The performance behind the popularity of F1 drivers

CEU - Science of Success
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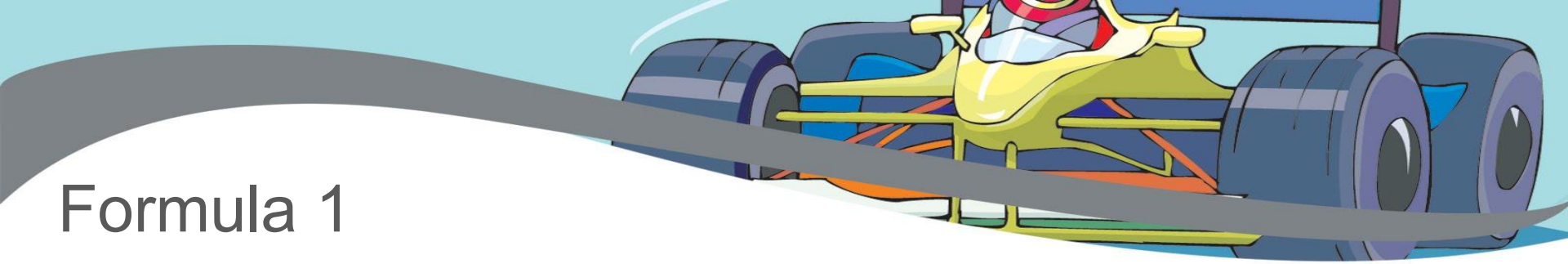
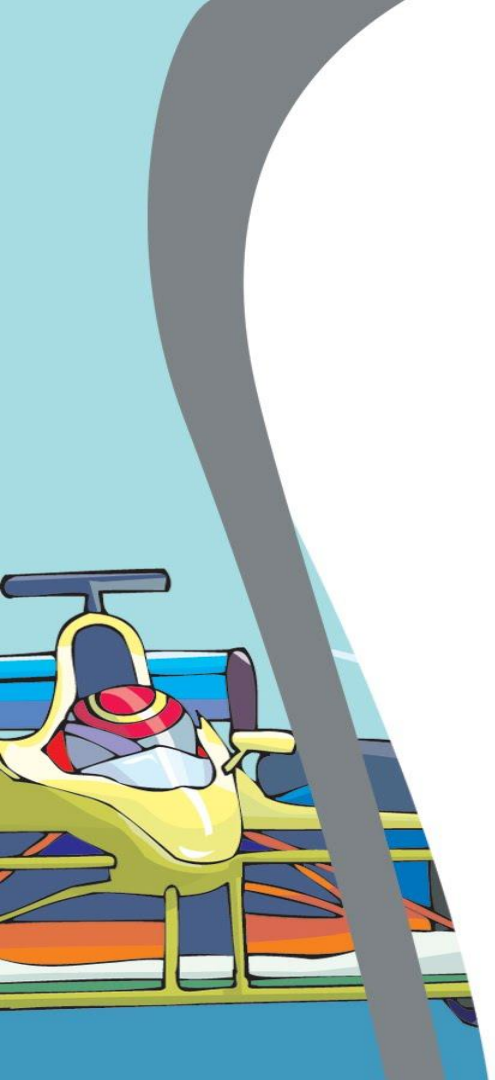


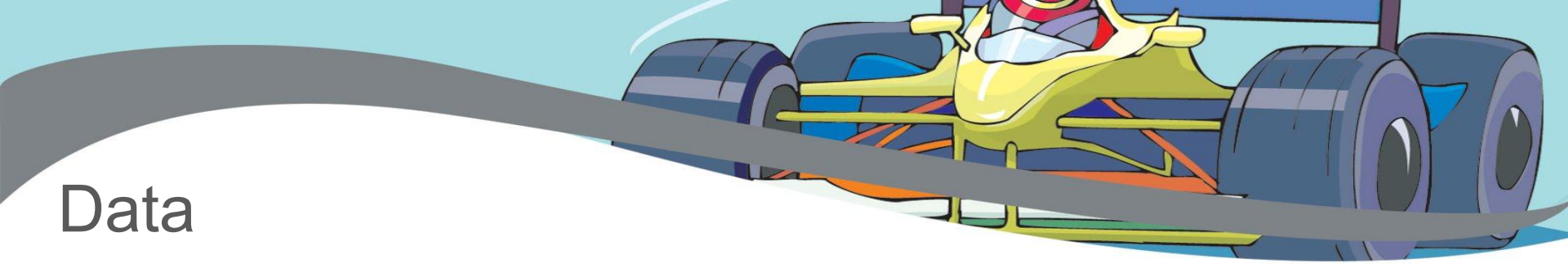
Formula 1

- ~20 drivers, ~10 teams
- ~20 GP’s, Grand championship
- drivers from 22 countries
- 22 constructors from 12 countries
- 25 tracks



Questions

- What is the correlation between the drivers performance and popularity?
- Can a driver be famous just by driving a Ferrari?
- Does winning on a specific track increase popularity?



