P-ISSN: 1411-3635
E-ISSN: 2962-5645

Role of Recommendation Systems in Digital Music Streaming Platforms: User Decision-Making Among Sampoerna University Students

[1]Marina Indira Candera, [2]Tika Endah Lestari
[1]Department of Information System, Sampoerna University, Jakarta
[2]Department of Industrial Engineering, Sampoerna University, Jakarta

E-mail: [1]marina.candera@my.sampoernauniversity.ac.id,
[2]tika.lestari@sampoernauniversity.ac.id

ABSTRAK

Penelitian ini telah mengeksplorasi pengaruh sistem rekomendasi pada platform pemutaran musik digital terhadap proses pengambilan keputusan mahasiswa di Universitas Sampoerna. Dengan menggunakan kerangka kerja sosio-teknikal, penelitian ini telah menguji ketegangan antara efisiensi algoritma dan eksplorasi pengguna. Data telah dikumpulkan melalui survei kuantitatif terhadap 41 mahasiswa, yang mengungkapkan bahwa meskipun platform seperti Spotify (80,5%) dan YouTube Music (51,2%) sangat dominan, pengguna mengalami "paradoks algoritmik" yang nyata. Meskipun peringkat akurasi rekomendasi yang paling sering diberikan adalah 8 dari 10 (dilaporkan oleh 41,5% responden), sebanyak 68,3% mahasiswa melaporkan bahwa mereka mengalami kejenuhan algoritmik akibat saran lagu yang repetitif. Temuan ini menunjukkan bahwa sistem tersebut, meskipun efektif dalam mengurangi beban kognitif melalui fitur-fitur seperti *auto-play* (68,3%) dan *personalized playlists* (53,7%), sering kali menjebak pengguna dalam "gelembung filter" atau "tautologi selera". Studi ini menyimpulkan bahwa generasi sistem informasi musik berikutnya harus berkembang melampaui sekadar akurasi prediktif dengan menggabungkan keragaman berbasis konteks dan serendipitas, guna menyeimbangkan efisiensi otomasi dengan kebutuhan manusia akan penemuan mandiri dan otonomi.

Kata kunci : *Filter Bubbles*, Kejenuhan Algoritmik, Pengambilan Keputusan Pengguna, Platform Streaming Digital, Perspektif Sosio-Teknikal, Sistem Rekomendasi Musik

ABSTRACT

This study explored the influence of recommendation systems in digital music streaming platforms on the decision-making processes of students at Sampoerna University. Utilizing a socio-technical framework, the research examined the tension between algorithmic efficiency and user exploration. Data were collected via a quantitative survey of 41 students, which revealed that while platforms like Spotify (80.5%) and YouTube Music (51.2%) were dominant, users experienced a distinct "algorithmic paradox." Although the most frequent rating for recommendation accuracy was an 8 out of 10 (reported by 41.5% of respondents), a significant 68.3% of students reported experiencing algorithmic boredom due to repetitive suggestions. These findings suggested that current systems, while effective at reducing cognitive load through features like auto-play (68.3%) and personalized playlists (53.7%), often trapped users in "filter bubbles" or "taste tautologies." The study concluded that the next generation of music Information System must evolve beyond simple predictive accuracy to incorporate context-aware diversity and serendipity, thereby balancing the efficiency of automation with the human need for discovery and autonomy.

Keyword : Algorithmic Boredom, Digital Streaming Platforms, Filter Bubbles, Music Recommendation Systems, Socio-Technical Perspective, User Decision-Making

P-ISSN: 1411-3635
E-ISSN: 2962-5645

1. INTRODUCTION

1.1 Background

The transition to digital music streaming has fundamentally altered contemporary listening habits, with platforms like Spotify and YouTube Music leveraging vast datasets to deliver highly personalized content (Arenal et al., 2025). Given the millions of tracks available in digital libraries, users increasingly rely on "Algorithmic Curation" to manage information overload. This represents a significant technological paradigm shift; as noted by Saxena (2025), the evolution from simple collaborative filtering to AI-driven "Selection Optimization"—utilizing advanced models like Reinforcement Learning and Large Language Models—has fundamentally redefined how digital information is accessed, filtered, and consumed.

