

Improvement of Music Recommender Systems

Informed Consent Agreement

Before taking part in this study, please read the following information and indicate below whether you consent to the conditions of participation.

As part of a research project focusing on **music recommender systems**, we would like to understand how they affect artists and other professionals with a music industry-related role. Additionally, we want to identify how these systems could be improved. For this purpose, we are asking you to contribute your perspective through participating in a survey. Your input will be used to gain more insight in the impact of music recommender systems, and to **inform future research that aims to improve these systems**.

Participation is completely voluntary. You can decide to withdraw at any time and for any reason, including after participating. **The survey will take approximately 10-15 minutes**, and will be in the form of closed questions with optional comment fields.

We intend to report the results of this survey in publications and/or presentations. We also intend to share collected survey data with the broader research community, following FAIR (Findable, Accessible, Interoperable, Reusable) data principles. Any information from the optional comment fields that could identify you as an individual, will be replaced or removed before publishing the survey data. Personal characteristics are only collected in broad categories. Therefore, **your identity as a participant will remain confidential at all times**, and risk of participation will be minimal.

This project has been approved by Utrecht University's Science-Geo Ethics Review Board, and falls under fundamental research without any commercial purpose nor external stakeholders or partners.

For more information regarding this project, please contact:

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For more information regarding the ethical review process or privacy, please contact Utrecht University's Data Protection Officer: privacy@uu.nl

Agreement

- I am 18 years or older.
- I have read the information above, and understand the nature and goal of this research project.
- I understand my participation is voluntary, and that I may withdraw from the study at any time.
- I understand that any information I enter may be shared with the broader research community, and may be reported in scientific publications. Any information that could identify me as an individual will be replaced or removed.
- I agree to participate in the research project as described above.

Concept clarification

We will use the following concepts throughout this survey:

Music streaming service (also: streaming service)

A service offering its users the possibility to digitally search for and stream music (and possibly other content) on-demand. It typically incorporates one or more music recommender systems.

Music recommender system

A system that aims to help users discover music they may enjoy, based on their listening history and other factors. Some automated functionalities powered by recommender systems are: personalized playlists, 'similar artists' recommendation, autoplay, etc.

Points of view

We will ask your perspective from different points of view.
They are defined and indicated in the following way:



You as a professional

Concerning you in your professional life.



Music providers

Concerning all artists and other music industry professionals that make and/or provide the music that is consumed on streaming services.



Users / music consumers

Concerning all individuals using a service to consume music.

Questions: Professional

The following questions are about your experiences as a **professional** (not in your personal life).

In which role(s) or sector(s) do you currently work?

It is possible to select multiple answers.

- Artist - e.g., composer, performing artist, DJ
- Artist Representation - e.g., artist management
- Bookings - e.g., festival, venue, agent, promotor
- Consultancy & Associations - e.g., export office, interest group
- Distribution - e.g., label, publisher, streaming service, collecting society
- Education - e.g., university, talent development institution
- Event Production - e.g., logistics, sustainability, event technology
- Finance - e.g., sales, sponsorships, accountant
- Legal & Policy - e.g., government, subsidiaries, lobbying
- Marketing & PR - e.g., label, venue, artist, brand, promotor
- Media - e.g., radio, press, TV
- Recording - e.g., label, record company, studio
- Technology - e.g., software / web development, ticketing
- Other: _____
- None / would prefer not to say

For your work, **which music streaming service(s)** do you regularly (more than once per month) use or come into contact with, if any?

- | | | | |
|---------------------------------------|----------------------------------|-----------------------------------|--|
| <input type="checkbox"/> Amazon Music | <input type="checkbox"/> Deezer | <input type="checkbox"/> Qobuz | <input type="checkbox"/> Soundcloud |
| <input type="checkbox"/> Apple Music | <input type="checkbox"/> Idagio | <input type="checkbox"/> QQ Music | <input type="checkbox"/> Tidal |
| <input type="checkbox"/> Bandcamp | <input type="checkbox"/> Pandora | <input type="checkbox"/> Spotify | <input type="checkbox"/> Youtube (Music) |
- Other(s): _____
- None

Regarding music streaming services, ...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
I understand how their integrated recommender systems work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know how to get insight in stream counts and audience stats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They provide me with enough information to make strategic decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am in contact or would want to be in contact with their representatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Compared to before the **COVID-19 pandemic**, the role of ... in my professional life increased:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Music streaming services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Algorithms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments or suggestions on these topics (optional):

Discovering or reviewing new artists or music is a part of my job:

- Never Sometimes Frequently *Prefer not to answer*

- Please skip the questions on this page if you indicated *Never* or *Prefer not to answer* -

Which channel(s) do you use to discover or review new artists/music?

