Not Your Toy? - Is The Eurovision Just A Song Contest?

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1 Abstract

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2 Introduction

The Eurovision Song Contest (ESC), is one of the most successful and longest-running international music competitions and television shows worldwide. Though the organizer of the contest has long marketed it as a nonpolitical and unifying force, and although the ESC is a musical entertainment event, there have always been social, cultural, and political themes and tensions that simmer at the edges of the contest.[1].

A common public question that is raised every year around the ESC is how the voting behavior is affected by other factors than performance and song quality [2]. For example that votes were impacted by social factors such as stance against the Israel-Palestinian conflict, LGBT support, the Brexit and more. In addition, previous studies have empirically examined the affect of cultural alliances, cliques and the extent of political bloc (Yair 2019; Fenn et al. 2006). For example, (Charron 2013) examined voting blocs that are based on mutual culture and historic friend partners like the Balkan or ex-Soviet countries. In this project we wish to spread more light on this issue.

First, we wish to understand if and how much social subjects are taking into voting consideration. As social conversions has moved online to social media platforms where citizens discuss everything from song reviews to politics and shape their opinion; we wonder if the social conversation regarding the ESC has become less on song quality and performance. As the social conversing in such platforms plays a key factor shaping the public opinion, it may also play a key role in shaping the voting behaviors in the ESC.

Hence, we wish to evaluate if social subject are taking a significant role in the discussion of ESC songs. We collected Youtube comments of Eurovision song between the years 2015-2019. Using the comments we trained a BERT baised model to classify if a comment is discussing the song quality/performance or not...(add the performace of the model and what we wish to learn using it)

Next, we wish to empirically evaluate specific political and social factors as indicators of voting behaviours. Our hypothesis is that these indicators can reflect on the voting behavior in the ESC. Specifically, we focused on economic and tourism relationships between countries, as both reflect social and political relationships and have temporal representations like the ESC votes.

In addtion to the annual ESC voting results, we collected annual trade and tourism statistics between ESC countries; and evaluated their correlations with the jury and public telephone voting behavior.

Formally, we by ask the following research questions:

RQ1. Are social issues becoming an vital factor in the ESC?

RQ2. Are economic relationships of countries reflect their ESC voting behavior?

RQ3. How are tourism relationships of countries reflect their ESC voting behavior?

3 Background

3.1 Eurovision Song Contest

Active country members of the European Broadcasting Union (EBU), as well as invited associate members, are eligible to compete, and as of 2021, 52 countries have participated at least once. Each participating broadcaster sends one original song. Each country awards two sets of 1–8, 10 and 12 points to their favourite songs. The first set is the jury votes, based on the views of an assembled group of music professionals chosen by each country. The second set is the public televoting set. The song receiving the most points declared the winner. **Efrat:** ▷ *What about the televoting?* ◁

Since 2008 each contest is typically formed of three live television shows held over one week: two semi-finals are held on the Tuesday and Thursday, followed by a grand final on the Saturday. All participating countries compete in one of the two semi-finals, except for the host country of that year's contest and the contest's biggest financial contributors known as the "Big Five" — France, Germany, Italy, Spain and the United Kingdom. The remaining countries are split

[1]https://www.europenowjournal.org/2017/02/28/the-politics-of-belonging-at-the-eurovision-song-contest/

[2]https://www.washingtonpost.com/opinions/2019/05/13/eurovision-is-political-this-year-it-is-every-year/

between the two semi-finals, and the 10 highest-scoring entries in each qualify to produce 26 countries competing in the grand final.

3.2 Political Aspects of the ECS

write things down

4 Methods

4.1 Datasets

We combined several sources of data.

ECS Votes The 'Eurovision Votes' dataset contains the ESC vote records from 1975-2019. Efrat: ▷ *Add a reference to where we brought the dataset from* ◁ The vote records in the dataset contain both the semi-final and the final from both the jury and the public televotes. Recall that since 2016 each country awards two sets of points, professional jury, and general public through telephone. For our research, we updated the dataset with the latest Eurovision 2021 vote records from a Eurovision fan community website[3].

Europe Trade Dataset The 'Eurovision Trade' dataset contains the trade statistics between Eurovision participating countries between the years 2013-2019. Using the 'World Integrated Trade Solution'(WITS) [4] database, we collected the exported trade statistics for each Eurovision participating country for each year mentioned above. Specifically, the 'Eurovision Trade' dataset contains the export goods in USD to each Eurovision country and the entire world. The WITS does not contain trade statistics on San Marino.

Europe Tourism Dataset The 'Eurovision Tourism' dataset contains the tourism statistics between Eurovision participating countries between the years 2013-2019. Using the 'Eurostats' database of the number of trips by country / world region of destination, we collected the tourism statistics for each Eurovision participating country for each year mentioned above.

