Measuring the Importance of Building a Formula 1 Engine

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Data: https://bit.ly/3rhabRB

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How impactful is it for a Formula 1 constructor to design and build their own engine, and use it on their chassis? This is an disruptive story, as it forces F1 viewers to consider if engine constructors (i.e., Mercedes, Ferrari and Renault) receive an unfair advantage during races. This story is very compelling, as most fans believe the driver is the leading factor in performance; however, the vehicle they operate is just as crucial to the story.

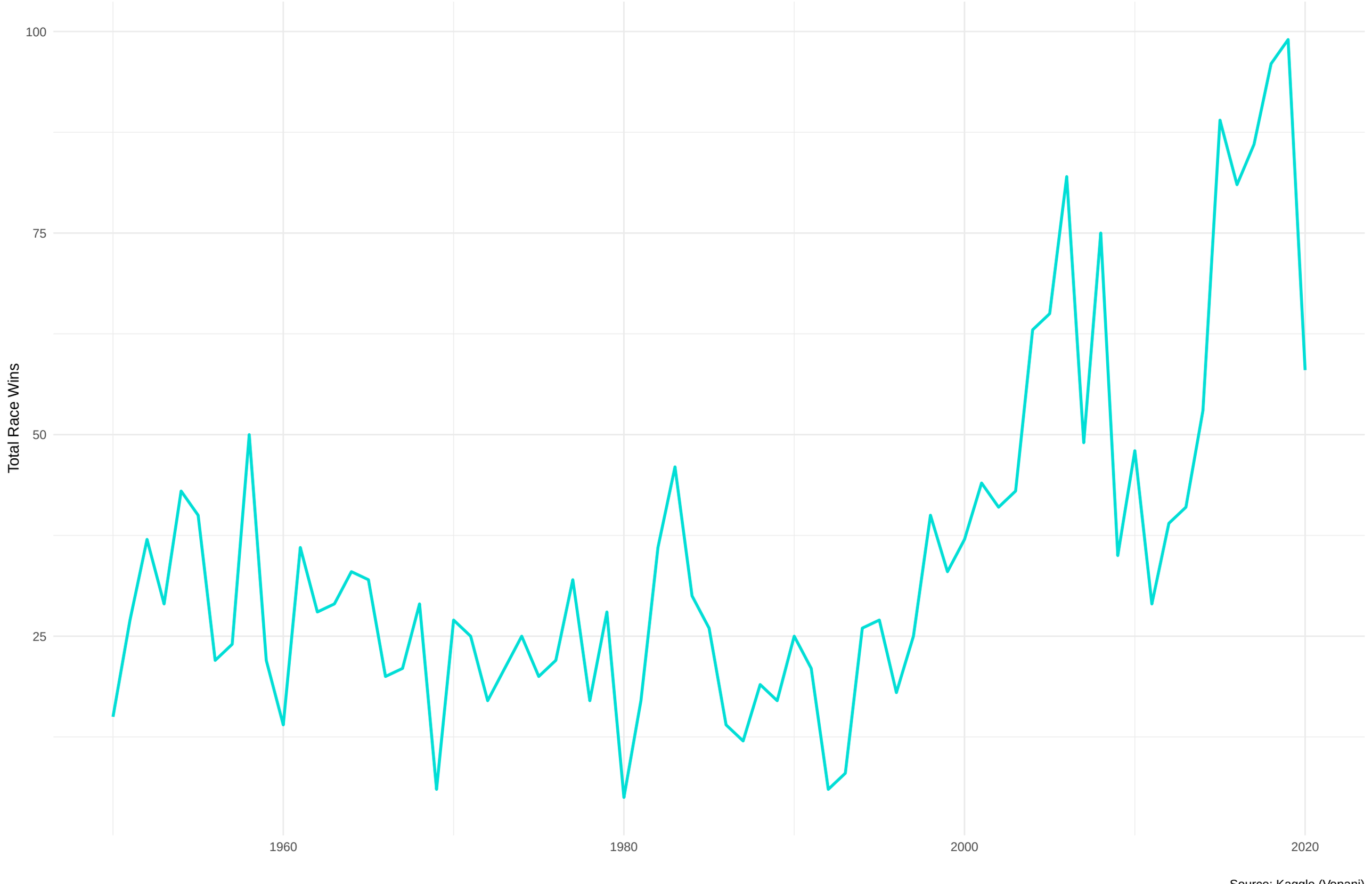
Finishing Position vs Fastest Lap Speed by Engine Constructors vs Engine Purchasers