Data

ergast.com - free API to query F1 data

- driver's result for each season/round between 2008 and 2016
  3762 observations, 22 variables
  65 drivers, 22 constructors

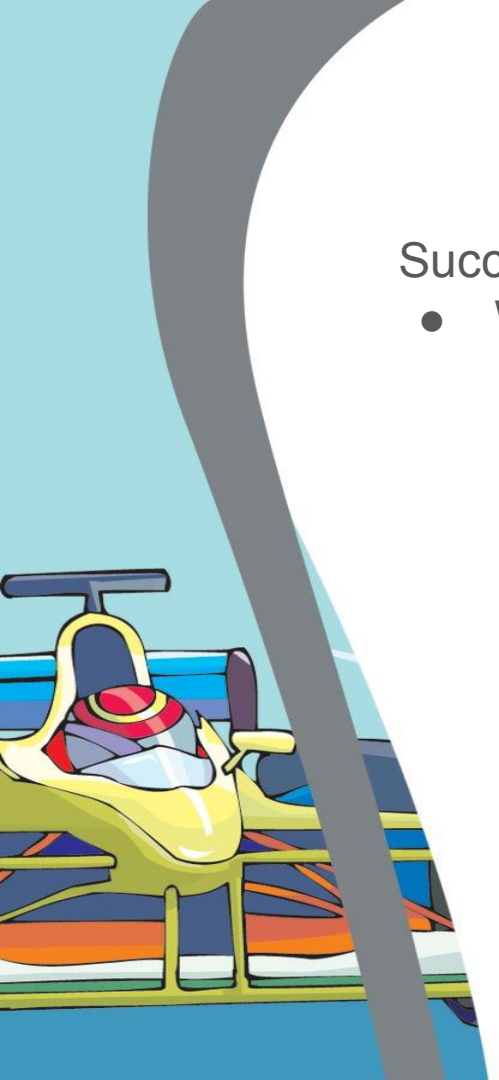
- scheduling of the rounds, tracks
  171 observations, 7 variables

World Data Bank

- country populations

wikipedia.org

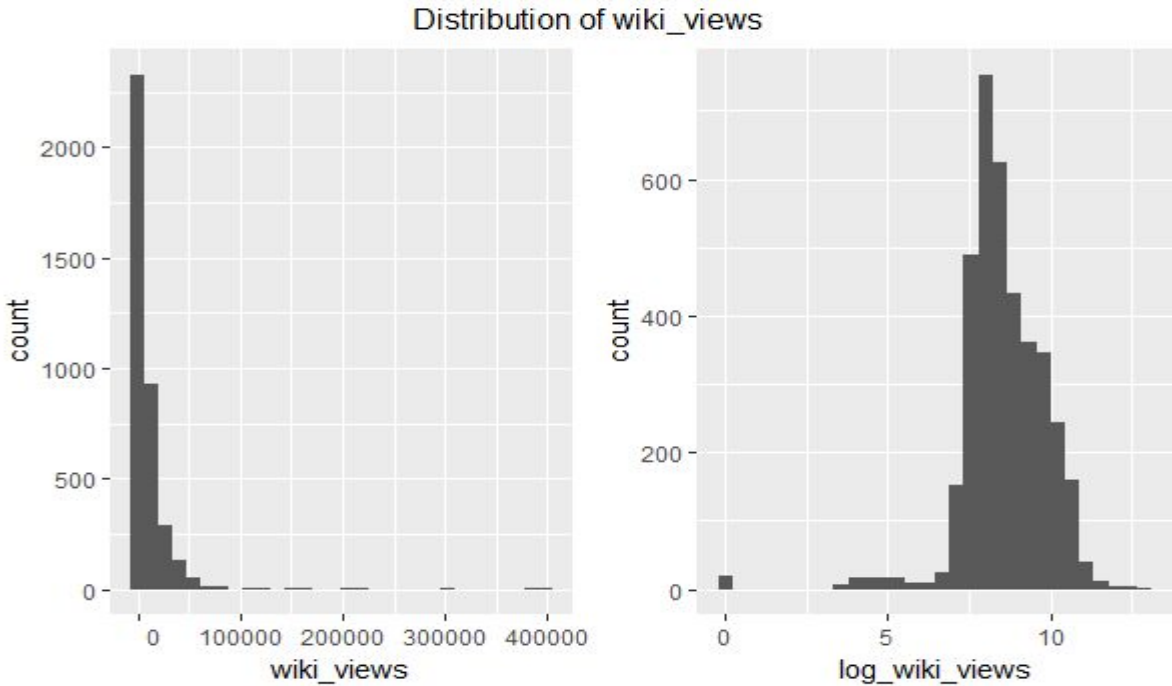
- page hits of drivers - daily
  - wikipedia API
  - legacy DB - daily stat / dumps



