Change in Themes of Billboard Top 100 Songs

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Why Analyze Billboard Top 100 Songs

• Immense competition in the Music Industry.

• Identify themes which influence songs’ popularity.

• Discern numeric properties that makes songs catchy.

• Musicians and record labels need to be aware of factors that makes a song popular
Methodology

Text Analytics
- To identify most popular topics in all the Billboard top 100 songs from 1955-2015.
- To identify the most popular terms and topics in each 5 year period from 1955-2015.

Time series Analysis
- To forecast attributes of Billboard Top 100 songs such as Words per minute (WPM), Beats per minute (BPM) and Duration, in order to determine the optimal values of these attributes that increases a song’s chances of making it in Billboard Top 100.
Most Common Topics

- **Money**- Money, Pay, Buy, Price, Big, home and similar terms
- **Love**- Lover, kiss, soul, dear, dream, darling, friend, babe and similar terms
- **Feelings**- Heart, soul, treat, feel, stay, belong, wrong and similar terms
- **Body**- Shake, body, booty, party, work, pump, jump and similar terms
- **Religious**- Pray, heaven, help, god, angel, child, brother, soul and similar terms
- **Age/Gender** – old, young, age, die, time, run, boy, man, girl and similar terms
Top 5 Topics for Every Five Year Period Between 1955-2015

1955-1960
+smile, +chorus, +verse, +dear, +lover
+feel, +stay, +darling, +hear, +cause
+run, +gun, +fire, +old, +keep
+lover, +high, +yes, +rise, +true love
+gonna, +down, +ya, +right, +look

1961-1965
+old, +home, +grow, +big, +man
+free, +set, +good, +run, +wish
+ring, +thing, +buy, +diamond, +sing
+rise, +red, +grow, +sweet, +day
+tonight, +light, +tomorrow, +shine, +live
+keep, +matter, +gonna, +cause, +follow

1966-1970
+lovin, +stop, +keep, +darin, +ya
+summer, +god, +warm, +winter, +snow
+ride, +down, +train, +time, +run
+mind, +soul, +hard, +music, +easy
+god, +soul, +child, +young, +brother

1971-1975
+people, +brother, +live, +peace, +world
+lyric, +want, +display, +license, +future
+band, +boogie, +play, +boy, +wait
+right, +night, +wrong, +light, +tonight
+little, +girl, +bye, +pretty, +wait

1976-1980
+keep, +late, +gotta, +wait, +time
+crazy, +drive, +wheel, +high, +keep
+lover, +friend, +dream, +crazy, +hurt
+man, +boy, +money, +old, +well
+lad, +fall, +yes, +old, +party

1981-1985
+home, +always, +alone, +ring, +wait
+remember, +forget, +give up, forever
+run, +pay, +price, +stay, +gonna
+fine, +red, +blue, +wine, +kiss
+shine, +sun, +moon, +lady, +eye

1986-1990
+baby, +come on, +babe, +love, +world
+back, +leave, +step, +love, +comin
+bad, +treat, +hurt, +wrong, +ya
+beat, +boy, +heart, +feel, +real
+chorus, +shake, +na, +lose, +thing

1991-1995
+pump, +shake, +jump, +girl, +turn
+buy, +car, +money, +home, +well
+ooh, +bring, +joy, +rain, +ooh
+find, +run, +wish, +home, +belong
+play, +game, +want, +wrong, +fool

1996-2000
+man, +money, +old, +little, +pay
+pray, +heaven, +god, +help, +angel
+break, +fall, +heart, +back, +turn
+happy, +free, +laugh, +babe, +smile
+alone, +home, +leave, +phone, +sleep

2001-2005
+cry, +daddy, +kid, +father, +mama
+heaven, +wanna, +place, +cry, +wind
+don't, +chorus, +da, +body, +aint
+em, +nigga, +niggas, +block, +gotta
+chorus, +verse, +2, +bridge, +woman

2006-2010
+money, +rain, +big, +buy, +pay
+im, +cant, +don't, +ha, +keep
+country, +old, +home, +down, +little
+bout, +lookin, +nothing, +body, +goin
+jump, +down, +step, +bring, +deep

2011-2015
+verse, +hook, +body, +chorus, +bridge
+shake, +ass, +booty, +ya, +work
+bout, +nothin, +feelin, +worry, +gettin
+happen, +always, +kind, +low, +feel
+beautiful, +born, +always, +baby, +god, +black
Key Insights: Text Analytics

- Song lyrics between 1955-1990 focused more on topics such as **Feelings, love, religion and age/gender**
- Song lyrics between 1990s- 2015 are more inclined towards topics like **Money and Body**
- Starting 2000, a disposition of using slang and racial slur in song lyrics can be seen such as **slang terms like black, nigga, booty, ass etc.**
- Starting 2000, dominant use of slang contraction such as ‘**aint’, ‘gotta’, ‘da’** can be seen.
- Also from 2000 onwards, trend of consonant reduction in songs can be seen. For example, **them is reduced to em, nothing is reduced to nothin**, etc.
- Songs having Chorus and repeats are more likely to enter into billboard top 100
Forecast of Beats per Minute (BPM)

- Forecast of BPM for 2016-2020 between 100-110

- Optimal value of BPM close to 107

- Keeping BPM close to 107 in a song may increase chances of making into Billboard top 100
Forecast of Words per Minute (WPM)

- Forecast of WPM for 2016-2020 between 99-105
- Optimal value of WPM close to 102
- Following this forecast may increase musicians’ chances of making into Billboard top 100
Forecast of Song Duration

- Forecast of duration for 2016-2020 between 4 to 4.5 minutes
- Optimal value of song duration close to 4 minutes
- Songs with duration close to 4 minutes have higher chances of entering the Billboard top 100 charts
Conclusion

The following factors can increase the likelihood of songs making into the Billboard top 100 list by:

- Using the following topics and terms in songs: **Money**-Money, Pay, Buy, Price, Big, home etc., **Body**- Shake, body, booty, party, work, pump, jump, **Feelings**- Heart, soul, treat, feel, stay, belong, wrong etc.

- Utilizing the use of Chorus and Repeats in a song. Additionally, the presence of slangs, slang reduction, racial slurs and consonant reduction in song may increases the probability of entering Billboard top 100.

- Keeping the beats per minutes (BPM) of upcoming songs close to 107 and the duration between 4 to 4.5 minute.

- Keeping the words per minute (WPM) of upcoming songs between 95 to 105 words per minute
Presenter

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