Engine constructors tend to finish in a better position and generally earn slightly faster lap speeds than their counterparts

Source: Kaggle (Vopani)

Total Race Wins by Engine Manufacturers Since 1950

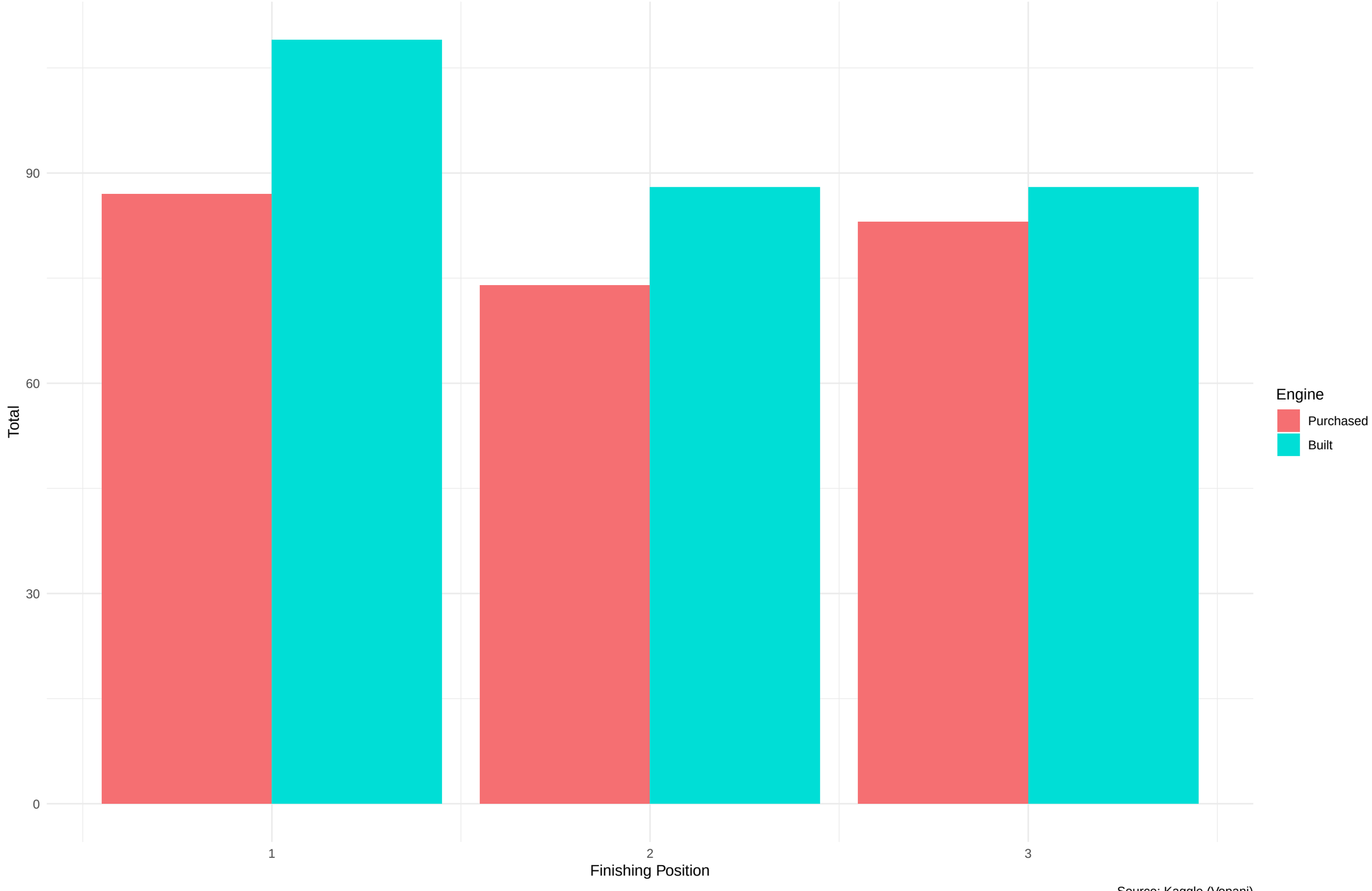
Constructors who build and use their own engines have regularly been competitive in F1, with a drastic increase in performance over the last 20 seasons



Source: Kaggle (Vopani)