Measurement of success

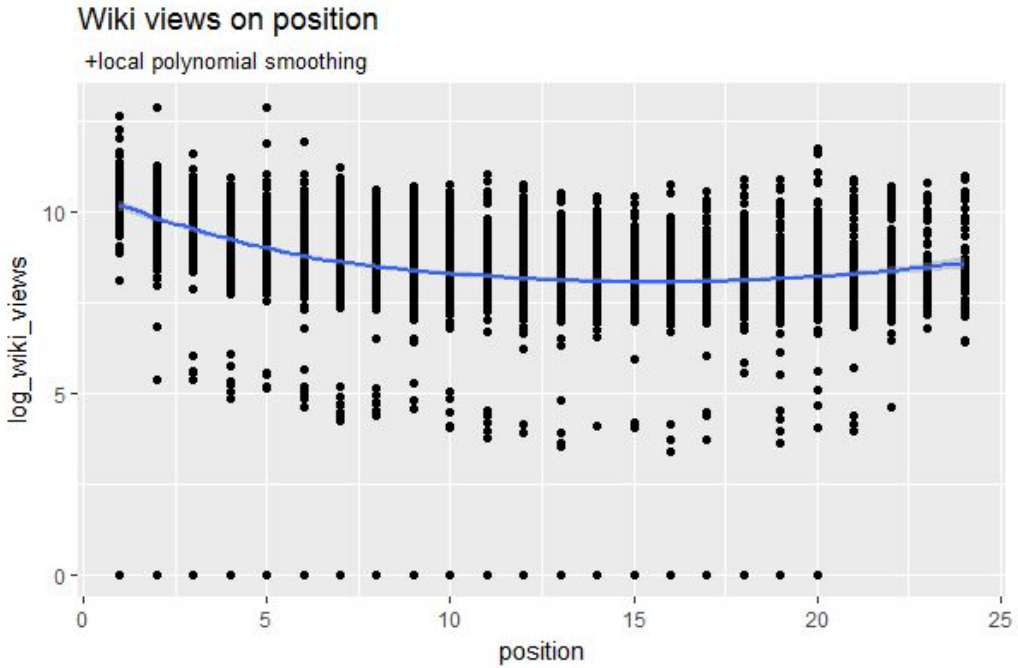
Success:

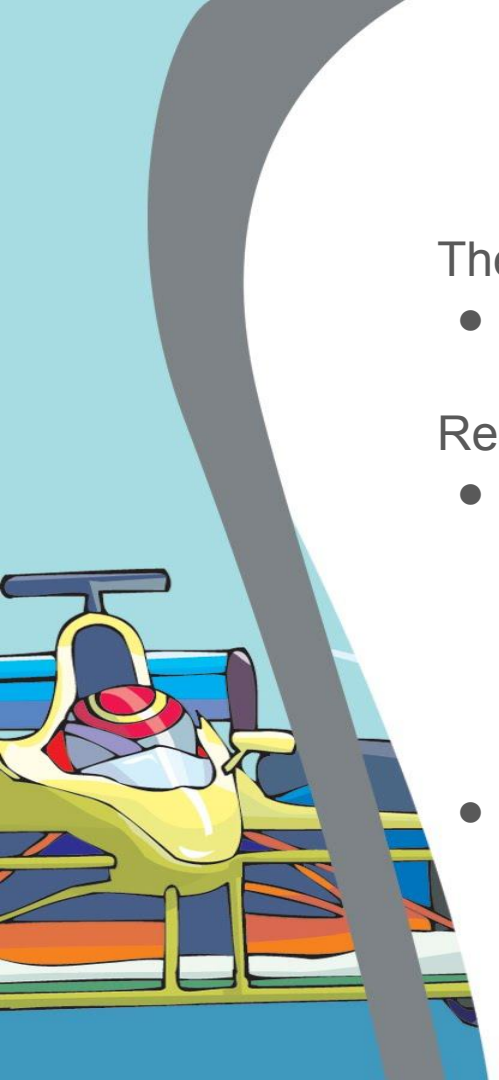
- Wikipedia views of the pilot at the time of the race (+- 5 days)