- Word of mouth / informal channel
- Suggestions/plugs that were sent to me or my company
- Live shows/showcases
- Music streaming service(s)
- Written media (magazine, blog, newspaper etc.)
- Social media (TikTok, Facebook, Instagram, Reddit, etc.)
- Other media (TV, radio, podcast etc.)
- Other(s): _____
-

Which places/pages on music streaming services do you use to discover or review new artists/music?

- What is shown on my home/front page
- 'Related artists/songs' sections
- Discovery-oriented playlists that are personalized (= tailored specifically to me)
- Artist/song/album-themed playlists that are personalized
- I search for music fitting to a general mood, style, era, etc.
- Other: _____
- None
-

Comments or suggestions on this topic (optional):

Questions: Providing music on streaming services



The following questions are about music providers - **artists or parties who provide music** - and their interaction with streaming services.

Transparency

For **music providers** on streaming services, I feel like...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
It is clear for which reason(s), when, and to whom their music is recommended	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It should be made more clear for which reason(s), when, and to whom their music is recommended	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Control

On **streaming services**, I am happy with the extent to which music providers can influence...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
Which of their music is recommended (which songs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To whom their music is recommended (to which users)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In which context their music is recommended (which playlist, related artist page, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contact

For **music providers**, I feel like...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Not applicable / prefer not to answer</i>
It is clear how to contact streaming services with questions or suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to contact streaming services with questions or suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments or suggestions on these topics (optional):

Making, releasing or providing music on streaming platforms is, (in)directly, a part of my job:

- Never
 Sometimes
 Frequently
 Prefer not to answer

- Please skip the questions on this page if you indicated *Never* or *Prefer not to answer* -



The following questions are about your experiences as a **professional and as a music provider**.

They are shown as you indicated you make, release or provide music on streaming platforms.

Control

If I would have control over **which** of my/our songs are recommended, I would mostly recommend...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
My most popular songs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My latest releases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal favorites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Optional:) I would mostly recommend songs based on **other song criteria**, namely:

- Please skip the questions on this page if you do not make, release or provide music -

If I would have control over **to whom** my/our songs are recommended, I would recommend...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
To users that are familiar with my music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To users that are geographically close to where I'm from	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To users that like specific other artists I associate with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To users that like a specific genre I associate with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Optional:) I would mostly recommend songs based on **other user criteria**, namely:

Strategy

When releasing music, on **which channels** do you normally focus?

- Physical medium (CD, vinyl record, cassette tape etc.)
- Digital libraries (downloads, Bandcamp, iTunes, etc.)
- Music streaming service(s)
- Analogue radio channel(s)
- Online radio channel(s) or live stream
- Podcast(s)
- Social media (TikTok, Facebook, Instagram, Reddit, etc.)
- Other: _____
- Don't know / prefer not to answer*

- Please skip the questions on this page if you do not make, release or provide music -

For **curated playlists** (created or compiled by a human editor) on music streaming platforms, I feel like...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Not applicable / prefer not to answer</i>
It is important that my/our music is included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is clear how I can get my/our music included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I succeed in having my/our music included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For **algorithm-based recommendations** (personalized playlists, auto-play etc.) on music streaming platforms, I feel like...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Not applicable / prefer not to answer</i>
It is important that my/our music is included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is clear how I can get my/our music included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I succeed in having my/our music included	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments or suggestions on this topic (optional):

Questions: Recommendation



The following questions concern decisions on **which artists to recommend** in music recommender systems.

For these statements, please circle a value on a scale of 0 to 100%. The statements are individual, so for each statement, you can answer anything between 0 and 100%.

Out of all algorithmically recommended songs, this % should be from artists who are...

Actively releasing new music	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Established (not recently started)	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Popular	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Diversity and Inclusion

- **Diversity** is the presence of differences that may include, e.g., gender, religion, sexual orientation, ethnicity, and language.
For music, it may also include characteristics such as genre and popularity.
- **Inclusion** is an outcome to ensure those that are diverse actually feel and/or are welcomed.

