry ecosystem is needed to maximize the economic benefits of 5G and related technology applications in the content industry.

■ Accessory devices

Currently, one of the key discussion points in the application of 5G and related technologies is AR or VR applications, which are also the more highly anticipated applications in the industry and on the market. The current scope of AR glasses is too limited, and VR requires the use of a headset, thus it will continue to be difficult to expand the market for AR and VR applications after the development of 5G network technology. Smartphones are a technology product that consumers are willing to carry with them, and it shows that technology products must be multi-purpose, compact, lightweight, and affordable in order to expand the hardware market. With the expansion of the hardware market, the content market (e.g. apps) has also expanded rapidly and has even played a major role in the communication market. The market for 5G and AR/VR technology applications is likely to expand if the devices are more in-line with the size and functionality required to provide the public with suitable sensory experiences.

2.3 Summary

The creative side is less likely to be replaced by technology (e.g. AI). The crucial changes that 5G has made to the popular music industry is in the way consumers experience music. Among AR, VR, XR, and holograms, XR and holograms can best allow consumers to approximate an in-person experience. In addition, through virtual human technology in the future, artists will be able to customize various interactions, reducing the distance between consumers and artists. Another important technological change is the LED screens of performance events, in which the video and machinery are linked together. If all of it becomes wirelessly linked with 5G in the future, the staff can remotely control the projection, the equipment personnel can save the time and cost of transporting the equipment, and the venue control personnel may also control the venue through remote controllers. This will reduce the cost of manpower and machinery during international performances.

In terms of business models, although virtual concerts cannot fully replace physical concerts, through the combination of 5G and related technologies, 5G is expected to expand the one-source multi-use benefits of popular music performance events. For instance, through the revitalization of old and new IPs, online video platforms, immersive experience modes (AR, VR, XR, etc.) and content conversion (experience games, etc.), performance events will be able to set the corresponding ticket price or fee standards according to different experiences and interactive contents, maximizing the economic benefits of IPs.

● 3. The Future of the Popular Music Industry in the Pandemic Era

The impact of the COVID-19 pandemic has led nations to the adopt policies such as entry restrictions and stay-at-home disease prevention, which have indirectly affected some of the core activities of the industry. One aspect of the activities to have been severely impacted is live music performances and international popular music conferences that focus on communication. Therefore, it is necessary to explore the uncertainty of people's economic and physical health, the changes in life styles, and the transformation of recreational behavior in the pandemic era. It is also necessary to further clarify the possible development of each segment of the industry ecosystem, from creation, production, to consumption, etc.

3.1 Future Development Trends of the Popular Music Industry

The pandemic has had an impact on all sectors of the popular music industry. The following are possible future industry trends in production and distribution, sales, performance, marketing, and consumption.

3.1.1 Production and Distribution

With changes to the business models of major record companies and delays in the release of albums by well-known artists, the subsequent trend of self-produced works by artists and songwriters is likely to accelerate, and even independent record companies may benefit in their record sales. For example, Ditto, an online music distribution platform, saw a 300% increase in uploads in March 2020 compared to the same period in the past. This trend may continue to develop moving forward (Note 9). Additionally, in terms of genres, the public seems to prefer faster (and happier) songs. According to the BBC, the average tempo of the 2020 Top 20 hits has reached 122 beats per minute, which exceeds that of Top 20 hits in the past decade. This phenomenon may come from the fact that people in unstable times have a greater need for songs that provide hope, allowing them to stay positive (Note 10).

3.1.2 Sales

With the impact of the pandemic, music streaming platforms seem to focus more on expanding their diverse content. After all, with most songs on all music streaming platforms, retaining customers has become the main mission for platform owners. In the case of Spotify, the platform has signed long-term global licensing agreements individually with the Universal Music Group and the Joe Rogan Experience (podcast). Moreover, it has also signed exclusive podcast deals with Warner Bros. and DC Comics, and will produce a series of podcasts with original narrative scripts. The Harry Potter audiobook will become the first Originals & Exclusives (O&E) story podcast (Note 11). In the future, with the increase in competition or cross-industry alliances within and outside the industry, Taiwan's music streaming platforms may need to expand to more diversified content or services in order to maintain their membership and revenue.