Winning vs success

- There is a correlation but it is not convincing
- Outliers: lack of wiki data, 2008-07-25, German GP





Nationality

Theory:

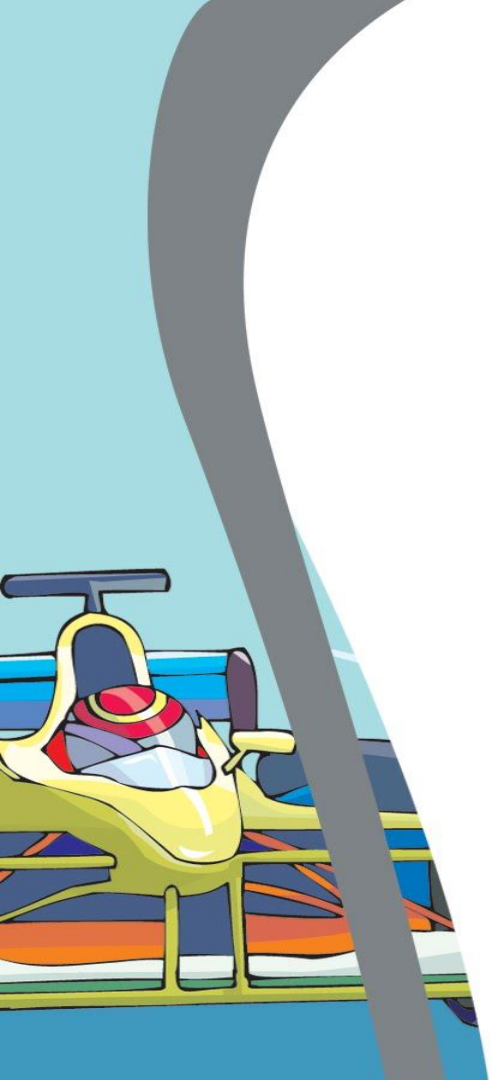
- The nationality of the pilot has an influence on the popularity