However, as these recommendation architectures become more sophisticated, they increasingly operate as opaque "black boxes," widening the gap between system performance (predictive accuracy) and user autonomy (independent decision-making). Rather than merely reflecting user preferences, these algorithms actively shape them, introducing systemic risks such as "filter bubbles" and unintended behavioral manipulation (Bhardwaj, 2025). Consequently, there is a pressing need to examine these platforms not as isolated technical algorithms, but as holistic Information System that synthesize data, human behavior, and system logic. When technical efficiency is prioritized over a user's fluid contextual needs, such as sudden shifts in mood or situation, it can trigger a socio-technical conflict, occasionally resulting in user frustration or a perceived sense of algorithmic "betrayal" (Lubos et al., 2025).

To investigate these socio-technical dynamics, this study focuses on undergraduate students at Sampoerna University. As students in a highly digital and technology-driven academic environment, they frequently use music streaming platforms in their daily activities, whether for studying, commuting, or entertainment. This demographic provides a strong context for analyzing how high-frequency users interact with automated recommendation systems.

Ultimately, this study aims to evaluate the balance between algorithmic accuracy and user autonomy. By examining issues such as reduced content diversity, the research explores how recommendation features influence user trust, daily decision-making, and long-term platform usage within an academic environment.

2. LITERATURE REVIEW

The exponential growth of digital data has positioned automated recommendation systems as essential informational gatekeepers driven by signal optimization (Bhardwaj, 2025; Saxena, 2025). Technologically, these platforms have evolved from basic content-based filtering (Sarmandana et al., 2024) to sophisticated deep learning architectures. This includes Convolutional Neural Networks for acoustic recognition (Zhang, 2022), Deep Neural Networks for content mapping (Baizal & Andiety, 2024), and Graph Neural Networks for modeling complex user-music nodes (Cheng & He, 2025). By analyzing intrinsic audio features like tempo and timbre, these models effectively solve the cold-start problem without relying purely on historical metadata (Jing, 2025). However, from an Information System perspective, these architectures function within complex socio-technical ecosystems. As Kudina and Van De Poel (2024) argue, artificial intelligence cannot be evaluated solely on technical metrics; its performance and

ethical impacts are deeply embedded within broader social networks. Consequently, the user interface acts as a critical junction where system design meets human workflows and lifestyle habits (Maguire, 2014), fostering bidirectional relationships where users actively attempt to "train" algorithms, perceiving them as proactive agents (Bertram et al., 2023). Algorithmic efficacy is heavily moderated by individual profiles and demographics; for example, high-openness users prefer diverse taxonomies (Ferwerda et al., 2019), while younger demographics more readily trust "black box" algorithmic discovery compared to older users who favor editorial selection (Sundararajan & Jayashree, 2022). To systematically understand platform adoption, researchers integrate the Technology Acceptance Model (TAM) and Uses and Gratifications Theory (UGT). These frameworks demonstrate that perceived usefulness, hedonic value, and multi-context-aware modeling, such as recognizing user activity or time, are essential for sustained digital engagement (Camilleri & Falzon, 2021; Kim et al., 2017; Pichl & Zangerle, 2021; Wang, 2022).

This reliance on algorithmic curation introduces significant socio-technical risks, primarily by prioritizing platform retention over user autonomy, which often traps users in reinforcement loops or "filter bubbles" (Meßmer & Degeling, 2023). This tension highlights Kudina and Van De Poel (2024)warning that an overreliance on mathematical precision blinds designers to how technology subtly restricts independent choices over time. It also exposes a fundamental trade-off between system-driven automation ("RecommendAI"), which limits user control (Meßmer & Degeling, 2023; Reicherts et al., 2025), and user-centric cognitive support ("ExtendAI"). To mitigate these constraints and enhance transparency, the industry is shifting toward hybrid solutions. These include SAR-MCMD sentiment models (Angamuthu & Trojovský, 2023), knowledge graph-based systems for diverse, explainable recommendations like EARS (Bertram et al., 2023), and the integration of Large Language Models as interactive assistants (Huang et al., 2026; Lubos et al., 2025; Reicherts et al., 2025). Ultimately, the next generation of music platforms must evolve from passively delivering automated suggestions to actively providing cognitive support, empowering users to autonomously shape their digital preferences within adaptive human-computer interfaces (Angamuthu & Trojovský, 2023; Huang et al., 2026; Maguire, 2014).