9. ELIAS LEIGHT, “Independent Artists Are Making More Music Than Ever”, https://www.rollingstone.com/pro/features/independent-artists-making-more-music-tunecore-cd-baby-982708/ (Read on: Sep 21, 2020).
10. Mark Savage, “Pop music is getting faster (and happier)”, https://www.bbc.com/news/entertainment-arts-53167325 (Read on: Sep 21, 2020).

3.1.3 Performances

As some live music performances have been converted to online virtual performances, and there is a significant difference between offline and online music event ticket prices, it may be necessary to consider whether fans are willing to pay higher ticket prices to support the actual live performance standards of artists in the future. If we look at the business model of online concerts without ticketing, it will be difficult for record companies or event organizers to cover the cost of expenses (Note 12). Furthermore, with the interactive impact of various factors such as the global economic slowdown and high unemployment rates, the public’s disposable income may be lower than in the past, thus reducing the frequency of attending live music performances.

On the other hand, the impact of the pandemic has accelerated the technology and applications of global live webcasts. This has made online concerts another source of revenue for live concerts, allowing fans in other cities or unable to travel to concerts to still watch live concerts from a different location. However, there is no substitute for the one-time experience of people at the same venue attending a real performance, because live music performances are still unique. Therefore, it remains unlikely that online concerts will fully replace live music performances.

3.1.4 Marketing

According to PwC's report “Global Entertainment & Media Outlook 2020-2024”, non-digital advertising revenue in the global entertainment industry held roughly flat between 2015 to 2019, while digital advertising revenue show a clear growth trend. However, due to the impact of the pandemic, non-digital advertising revenue is more volatile than digital advertising revenue. This phenomenon may be attributed to the increase in consumer digital behavior, resulting in advertisers investing more resources in digital advertising. With the accelerated development of digital technology in the future, it is expected that digital platforms will expand rapidly and attract more advertisers to increase their investment in digital advertising.

3.1.5 Consumption

With the increasing diversity of entertainment events available to the public, and thanks to the rapid development of Internet technology, the different entertainment needs of the public can be satisfied anytime and anywhere through various home and portable devices. From the aforementioned impact analysis, it is clear that with the high level of competition in entertainment events, the future competitors in the popular music industry are no longer limited to related companies in the industry, but also from the video, gaming, and publishing industries. However, in addition to competitive relationships, there may also be cross-industry collaborations. The future popular music industry may need to strengthen its bond with gaming, media, social networks, and other entertainment channels to increase consumer access to music and to promote music-related consumption behaviors.

11. Anne Steele, “Spotify, Warner Bros. Partner to Create DC Superhero, Supervillain Podcasts”, https://www.wsj.com/articles/spotify-warner-bros-partner-to-create-dc-superhero-supervillain-podcasts-11592485200 (Read on: Sep 21, 2020).
12. Yu Yen-ni, “Mayday Concert Watched by 40M Around the World”, https://www.chinatimes.com/newspapers/20200602001330-260112?chdtv (Read on: Sep 21, 2020).

3.2 Summary

The farthest-reaching impact of the pandemic on the global popular music industry is the interruption of live music performances, with live music performances in various countries being cancelled or postponed, as well as all overseas live music performances such as overseas concert tours and meet-and-greets being cancelled or postponed. In particular, the ongoing global pandemic will continue to affect the normal performance of live music. Currently, there are cases of paid and free online performance events around the world, but after the pandemic stabilizes, the public demand for live performances will probably return. Therefore, the future business model of online performance events, the possible changes and the characteristics of consumer groups are all issues worthy of attention.

4. Changes in the Popular Music Industry Ecosystem in the Digital Age

With the changes in digital technology, the popular music industry ecosystem is being divided and restructured in an ever-increasingly complex manner. New technologies and diverse platforms are driving changes in popular music production, distribution, listening, and performance environments, affecting not only the roles and functions of the original players, but also the cross-media and cross-industry integration in response to new content formats and new consumption patterns. It also allows for the constant deconstruction and reintegration of the entire ecosystem.

4.1 Dynamic Development of the Popular Music Industry Ecosystem

4.1.1 Diversification of Music Genres and Evolution of the Music Recommendation Process

In the past, consumers chose or searched from thousands of song libraries. The curatorial function was mainly to introduce the latest works and their popularity through charts, but now they are gradually being sorted into finer categories according to genre, song style, theme, and artist, and have even developed into shared playlists.