Podium Positions Won in 2020 by Engine Constructors

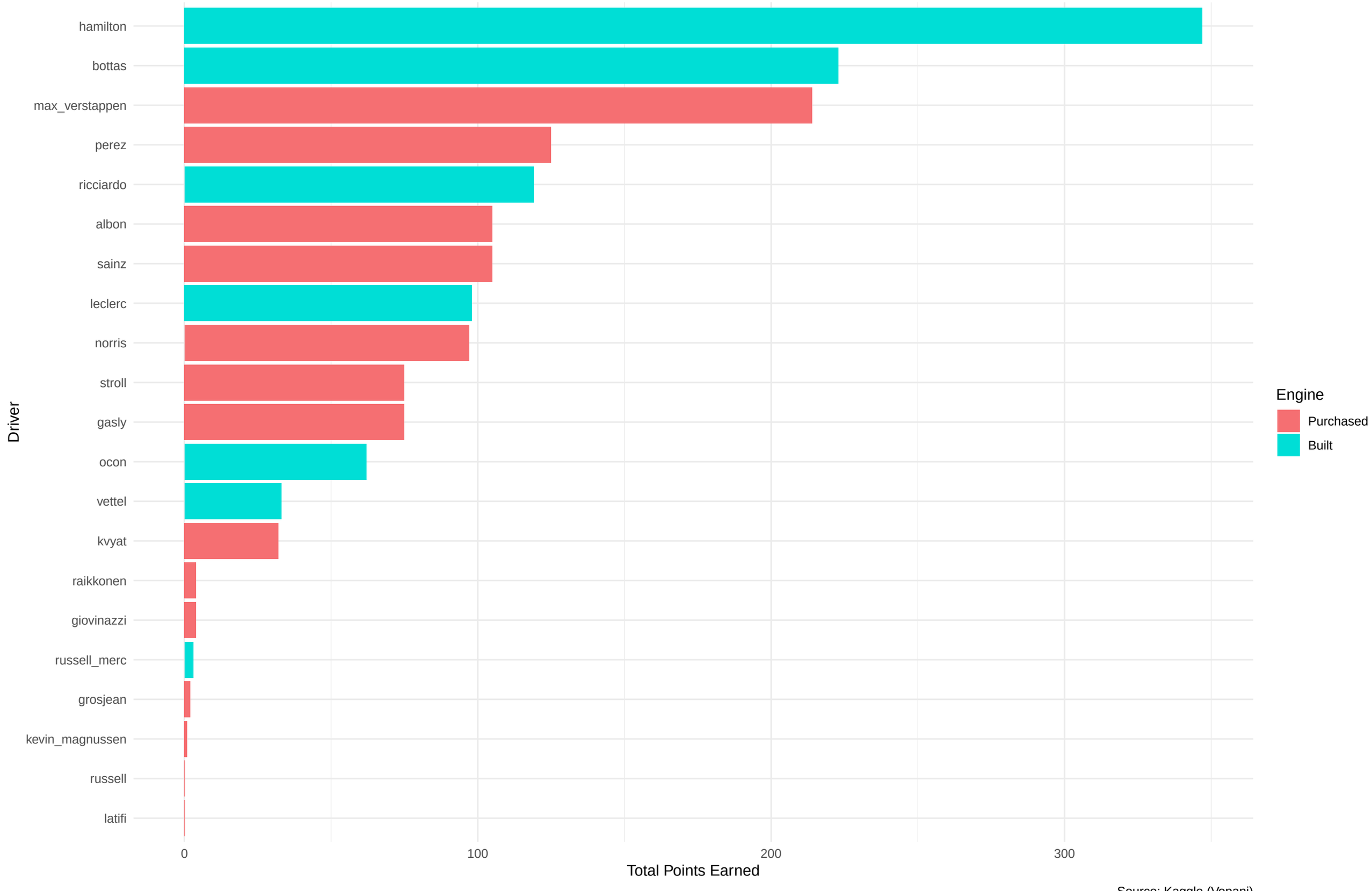
Constructors who build and use their own engines consistently finish on the podium more often than those who purchase their engines



Source: Kaggle (Vopani)

Total Points per Driver on the 2020 Grid

A majority of the points in 2020 were won by drivers who drove vehicles with the engine produced by their own constructor



Source: Kaggle (Vopani)

Grid Position vs Finishing Position by Constructor in 2020

For the constructors who build their own engine, there tends to be more clustering in the lower left, indicating higher qualifying and finishing positions

Source: Kaggle (Vopani)