

KOISHIKAWA

Purpose

- How to use mathematics in society
- It's a verified problem as "What kind of male idols' song more sells?"

Conclusion

- we can analyze subjectivity of humans using mathematics

Hypothesis

- the songs which appeal to the people are good seller
- the songs which appeal to the people are passionate and joyful

Method

- evaluate on a scale of -2 to +2 (-2 is hate, +2 is like)
- evaluate on a scale of -2 to +2 (-2 is mellow, +2 is passionate)
- evaluate on a scale of -2 to +2 (-2 is sad, +2 is joyful)

Melody, Lyrical Rythm

- Group A(BTOB) : It's OK as Song ①, I'll Be Your Man as Song ②
- Group B(BTS) : I NEED U as Song ③, FIRE as Song ④
- Group C(GOT7) : Fly as Song ⑤, Hard Carry as Song ⑥

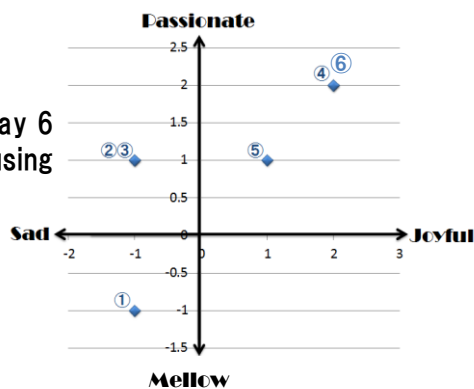
Result

- asked 8-11 people to evaluate 6 songs: like, soso, dislike, hate
- use survey function of Twitter

	①	②	③	④	⑤	⑥
Like(+2)	4	6	6	6	4	5
Soso(+1)	3	3	2	2	4	4
Dislike(-1)	4	0	1	0	0	0
Hate(-2)	0	0	0	0	1	0
Total	7	15	13	14	11	14
Number Of Survey	11	9	9	8	9	9
Average(*)	0.64	1.67	1.44	1.75	1.22	1.56
Ranking	6	2	4	1	5	3
Sales	50499	52510	327714	384565	168578	227856

*2 is like, -2 is hate

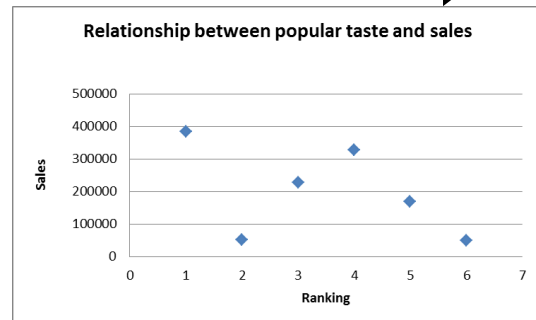
- made a graph to display 6 songs' atmospher by using the average



Analyze

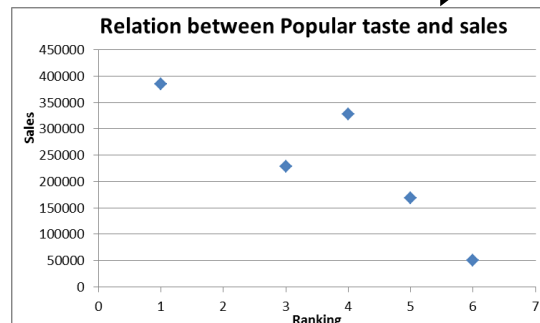
Compare the people's tastes and sales of songs (be involved, or not)

Correlation coefficient



- Correlation coefficient is -0.47096
- song② is outlier

Removed song②

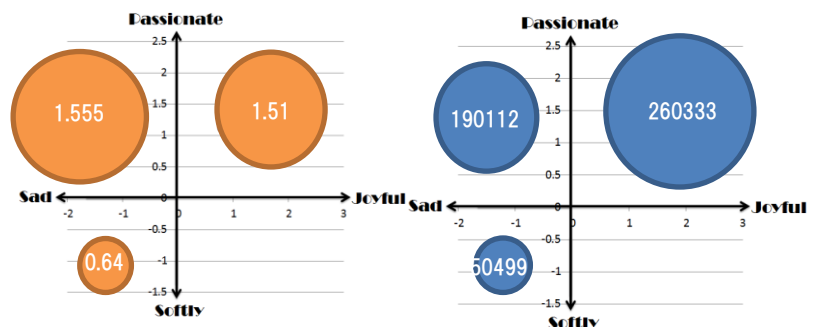


- Correlation coefficient is -0.87305

What kind of songs appeal to people and sell the most (display in the graph)

People's taste

Sales



- the average in each quadrant displays the result with a circle

Conclusion

- There is a strong correlation between the people's taste and the sale of each song.
- The songs that sell most are joyful and passionate.
- The passionate songs are good seller, because they appeal to the people.

Discussion

- It is likely that there is some possibility that the differences influenced the result because these groups are different in their target audience (it's mean number of fan)
- ⇒we need to choose proper data.

Reference

Tsuyoshi Morioka "Politics theory of probability thought ~The power of the mathematics marketing which was also proved in USJ~"
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