

# Personal Information Management of Music Collections

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## Abstract

In the last decades there have been many changes in the ways people consume music. During that time, there was a transition between different formats of recorded music, from vinyl records to CDs and digital files. In recent years, the introduction of streaming technologies allowed for a change in the existing music consumption model that both forced consumers to purchase music physically or digitally and allowed access to purchased or illegally downloaded music only. Streaming platforms (Spotify, Apple Music, YouTube etc.) allow access to millions of songs without the need to purchase and download them.

This research aimed to find how these recent changes affected music information behavior in Israel, while focusing on personal information management of music collections. The research studied participants that used streaming technology and compared them to those who did not use streaming technology, in order to see how this technology influenced music information behavior. The research applied terms and research methods from the discipline of Personal Information Management (PIM) to shed light on the influence of streaming technology on the practice and experience of collecting music.

Our research incorporated six research questions regarding topics of time spent listening to music and managing music collections, situations of listening to music, the level of control on the music while listening, listening sources, discovering new songs and the influence of background variables on these subjects. In addition, this study inspected the influence of streaming technology use on the practice and experience of collecting music.

This research mostly applied a quantitative method of a closed questions survey. The survey was conducted in a convenience sample to students of the Department for Information Sciences at Bar-Ilan University and to people from the researcher's primary and secondary social

circles. The surveys were taken by 113 participants, 7 surveys were disqualified, and 106 surveys were used in the research. In addition to the quantitative element, there is a qualitative element that relates to the last research question. The qualitative data was collected by an open question in the survey, however, due to poor response rates we decided to add several semi structured interviews. Six participants were interviewed, 3 males and 3 females. The participants were recruited based on the researchers' acquaintance with them and prior knowledge about the importance that music and music collecting had in their lives.

The first research question was how much time participants devoted to listening and collecting music, how is this time allocated, what activities do they perform on their music collections and how background variables affect listening hours. In accordance with similar researches (Bonneville-Roussy, Rentfrow, Xu, & Potter, 2013; Liikkanen & Aman, 2016) it was found that participants devoted approximately 2 hours a day to listening to music. In addition, it was found that participants with more children spent less time listening to music. The bulk of participants, 65% stated that they have a music collection and 35% of participants stated that they do not have a music collection. Participants with music collections spent almost an hour a week performing different activities related to their collections. Participants with music collections stated that they spent approximately 25 minutes a week adding new songs, about 11 minutes a week arranging their collections, approximately 7 minutes a week sharing music with their friends, and about 4 minutes a week deleting songs from their collection. These findings show that participants spent considerable amounts of time listening to music, and most of them spent considerable amount of time managing their music collections.

The second research question inspected the extent to which participants listened to music in social situations, how much time they spent listening to music alongside other activities and how background variables affect these subjects. It was found that the bulk of listening time (70%) was done alongside other activities, some of the listening time (18%) was spent in social situations and only a small part of listening time (12%) was spent by listening to music only, without doing any other activities. Similar findings were found in other researches (Fuentes, Hagberg, & Kjellberg, 2019; Kamalzadeh, Baur, & Möller, 2016). It is possible that the availability and

accessibility of listening to music via smartphones and headphones increases solitary listening over social listening and facilitates listening to music in the public sphere as a background for other activities.

The third research question examined the amount of control participants exerted during listening to music and how background variables influence it. It was found that during the bulk of listening time (57%) choosing the next song was passive by using shuffle play on their music collection or by using an automatic recommendation of a streaming platform. In some of the listening time (37%), choosing the next song was done intentionally by using playlists or listening to entire albums. Similar findings were found in similar research (Kamalzadeh et. al, 2016). Our findings revealed a positive correlation between actively choosing the next song and number of children, and with number of children under the age of five as well. These findings surprised us for we expected that the older participants will be preoccupied with small children and hence will lean towards passive choosing of the next song playing.

The fourth research question inspected which sources participants used to listen to music, what percentage of their listening time is spent listening to music they own, what percentage of their listening time is spent listening via streaming platforms, and whether participants' age and digital literacy affect the use of streaming technologies. Out of 106 participants, 75% used streaming, and they did so during 55% of their listening time. It was found that radio is still a main source for listening to music (24% of listening time), but it seems to be declining since there is a positive correlation between using the radio and participants' age. The dominant listening source is streaming platforms (43% of listening time). Furthermore, a negative correlation was found between participants' age and their use of streaming platforms, younger participants tended to use these platforms more than the older. Similar findings were found in other researches (Kamalzadeh, et al., 2016; Lepa & Hoklas, 2015). It is possible that recent changes, lowering data bundle prices, cheaper smartphones and increased memory volumes, which allowed for higher availability of listening to music by streaming services via smartphones, changed the map of listening sources and caused the increase in the popularity of streaming services.

The fifth research question examined how people discovered new songs in order to add them to their collections, and what is the social element in the discovery of new songs. It was found that participants used a variety of methods and tools for discovering new songs. The social element, that was dominant in the past, is now only 22% out of this variety. On the other hand, two other relatively new elements were used for a significant percentage of discovering new songs: streaming platforms' automatic recommendations (20%) and identifying music with the Shazam application (16%). The participants noted the advantages of discovering new music via automatic recommendations of streaming platforms, but they did not use music and recommendation sharing with other streaming platforms members and subscribers. The relatively small amount of social listening found in the results of the second research question, and the relatively low percentage of new songs discovery from social sources, may be interpreted as a sign of our times, when social seclusion is common.

The sixth research question was a main research question that inspected how the transition to streaming technology affected the practice and experience of collecting music. Analyzing the data retrieved from the interviews showed that the use of streaming services affected music collecting in three main aspects:

*Collection diffusion* - Unlike vinyl records collections, CDs, and files, where one only had access to music in their own collection, in streaming platforms there is access to countless songs. Participants noted that this diffused the boundaries of their collections, even if these songs were added to the collection (by adding them to a playlist or favorites). One participant noted that it even diffused his musical identity, that was well defined in the past.

*Lack of selection led to decline in value and enjoyment* - In the past, when participants entered a record store, they were forced to select. They had a limited amount of money and could only purchase one or two records. They said that making that choice caused excitement, that they knew "every chord and every note" in the record, and that made them feel connected to that record. The participants stated that using streaming platforms does not require any selection process, and that led to a decline in the perceived value of music and a decline in their enjoyment.

*Decline in music collecting* - All interviewees have stopped collecting music (or extremely curtailed collecting). Instead they have spent their time discovering new music using streaming platforms. It should be noted that these qualitative findings contradict our quantitative findings in this research, in which no correlation was found between the number of hours using streaming platforms and number of hours spent with music collections. Future research might solve this contradiction by studying music collecting behavior specifically in streaming platforms.

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