In this study we sought to find the model that would predict the popularity of a song the best. A good first question is: what makes a song popular?

Using the best model we developed, we were able to derive which variables the model used to predict song popularity most effectively, leading it to the lowest amount of error. These variables were track genre and valence. The valence of a song is defined as “the musical positiveness displayed by a song” measured from 0.0 to 1.0, and the dataset we used consisted of pop, rock, and jazz songs.

Another very strong model was able to differentiate which variables were most significant in predicting popularity: Speechiness, valence, and tempo. Speechiness is the amount of words spoken in a song, valence being the same as the first model, and the tempo is the amount of musical beats per minute.

By comparing the measures of importance between the variables within both of these models we can make a few relatively safe conclusions about what makes a song popular. The first: people like music that makes them feel good. Valence was the only variable that was deemed most important by both models and therefore is most likely to be the most significant predictor of popularity. Artists that make people feel good could be the most popular. Both models found this, and therefore any other variables will be considered in conjunction with this takeaway. Individually, the models found the amount of words in a song, the amount of beats per minute (how upbeat it is), and genre also significant in determining how popular a song is.

Now that we have a strong idea of what makes a song popular, we are able to make final conclusions of what songs are most popular for the direct and immediate benefit of the company. Given the best model found the track genre most significant and the combination of the group mean of pop songs being almost 3 times that of the other groups, pop music appears to be most popular. This is further implicated by valence’s and tempo’s significance as pop songs make people feel good with their upbeatness. If I were in upper management of

SonicWave, I would make pop music my first priority in order to get ahead of the curve and compete with music giants like Spotify.

Expanding our dataset to include a wider range of songs across various genres and demographics could offer further validation of our conclusions or unveil new insights into what drives song popularity. With more data, we could explore additional variables that might influence audience preferences, such as cultural trends, artist popularity, or even external factors like socio-economic conditions. Additionally, a larger dataset would allow for more precise modeling techniques, potentially uncovering more nuanced relationships between variables and popularity. By continuously increasing our sample size of data, SonicWave can stay at the forefront of the music industry, ensuring our strategies remain informed and adaptive in an ever-evolving musical landscape.