3. METHODOLOGY

3.1 Research Design

This study uses a mixed-methods research design to evaluate music recommendation systems from a socio-technical perspective. The quantitative component uses a student survey to examine platform preferences, usage frequency, and the influence of recommendation features on user decision-making, while the qualitative component consists of a literature review grounded in Information System theories. By combining these approaches, the study connects user behavior with technical insights. Figure 1 illustrates the overall research workflow.

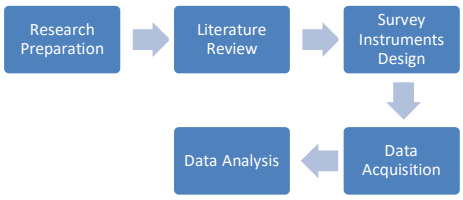

Figure 1. Workflow Chart of the Research Design

3.2 Limitation of Study

P-ISSN: 1411-3635
E-ISSN: 2962-5645

This research acknowledges three primary limitations. First, the analysis relies on observable user perceptions and secondary literature rather than internal system data, as proprietary streaming algorithms remain inaccessible. Second, primary data collection is restricted to Sampoerna University students (2022–2025 cohorts), which limits the broader generalizability of the findings. Finally, cross-cultural insights are derived exclusively from secondary literature rather than international primary data collection.

3.3 Data Analysis Method

Secondary data is analyzed using a thematic synthesis approach framed around two Information System dimensions. The first is the Accuracy–Diversity Balance, which evaluates whether a system primarily reinforces existing preferences or supports content discovery by balancing precision with novelty. The second is User Autonomy and Cognitive Support, which examines how algorithmic recommendations influence user control, specifically distinguishing whether the technology functions as an autonomous decision-maker ("Recommend AI") or a decision-support tool ("Extend AI").

3.4 Population and Sampling

The target population comprises active undergraduate students at Sampoerna University, selected for their high integration of digital music streaming platforms (DMSPs) into their daily academic and leisure routines. The study employed non-probability purposive sampling to ensure all respondents were active DMSP users. Primary data was collected via an online questionnaire (Google Forms) distributed until April 24, 2026. A total of 41 valid responses were gathered, representing approximately 10% of the target demographic, providing a sufficient empirical foundation to analyze platform preference patterns and reliance on automated features.

4. RESULTS AND DISCUSSION

4.1 Results

4.1.1 Participant Demographic Profile

The dataset consists of 41 active undergraduate students from Sampoerna University representing various academic programs. The largest proportion of respondents came from the Management program (24.4%), followed by Psychology (14.6%), Industrial Engineering (14.6%), and Information System (12.2%).

The diversity of academic backgrounds provides a broader institutional perspective on digital music streaming behavior and recommendation system usage among students. Figure 2 illustrates the demographic distribution of respondents based on the study programs.

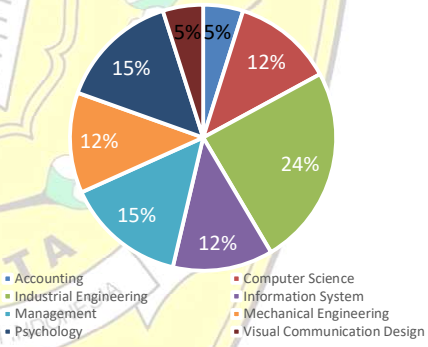

Figure 2. Demographic Distribution of Responden by Study Program

4.1.2 Music Streaming Platform Usage Patterns

The survey findings indicate that Spotify is the dominant music platform among the student demographic at 80.5%, followed by YouTube Music at 51.2%. A widespread reliance on automated features, such as auto-play (68.3%) and platform-generated personalized playlists (53.7%), demonstrates that recommendation systems heavily mediate students' daily listening consumption.