4.1.2 Cross-Media and Cross-Border Expansion

Youtube and other music streaming media have made it easier for music fans to access music from all over the world. Social network communities have also accelerated the spread of music, changing the medium of marketing and transmission of music. In Korea, for example, Blackpink and BTS have both succeeded in their attempt to break the YouTube 24-hour viewing record in 2020 (Note 13, Note 14). Additionally, as of February 2021, there are seven Korean music videos that have exceeded 1 billion views on Youtube (Note 15). The globalization of the music industry has been accelerated through streaming media and social media platform transmissions.

4.1.3 Future Image of the Popular Music Industry Ecosystem

In the era of 5G mobile communication networks that started in 2019, music companies are also planning to develop various new businesses in accordance with the changing technological environment, moving toward diversified content that combines audio, video, and technology. For example, in 2019, SM Entertainment and SK Telecom in Korea signed a cooperation agreement to promote the era of "Next Entertainment" that combines K-Pop, 5G, VR, and AR (Note 16).

13. Liu Wan-hsin, "BLACKPINK Makes New KPOP History! Music Video "Gains 80M Views in 24h"... A New YouTube Record", https://star.ettoday.net/news/1747568 (Read on: Dec 24, 2020).
14. Chris, "BTS First to Rack Up 100M Youtube Views in a 24 Hours! ", https://www.inside.com.tw/article/20756-BTS-is-the-first-to-rack-up-100-million-YouTube-views-in-24-hours (Read on: Dec 24, 2020).
15. YouTube, https://www.youtube.com/.
16. Yeo Jun-suk, "SKT partners SM Entertainment on AI-based technology for K-pop content", http://www.koreaherald.com/view.php?ud=20190111000628 (Read on: Dec 24, 2020).

The development of smart speakers has become another service portal for current streaming music services, and allows music entertainment to enter into even more usage scenarios to meet the increasingly diverse needs of consumers. In addition to home functions, another key scenario for listening to music is during commutes. Audiences who consume content during their commuting hours are mainly fractional time content users, to which short and simple is key. The growth of Tik Tok, which combines video and community, is a testament to this trend. Tik Tok has now become a marketing platform for music discovery, spreading through social network communities and expanding to beyond the existing listening audience. At the same time, related edited music clips have also received high viewership on YouTube, allowing small independent artists to quickly make a name for themselves on the platform, breaking the previous marketing framework of the music industry. Thus, music companies are now applying short video content when they play music, and artists themselves are producing their own live videos.

The advancement of technology has reduced the cost of music production, lowered the entry threshold of production, and provided opportunities for online distribution, which has nourished the development space for independent musicians. However, if we were to further discuss the technology applications, the production cost of motion graphics is higher than the cost of audio production, which requires different financial support and management than before. Technology applications have diversified music entertainment scenarios and promoted the combination of video, audio, and technology, making not only the popular music ecosystem more complex, but also having the music companies face operational challenges of higher production costs and increased marketing and promotion difficulties.

4.2 The Changing Role of Record Companies

With the diversification of music distribution platform channels and new business models and marketing models brought about by the ecosystem, the role of music companies in the popular music industry has not only not weakened from the perspective of artists and creators, but has diversified with time. Record companies have also continued to boost their investment in artists and collaborations with artists/creators.

4.2.1 More Complex, Diverse, and Comprehensive Production and Packaging Services

According to the report “Same Heart. New Beat. How Record Labels Amplify Talent in the Modern Music Marketplace” by Larry S. Miller, record companies still have functions such as discovering and nurturing artists/creators, expanding their vision, and maximizing their business potential. However, in order to provide a better development environment for artists/creators now, their focus has shifted towards infrastructure, staff, technology, and other areas, producing and selling artists/creators’ albums, as well as developing emerging opportunities within the industry ecosystem, and developing business opportunities and scaling up artist brands, etc. The following will explain the changes from the past to the present in artist development, marketing, artist services, sales, data, and other areas.