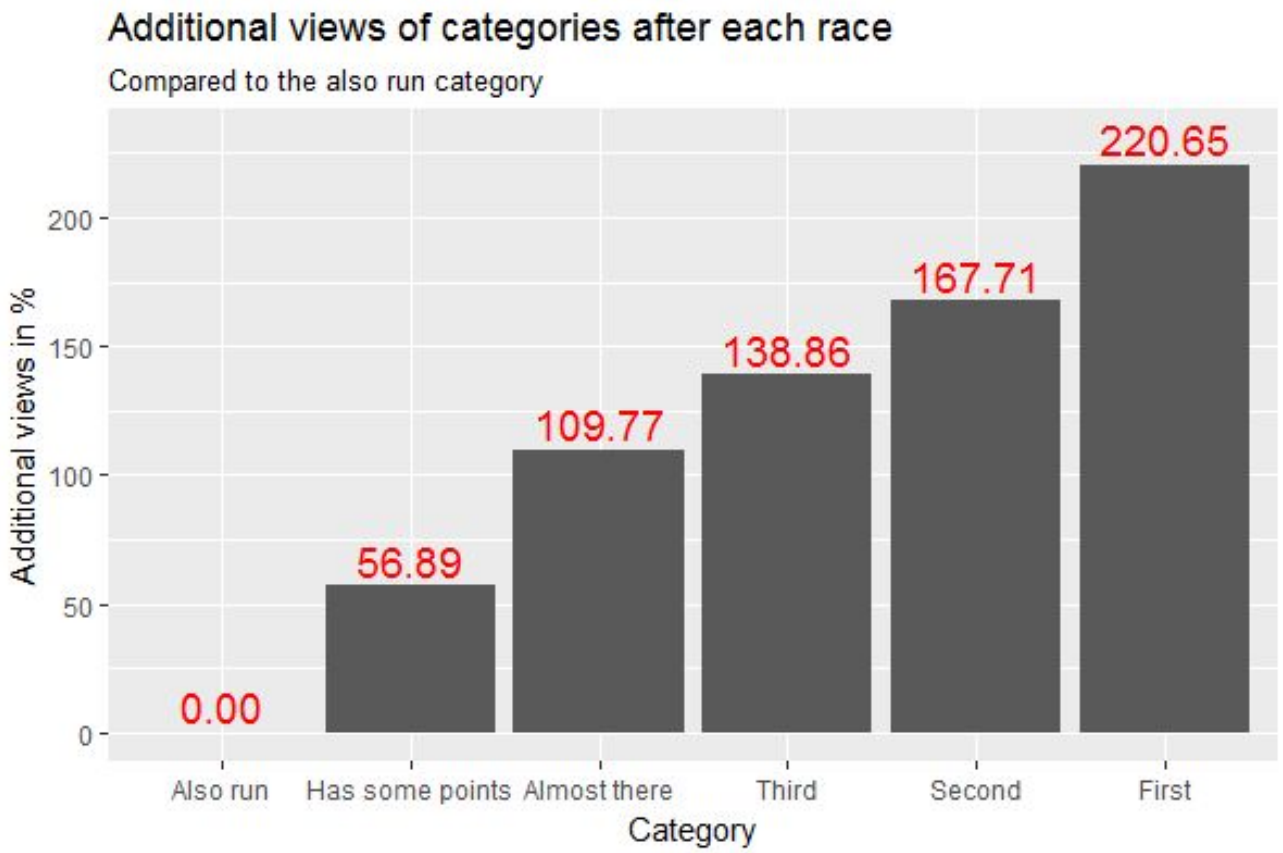
Reality:

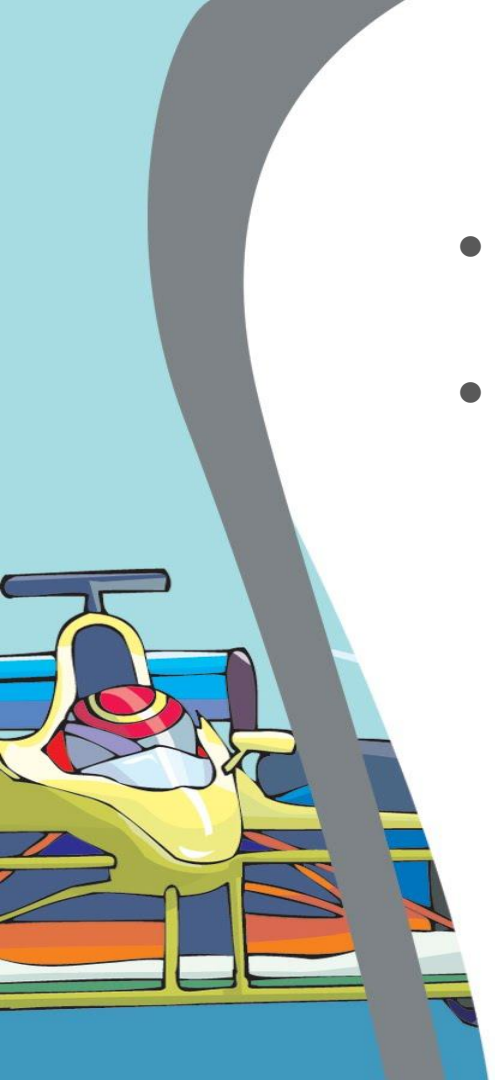
- There is some connection but be cautious
  - Australian pilots are more successful by 290% than Americans
  - Brazilians are 257%, British are 346%, Indonesians are 319%
  - but there is only one American pilot: Alexander Rossi

- Maybe it is because of population?
  - There is no correlation between population and success ($p = 0.126$)