With respect to **diversity and inclusion** in music recommendations, I feel that **music streaming services...**

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
Care about it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have an impact on it in the music industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a responsibility to increase it in the music industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should actively make users' recommendations more diverse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I feel that music streaming services should **increase diversity and inclusion** by actively **recommending music from ... more often:**

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Not applicable / prefer not to answer</i>
New (recently started) artists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lesser-known (but not new) artists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artists who make non-mainstream music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artists that are from the users' local area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artists from an underrepresented gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artists from an underrepresented ethnicity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Artists from an underrepresented nationality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Optional:) Music streaming services should actively recommend music from **another group** more often, namely:

It is possible to fill in more than 1 group

(Optional:) Music streaming platforms could also **increase diversity and inclusion** in the music industry by:

Quota

One way to increase diversity and inclusion, is through enforcing **quota**: e.g., at minimum, 10% of all music recommendations should be from artists who are [...].

I feel that enforcing quota could be a suitable way to increase diversity and inclusion:

- Disagree
- Neither agree nor disagree
- Agree
- Don't know / prefer not to answer*

- Please skip the questions below if you indicated *Disagree* -

Enforcing a quota on automatic recommendations would be a good way to promote **lesser-known artists** (e.g., recently started or with a small listener base):

- No, they should not be specifically promoted
- No, they should be promoted but not through quota
- Yes, but I don't know which %
- Yes, and it should be this % of lesser-known artists: _____
- Don't know / prefer not to answer*

Enforcing a quota on automatic recommendations would be a good way to promote **local artists** (e.g., from the same country as the user):

- No, they should not be specifically promoted
- No, they should be promoted but not through quota
- Yes, but I don't know which %
- Yes, and it should be this % of local artists: _____
- Don't know / prefer not to answer*

- Please skip the questions on this page if you think quota are not a suitable solution -

Enforcing a quota on automatic recommendations would be a good way to promote **women or non-binary artists**:

- No, they should not be specifically promoted
- No, they should be promoted but not through quota
- Yes, but I don't know which %
- Yes, and it should be this % of women/non-binary artists: _____
- Don't know / prefer not to answer*

(Optional:) Enforcing a quota on automatic recommendations would be a good way to promote **another group of artists**, namely:

It is possible to fill in more than 1 group

Questions: Listening to music on streaming services



The following questions are about **users (consumers of music)** on streaming services, and their interaction with these services.

Variety

With respect to **variety in users' music recommendations**, I feel that music streaming services should...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewh at agree	Strongly agree	<i>Don't know / prefer not to answer</i>
Take users out of their comfort zone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively try to make users' recommendations more varied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively try to make users' listening behavior more varied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively try to make users' general taste more varied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Transparency

For **users** of streaming services, I feel like...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Don't know / prefer not to answer</i>
It is clear for which reason(s) specific music is recommended to them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to make it more clear for which reason(s) specific music is recommended to them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Control

For **users** of streaming services, I am happy with the extent to which they can **influence which music is in...**

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	<i>Not applicable / prefer not to answer</i>
Their general recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Their personalized playlists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments or suggestions on these topics (optional):

Additional information

The following information will be used to describe your general demographics, without explicitly identifying you.

You are free to skip any question.

What is your age?

- 18-25 26-35 36-45 46-55 56-65 66-75 76+
-

How do you identify?

- Woman Man Non-binary Prefer to self-describe: _____
-

What is your nationality?

How many years have you been active in the music industry?

- 1-5 years
 6-10 years
 10-15 years
 16-20 years
 21-25 years
 >25 years
 Not applicable

Are you affiliated with any record label (as an artist, employee, freelancer or in any other capacity)?

It is possible to select more than 1 answer

- Yes, major label (Sony, Universal, Warner) No
 Yes, independent / indie label Would prefer not to say

- Please skip these questions if you are not a music artist -

How many albums* have you released in total (solo or as a member of an act/band), throughout your musical career?

*or equivalent in the form of EP's or singles

- Some singles/1 EP
 1 album*
 2 albums*
 3-5 albums*
 6-10 albums*
 10+ albums*

Which music genre(s) do you most identify with as an artist, if any?

In which language(s) are your songs' lyrics written?

It is possible to select multiple answers

- English Other language(s): _____ My music has no lyrics

Which of these categories corresponds best to you as an artist and/or musical act?

Newcomer / locally known

- Nationally known
 Internationally known
 Globally known
 Other: _____