P-ISSN: 1411-3635
E-ISSN: 2962-5645

Interestingly, while a substantial plurality of respondents rated recommendation accuracy exceptionally high at an 8 out of 10 (41.5%), over half (56.1%) reported experiencing periodic algorithmic boredom. This highlights a critical socio-technical friction point: predictive accuracy alone is insufficient to sustain long-term user satisfaction, necessitating architectural balances between personalization and novel content discovery.

4.1.3 User Interaction with Recommendation Systems

User interaction patterns shows a systemic engagement with automated curation, as 24.4% of respondents "always" and 31.7% "often" stream content through "Made for You" or automated recommendation channels instead of using manual searches, where the most active features facilitating this interaction include Auto-play (68.3%), Personalized Playlists (53.7%), and social/friend activity features (26.8%). When evaluating their ability to find new music on a 1-to-10 scale, the majority clustered within the 5 to 8 range, which is illustrated in Figure 3.

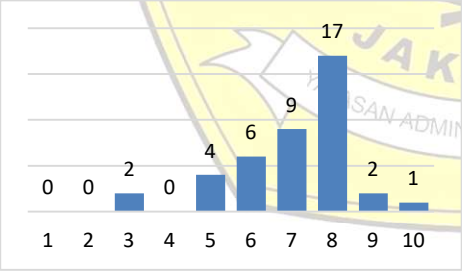

Figure 3. Distribution of Perceived Algorithmic Accuracy Ratings among Respondents.

This intermediate distribution illustrated in Figure 3 suggests that while automated recommendations provide a stable baseline of utility, they remain structurally misaligned with users' highly dynamic and situational tastes. Predictive precision alone, though moderately high, fails to completely capture the volatile and fluid nature of real-time human listening preferences.

4.1.4 Perceived Accuracy and Influence on Decision-Making

While users rate predictive precision highly (peaking at 8 out of 10 with 41.5%), behavioral trust in these algorithmic choices remains only moderate, distributing evenly between the 5 to 8 thresholds. These disconnects point to a major tension within the socio-technical ecosystem: the manifestation of an algorithmic "boredom factor." Specifically, 56.1% of students reported feeling "sometimes" bored, and 12.2% reported being bored "often" by system suggestions. Attributed primarily to repetitive content suggestions, these metrics demonstrate that current systems risk locking users inside narrow preference loops that hinder discovery, underscoring an immediate need for algorithms that actively balance predictability with variety.

4.2 Discussion

The findings of this study show that while Sampoerna University students regularly use music streaming algorithms, the platforms often fail to match their changing, day-to-day needs. Currently, recommendation systems rely mostly on a user's past listening history (such as collaborative and content-based filtering). Because of this, they cannot adapt to how a user is feeling in the moment. This limitation leads to "algorithmic fatigue," where users get bored because the system keeps suggesting the same repetitive types of music.

Survey responses clearly highlight this frustration. Users noted that algorithms struggle to adjust to their sudden emotional shifts or immediate contexts. For instance, one student emphasized the need for mood-based matching, stating that a good system is "the one that is consistent with the

P-ISSN: 1411-3635
E-ISSN: 2962-5645

theme... that suits the vibes im on currently". This highlights a major flaw: a lack of context awareness. Because the system relies too heavily on past data, users are often forced to manually search for songs that fit their current mood.

Furthermore, the data reveals a growing demand among the student population for systems that introduce them to new, lesser-known artists rather than just playing popular hits. Students expressed a distinct desire for algorithms to break out of repetitive, mainstream loops. Highlighting this need, one respondent wanted a system that provides "diversity; more exposure to lesser-known artists and a system that not purely based on popularity," while another emphasized the importance of whether the algorithm can suggest "new up and coming artists or the same mainstream popular ones".

Overall, these findings suggest that current music recommendation systems are incomplete. While the technology is good at matching user profiles with popular tracks, it fails to align with the unpredictable nature of human emotion. For developers, this means the next generation of recommendation systems needs to move beyond just looking at past listening history. By integrating contexts such as the user's current mood, time of day, and situational activities, platforms can transform their algorithms from repetitive loops into adaptive systems that truly resonate with users.