Standing in grand championship







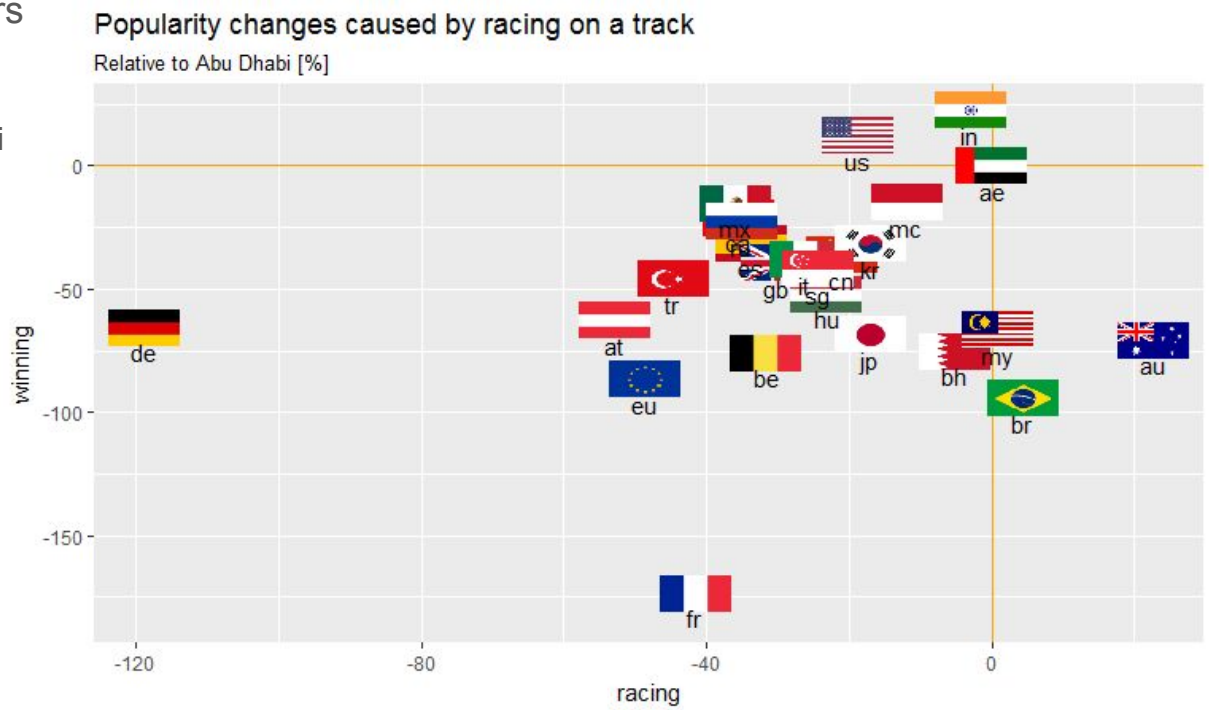
Constructors

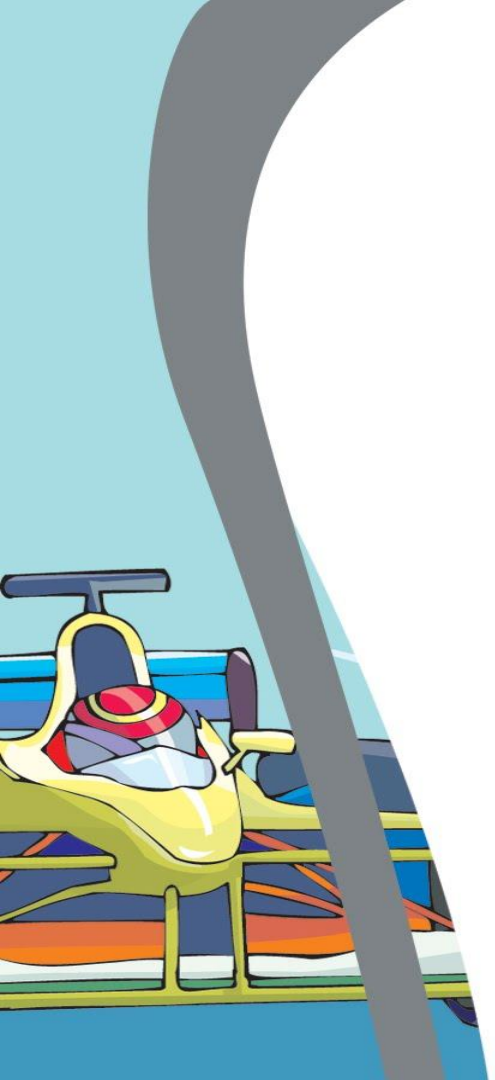
- Initial regression
  - 22 teams
  - some of the coefficients are not statistically significant
- 3 categories were created by quantiles for repeated regression
  - ClassA : top 25%
    - Mercedes
    - Brawn
    - McLaren
    - Red Bull
    - Ferrari
    - Lotus F1
  - ClassB : mid 50%
    - Renault
    - BMW Sauber
    - ...
  - ClassC : lower 25%
    - Force India
    - Toyota
    - Virgin
    - ...