Table 3-2. The functional shifts of record companies

	Past	Present
Talent development	Screening demos and finding local emerging artists/creators.	Selecting emerging online music to find the right artist or partner.
Marketing	Planning advertising and radio schedules three months before the release date to maximize exposure in all promotional channels.	A year-round global team specializing in streaming media, social media, and other technology software to produce material that will keep fans interested in the artist or song long after the release.
Talent-oriented services	Mostly standardized contracts, which may include album release cycles and expiration dates.	Flexible contracts, which are a combination of various professional services, that also include customized contracts based on the artist's needs and future vision (including digital strategy, marketing merchandise, e-commerce, ticketing, etc.).
Sales	Producing CDs, manufacturing and shipping the CDs to retailer locations, as well as securing retailer display areas for popular merchandise.	The global business development team ensures that thousands of digital singles and albums are available to online retailers and service providers, making the music available to fans around the world.
Data	Tracking retail and radio transmissions.	With a wide variety of data available, from social media tracking and live performances to potential local favorite touring spots, record companies are constantly diving into databases of on various music consumption and potential data to find potential opportunities.

Source: This survey was compiled from the report “Same Heart. New Beat. How Record Labels Amplify Talent in the Modern Music Marketplace”.

4.2.2 Separation of Individual Creative Professional Services

In addition to maximizing the business of contracted artists through a full set of record services such as development, marketing, service, and sales, the music industry ecosystem has become more dynamic. Due to technological developments, modern artists can publish and distribute their works directly on the Internet. Therefore, music companies have also divided their functions to provide "a la carte" services through individual professional and creative services, using the overall structure of international music companies to assist the needs of different artist, such as the Alternative Distribution Alliance (ADA), a distribution company under Warner Music Group.

4.2.3 Input from other Participants

Aside from music companies, music streaming platforms are also beginning to play a role. In mid-2018, Spotify launched a tool aimed at independent musicians that directly altered the music production-to-distribution chain, attempting to replace the traditional record company distribution function with a streaming music service platform and disrupting the traditional music industry operation model. However, less than a year after the launch of the distribution service, Spotify announced that it was abandoning the project (Note 17).

Nonetheless, there are other platforms seeking to play a more active role in the music industry ecosystem. For example, Artist Originals, the musician service department of the Indian streaming platform JioSaavn, launched a direct distribution service for independent musicians, AO Lab, in September 2020 to support talented musicians who are unable or choose not to work with record companies. Musicians will be able to submit their music directly to the A&R team at their partner record companies for selection through the AO Lab, and selected artists will receive advance payments, marketing support, and the ability to track relevant data and use analytics tools through the streaming service Artist Insights. Furthermore, selected artists will have access to Artist Original's global distribution network, to be distributed and sold through Sony Music's Orchard. Musicians will also have the option to use JioSaavn's other creative services for an additional fee (Note 18, Note 19).

17. Anna Nicolaou, “Spotify drops plan to pull in independent artists”, https://www.ft.com/content/c15d5124-9d15-11e9-9c06-a4640c9feebb (Read on: Dec 20, 2020).
18. Stuart Dredge, “JioSaavn's AO Labs offers direct distribution to emerging artists”, https://musically.com/2020/09/15/jiosaavns-amplify-offers-direct-distribution-to-emerging-artists/ (Read on: Dec 20, 2020).
19. MURRAY STASSEN, “JIOSAAVN IS PAYING INDIE ARTISTS ADVANCES VIA NEW DISTRIBUTION OPTION, AO LABS”, https://www.musicbusinessworldwide.com/jiosaavn-is-paying-indie-artists-advances-via-new-distribution-option-amplify/ (Read on: Dec 20, 2020).

4.3 Summary

The workflow, models, and professional functions of the responsibilities of record companies in the past, such as talent cultivation, production, and distribution, have become more complex with digital technology. It has become relatively more difficult to develop and build a team of artist developers to serve the new generation of artists, but it is still important to provide a full range of services. Although content formats change, distribution channels diversify, marketing strategies become more complex and segmented, and carriers diversify, the core of the popular music industry ecosystem is still the artists and their audio works. However, the path to achieving a business model requires the integration of multiple aspects (e.g., video, platforms, technology, carriers, etc.). Therefore, record companies and other participants in the industry ecosystem are actively transforming into partners that help artists express creativity and create financial value.

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FAX:	02-27492436

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