4.3 Secondary Data Findings

Recent literature highlights a significant paradigm shift from traditional collaborative filtering toward AI-driven architectures, utilizing Large Language Models (LLMs) and self-supervised learning to effectively address cold-start problems and sparse data (Huang et al., 2026). Modern performance metrics no longer rely exclusively on predictive accuracy; instead, they prioritize a balance between precision and diversity. Techniques such as the knowledge graph-based EARS framework (Bertram et al., 2023) and SVD with MICE imputation (Martal & Najib, 2025) ensure system robustness and content quality. This evolution reflects a broader transition toward signal-driven, multi-criteria decision systems that integrate contextual and behavioral data to minimize information overload while sustaining high-quality recommendations (Bahadure et al., 2025; Baizal & Andiety, 2024; Bhardwaj, 2025; Cheng & He, 2025; Liu, 2025).

Beyond technical optimization, these systems actively shape user behavior and cultural consumption. Curated features, such as Spotify's Discover Weekly, successfully balance personalization with discovery by integrating data-driven accuracy with cultural context, which directly drives user satisfaction, trust, and long-term retention (Aguiar, 2023; Li et al., 2025; Lu & Wu, 2025; Natasha Janice & Nurrani Kusumawati, 2024). Consequently, users develop emotional responses to algorithmic curation and often adapt their behavior to intentionally "train" the system, creating a continuous human-machine feedback loop (Díaz-Marcos et al., 2026; Freeman et al., 2022). However, this dynamic introduces critical risks: because algorithms actively construct taste rather than merely reflecting it, they can limit exposure to diverse content and trap users in restrictive "filter bubbles" over time (Matrosova, 2024).

5. CONCLUSION

This study investigated the role of recommendation systems on digital music streaming platforms and their influence on user decision-making among Sampoerna University students. Examined through a socio-technical framework, the empirical results unveil a distinct "algorithmic paradox." While automated

recommendation engines achieve high predictive accuracy, with a prominent mode rating of 8 out of 10 reported by 41.5% of respondents, they simultaneously generate a high rate of user fatigue, with 68.3% of students experiencing periodic or frequent algorithmic boredom. Automated infrastructure features like auto-play (68.3%) and personalized playlists (53.7%) successfully minimize human cognitive load by streamlining data filtering. However, over-reliance on static historical consumption data creates restrictive feedback loops, or "taste tautologies," that trap listeners inside narrow filter bubbles.

Crucially, text-driven qualitative insights from the survey contextualize this paradox, revealing that current Information System architectures fail to accommodate fluid, real-time context. Students explicitly expressed a demand for systems that comprehend spontaneous changes in emotional states and active "moods," alongside a strong desire for algorithms to support cognitive exploration by purposefully introducing low-exposure independent or local Indonesian artists. Furthermore, high engagement with collaborative tracking features like "Social/Friends' Activity" (26.8%) and interactive identity artifacts like "Spotify Wrapped" prove that digital music platforms are not merely objective technical tools, but deeply integrated socio-technical systems where user retention and connection are co-constructed through social validation and interactive interface designs.

In alignment with modern socio-technical critiques (Kudina & van de Poel, 2024), these outcomes confirm that evaluating an artificial intelligence or recommendation architecture based solely on internal technical precision parameters overlooks its broader impact on human values and independent user choice. Isolating predictive accuracy from the volatile reality of human emotion inevitably turns a tool meant for convenience into an obstacle to autonomous discovery. To improve the Task-Technology Fit of music recommendation technologies, platform developers and IS architects must transition away from history-dependent collaborative filtering models toward multi-modal, context-aware frameworks. Incorporating dynamic user-driven variables, such as real-time situational contexts, temporal environments, and mood triggers, coupled with diversity-enhancing algorithms will prevent systemic boredom. Ultimately, this paradigm shift ensures that automated personalization expands human cultural horizons and preserves user autonomy rather than restricting it.