	Dependent variable:
	log_wiki_views
constructor_categoryClassB	0.573
	(0.473, 0.674)***
constructor_categoryClassA	1.832
	(1.730, 1.934)***
Constant	7.589
	(7.504, 7.674)***
Observations	3,762
R^2	0.300
Adjusted R^2	0.300
Residual Std. Error	1.105 (df = 3759)
Note:	*p<0.1; **p<0.05; ***p<0.01

Tracks of success

- Does winning on a specific track increase popularity?
- Regression using interaction
- Compared to Abu Dhabi Grand Prix where the winners get 238% more views than others
- Top 4:
  - India
  - Abu Dhabi
  - US
  - Monaco





Questions again

- What is the correlation between the drivers performance and popularity?
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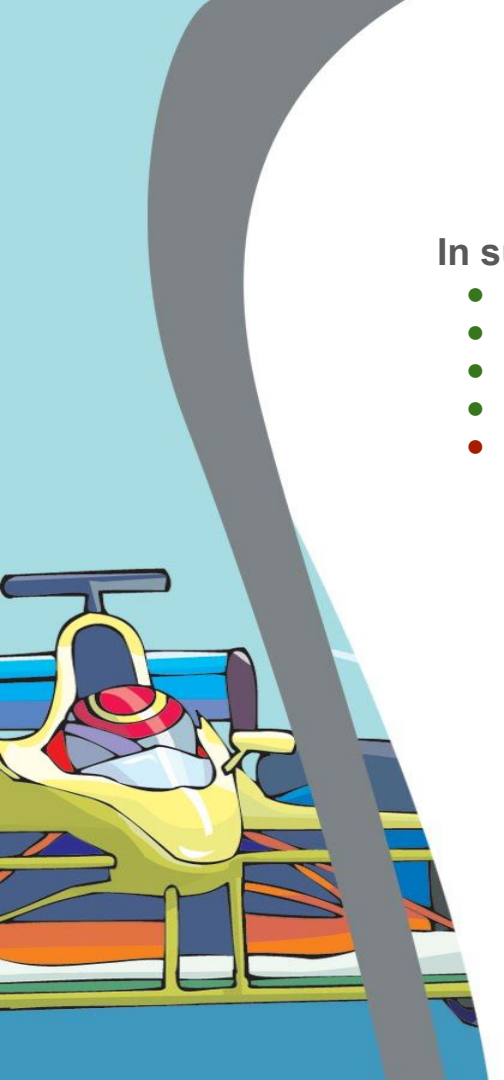
Composition of success



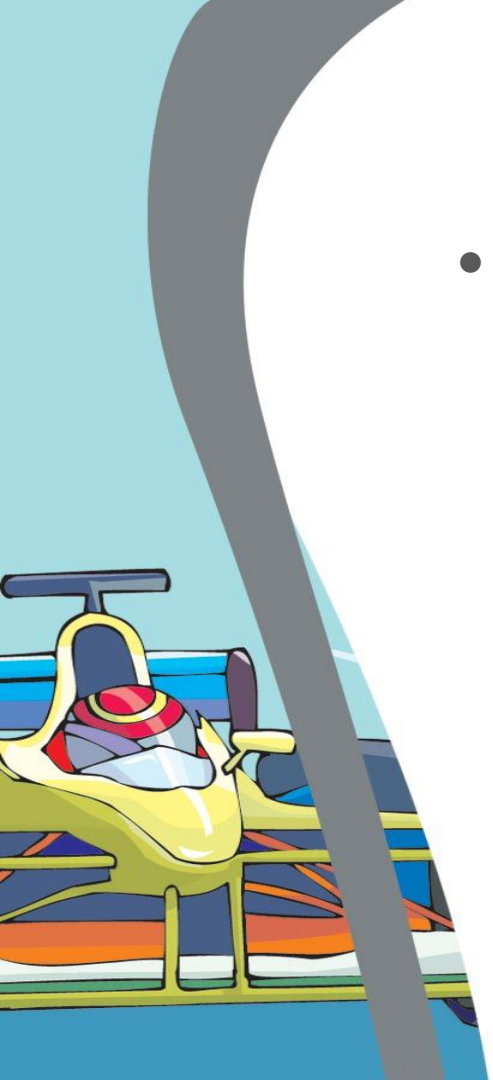
In summary:

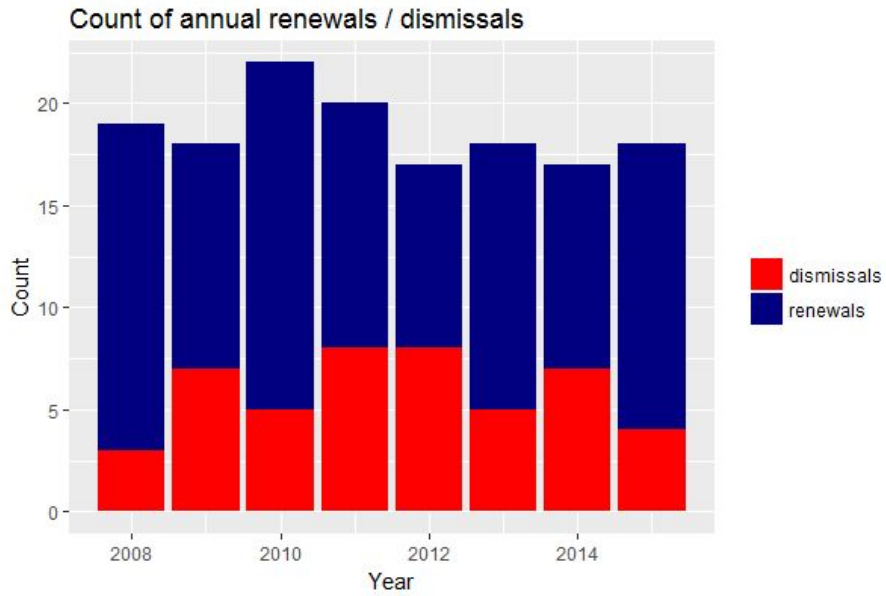
- Winning
- Good standing in the Grand Championship
- Having a popular team (constructor)
- Racing (preferably winning) on Top 4 track
- Nationality (skipped: unreliable)

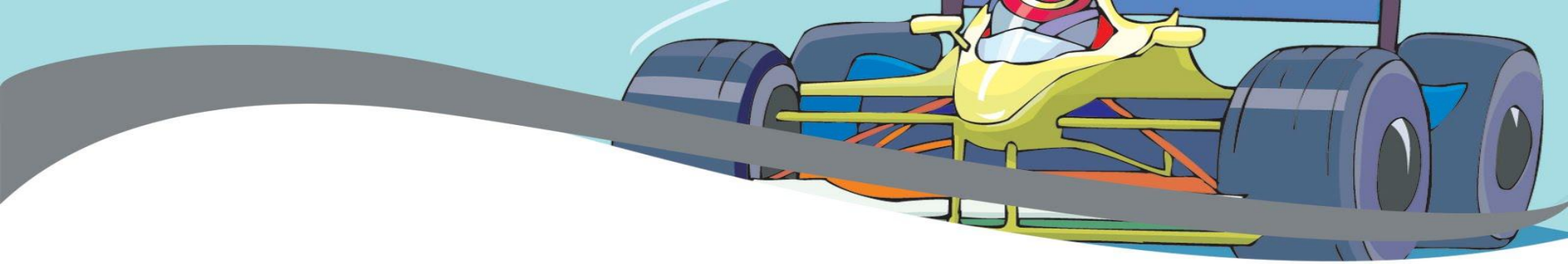
	Dependent variable:
	log_wiki_views
winner	0.921
	(0.749, 1.094)***
current_standing_in_championship	-0.038
	(-0.045, -0.031)***
constructor_categoryClassB	0.586
	(0.489, 0.683)***
constructor_categoryClassA	1.427
	(1.315, 1.539)***
top4_track	0.184
	(0.087, 0.280)***
Constant	8.113
	(7.983, 8.243)***
Observations	3,762
R^2	0.352
Adjusted R^2	0.351
Residual Std. Error	1.064 (df = 3756)
Note:	*p<0.1; **p<0.05; ***p<0.01

Success 2: Next year contract

- Based on the average points collected in a season how more likely to have a contract renewal?
  - No. crashes / disqualifications: there is no corralation
  - 10 more points in average = ~30% more chance of renewal







Questions?