- Countries that were not described
- Countries that changed politically over the years
- Covid effect on tourism from 2020

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Eurovision YouTube Channel Each year before the contest dates, the official Eurovision Song Contest YouTube channel[5] uploads official videos of the songs participating in the contest. The official videos for each song are uploaded approximately 2 months before the contest and serves as a mean for the audience to get to know the competitors from each country before the competition is broadcasted. Commenting on the videos is more available than voting in the competition because it is not bounded by time. In addition, during the semi final, only votes from countries that participated in the specific semi final are considered and in the finals you can only vote for countries who were qualified for the finals. These limitations do not hold for commenting on the official YouTube videos.

We used the Google Client API to download the comments on the official videos from the competition in 2017-2019 and in 2021. In addition, we used the Google Cloud Translation API to translate all comments to English. In total, this dataset contains over 1M comments from 166 videos.

4.2 Off-topic Content

Indications for how much of opinions are related to the song and performance as opposed to different topics. Tagged comments as related to the song vs unrelated to the song. add examples. Finetuned BERT on the tagged comments and predicted on the rest of the dataset.

4.3 Effect of Diplomatic Relationships

Our research question aims to find hidden motives to the voting patterns in the ECS. We hypothesise that the trade relations between countries and the tourism patterns between the countries affect votes in the contest.

If trading relations are considered when a country casts its vote in the Eurovision, we would expect it to vote for countries to which it exports to maintain the good relationship. Therefore, we can induce a ranking for each voting country based on the velocity of their trade with the other countries. For example, if Italy exported the most to Germany in 2018 compared to the other countries competing, we would expect Italy to give 12 points to Germany in the contest of 2018. In the same way, if most of the outgoing tourism from Italy in 2018 was to Germany, we would expect Italy to give 12 points to Germany in the contest of 2018.

Inspired by the analysis in (Kumpulainen et al. 2020), we measure the correlation between these induced rankings and the votes in the finals between the years 2015-2018 for the jury votes and between 2016-2018 for the Televoting because 2016 was the first year Televoting was introduced.

5 Evaluation

5.1 Off-topic Content

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5.2 Diplomatic Effects

Figure 1 presents the Spearman correlation coefficient values between the rankings induced by the trade and tourism patterns to the true rankings in the Eurovision. Results marked with an asterisk are statistically significant after applying Bonforroni correction for multiple hypotheses (p ¡ 0.05). Interestingly, there is a statistically significant correlation between the trade patterns and the Televoting scores for all years. Additionally, the correlation between the trade patterns and the jury votes is significant in 2015 and in 2018.

On the other hand, the only significant correlation with the tourism patterns is with respect to the Televoting in 2018. In

[3]https://eurovisionworld.com/eurovision/2021

[4]https://wits.worldbank.org/countrystats.aspx?lang=en

[5]https://www.youtube.com/c/EurovisionSongContest/featured

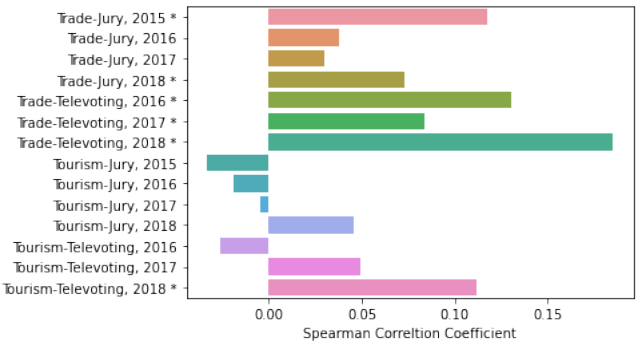

Figure 1: The Spearman correlation coefficient values between the rankings induced by the trade and tourism patterns to the true rankings in the Eurovision. Rows marked with * are statistically significant.

Threshold	Precision	Recall	Accuracy
$p \geq 0.2$	**0.989**	**0.996**	**0.985**
$p \geq 0.35$	0.991	0.988	0.981
$p \geq 0.5$	0.994	0.97	0.965
$p \geq 0.65$	0.996	0.938	0.938
$p \geq 0.8$	0.996	0.88	0.883

Table 2: Sensitivity analysis of the binary CNN model. The precision, recall and accuracy scores for different probability thresholds.

2018 the Eurovision was hosted in Portugal and Israel won the contest.

From these results we conclude that there is evidence supporting the hypothesis that trade relations are a factor in the eurovision voting system, but tourism patterns aren't taken into account.

	Precision	Recall	Accuracy
Random Baseline	0.957	0.954	0.915
Binary CNN	**0.994**	0.97	**0.965**
Multi-class CNN	0.957	**0.987**	0.956

Table 1: Precision, recall and accuracy of the three compared models on the test set. The Binary CNN achieves the highest precision and accuracy.

6 Discussion

summarize this

	Precision	Recall	Accuracy
Human Performance	0.767	0.708	0.65
Binary CNN	**0.941**	**0.97**	**0.94**

Table 3: Precision, recall and accuracy of an average human compared to the Binary CNN on a 100 sample test set.

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