REFERENCE

Aguiar, V. D. (2023). Music Recommender Systems: A (Data) Science of Music Aesthetics? *Semeiosis - Transdisciplinary Journal of Semiotics*, *11*(1), 31–47. https://doi.org/10.53987/2178-5368-2023-12-02

Angamuthu, S., & Trojovský, P. (2023). Integrating multi-criteria decision-making with hybrid deep learning for sentiment analysis in recommender systems. *PeerJ Computer Science*, *9*, e1497. https://doi.org/10.7717/peerj-cs.1497

Arenal, A., Aguado, J. M., Armuña, C., Ramos, S., & Feijoo, C. (2025). Artificial intelligence in the music streaming value chain: Exploring artists' and users' perceptions on content creation and algorithmic consumption. *AI & Digital Media Ecosystems Published in Telecommunications Policy.*, *50*(2). https://doi.org/10.1016/j.telpol.2025.103129

Bahadure, N. B., Vishwakarma, M., Kurhekar, M. P., Patni, J. C., & Patil, P. D. (2025). Machine Learning-Based Music Classification and Recommendation System from Spotify. *International Journal of Computer Information System*

P-ISSN: 1411-3635
E-ISSN: 2962-5645

and Industrial Management Applications. https://doi.org/10.70917/ijcisim-2025-0011

Baizal, Z. K. A., & Andiety, R. (2024). Content-Based Music Recommender System Using Deep Neural Network. *Building of Informatics, Technology and Science (BITS)*, *6*(2), 1111–1119. https://doi.org/10.47065/bits.v6i2.5762

Bertram, N., Dunkel, J., & Hermoso, R. (2023). I am all EARS: Using open data and knowledge graph embeddings for music recommendations. *Expert Systems with Applications*, *229*, 120347. https://doi.org/10.1016/j.eswa.2023.120347

Bhardwaj, S. (2025). *Signal-Driven Decision Systems in Enterprise Cloud Platforms: A Data-Informed Approach to Platform Optimization*.

Camilleri, M. A., & Falzon, L. (2021). Understanding motivations to use online streaming services: Integrating the technology acceptance model (TAM) and the uses and gratifications theory (UGT). *Spanish Journal of Marketing - ESIC*, *25*(2), 217–238. https://doi.org/10.1108/SJME-04-2020-0074

Cheng, N., & He, X. (2025). User preference information recommendation based on DCGNN and GNNPK algorithms. *Systems and Soft Computing*, *7*, 200364. https://doi.org/10.1016/j.sasc.2025.200364

Díaz-Marcos, L., Tevar, Ó. A., Vicente, A. T. D., & Sebastián, M. G. D. B. (2026). Knowledge and behavior of young people on music streaming platforms: Factors driving their use. *Journal of Innovation & Knowledge*, *13*, 100927. https://doi.org/10.1016/j.jik.2025.100927

Ferwerda, B., Yang, E., Schedl, M., & Tkalcic, M. (2019). Personality and taxonomy preferences, and the influence of category choice on the user experience for music streaming services. *Multimedia Tools and Applications*, *78*(14), 20157–20190. https://doi.org/10.1007/s11042-019-7336-7

Freeman, S., Gibbs, M., & Nansen, B. (2022). 'Don't mess with my algorithm': Exploring the relationship between listeners and automated curation and recommendation on music streaming services. *First Monday*. https://doi.org/10.5210/fm.v27i1.11783

Huang, J., Wang, S., Ning, L., Fan, W., Wang, S., Yin, D., & Li, Q. (2026). Towards Next-Generation Recommender Systems: A Benchmark for Personalized Recommendation Assistant with LLMs. *Proceedings of the Nineteenth ACM International Conference on Web Search and Data Mining*, 217–226. https://doi.org/10.1145/3773966.3777954

Jing, L. (2025). *Music Content Understanding Models forPersonalized Recommendation Systems*. In Review. https://doi.org/10.21203/rs.3.rs-7477835/v1

Kim, J., Nam, C., & Ryu, M. H. (2017). What do consumers prefer for music streaming services?: A comparative study between Korea and US. *Telecommunications Policy*, *41*(4), 263–272. https://doi.org/10.1016/j.telpol.2017.01.008

Kudina, O., & Van De Poel, I. (2024). A sociotechnical system perspective on AI. *Minds and Machines*, *34*(3), 21, s11023-024-09680–09682. https://doi.org/10.1007/s11023-024-09680-2

Li, Q., Liu, Y., & Chen, C. (2025). Satisfaction and continuation intention in music streaming services: Investigating key factors for user retention. *Frontiers in Psychology*, *16*, 1552800. https://doi.org/10.3389/fpsyg.2025.1552800

Liu, J. (2025). Aggregating Contextual Information for Multi-Criteria Online Music Recommendations. *IEEE Access*, *13*, 8790–8805. https://doi.org/10.1109/ACCESS.2025.3527512

Lu, J., & Wu, M. (2025). Design and application of a music recommendation system based on user behavior and feature recognition. *Systems and Soft Computing*, *7*, 200274. https://doi.org/10.1016/j.sasc.2025.200274

Lubos, S., Felfernig, A., Garber, D., Le, V.-M., & Tran, T. N. T. (2025). *Towards LLM-Based Usability Analysis for*

Recommender User Interfaces (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2511.14359

Maguire, M. (2014). Socio-technical systems and interaction design – 21st century relevance. *Applied Ergonomics*, *45*(2), 162–170. https://doi.org/10.1016/j.apergo.2013.05.011

Martal, D. V., & Najib, M. K. (2025). Music Artist Recommendation System Based on Listening History Using SVD and MICE Imputation Approaches. *Zeta - Math Journal*, *10*(1), 70–80. https://doi.org/10.31102/zeta.2025.10.1.70-80

Matrosova, K. (2024). *Modeling and Influencing Music Preferences on Streaming Platforms*.

Meßmer, A.-K., & Degeling, M. (2023). *Auditing Recommender Systems—Putting the DSA into practice with a risk-scenario-based approach* (2302.04556).

Natasha Janice & Nurrani Kusumawati. (2024). Harmonizing Algorithms and User Satisfaction: Evaluating The Impact of Spotify's Discover Weekly on Customer Loyalty. *Journal Integration of Management Studies*, *2*(2), 174–188. https://doi.org/10.58229/jims.v2i2.168

Pichl, M., & Zangerle, E. (2021). User models for multi-context-aware music recommendation. *Multimedia Tools and Applications*, *80*(15), 22509–22531. https://doi.org/10.1007/s11042-020-09890-7

Reicherts, L., Zhang, Z. T., Oswald, E. von, Liu, Y., Rogers, Y., & Hassib, M. (2025). AI, Help Me Think—But for Myself: Assisting People in Complex Decision-Making by Providing Different Kinds of Cognitive Support. *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, 1–19. https://doi.org/10.1145/3706598.3713295

Sarmandana, I. M. T., Widiartha, I. M., Rahning Putri, L. A. A., & Santi Astawa, I. G. (2024). Penerapan Metode Content Based Filtering Dan K-Nearest Neighbor Dalam Sistem Rekomendasi Musik. *JELIKU (Jurnal Elektronik Ilmu Komputer Udayana)*, *13*(1), 35. https://doi.org/10.24843/JLK.2024.v13.i01.p04

Saxena, A. (2025). The Frontier of Selection Optimization: Emerging Innovations in AI-Driven Recommendation Systems (Pt. 607-614). *Journal of Computer Science and Technology Studies*, *7*(7).

Sundararajan, S., & Jayashree, K. (2022). User demographic analysis of music streaming platforms. *Materials Today: Proceedings*, *62*, 4953–4956. https://doi.org/10.1016/j.matpr.2022.03.689

Wang, H. (2022). AI-Based Music Recommendation Algorithm under Heterogeneous Network Platform. *Mobile Information System*, *2022*, 1–10. https://doi.org/10.1155/2022/7267012

Zhang, Y. (2022). Music Recommendation System and Recommendation Model Based on Convolutional Neural Network. *Mobile Information System*, *2022*, 1–14. https://doi.org/10.1155/2022/3387598