



Finding the Best **Car Value**

Group #4

Samara Alsalah, Matteo Constantine, Iva Iontcheva, Ines Ruiz, and
Isabella Gurdián

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SOURCE OF DATA

Based on Consumer Reports Auto Annual Survey

- Five-year owner costs
- Expenses (fuel, maintenance)
- 50 evaluations & tests
- 20 Sedans



PREDICTOR VARIABLES



Price



Cost per Mile



Road-Test Score



Predicted Reliability

DESCRIPTIVE STATISTICS

STATISTIC	Price	Cost/Mile	Road-Test Score	Predicted Reliability	Value Score
MEAN	26,886.20	0.64	80.45	3.75	1.46
STANDARD DEVIATION	3,374.28	0.06	9.902	0.64	0.20
SAMPLE VARIANCE	11,385,793.54	0.00	98.05	0.41	0.04
MINIMUM	21,800.00	0.56	52.00	3.00	1.05
MAXIMUM	32,360.00	0.74	93.00	5.00	1.75



INTRODUCTION

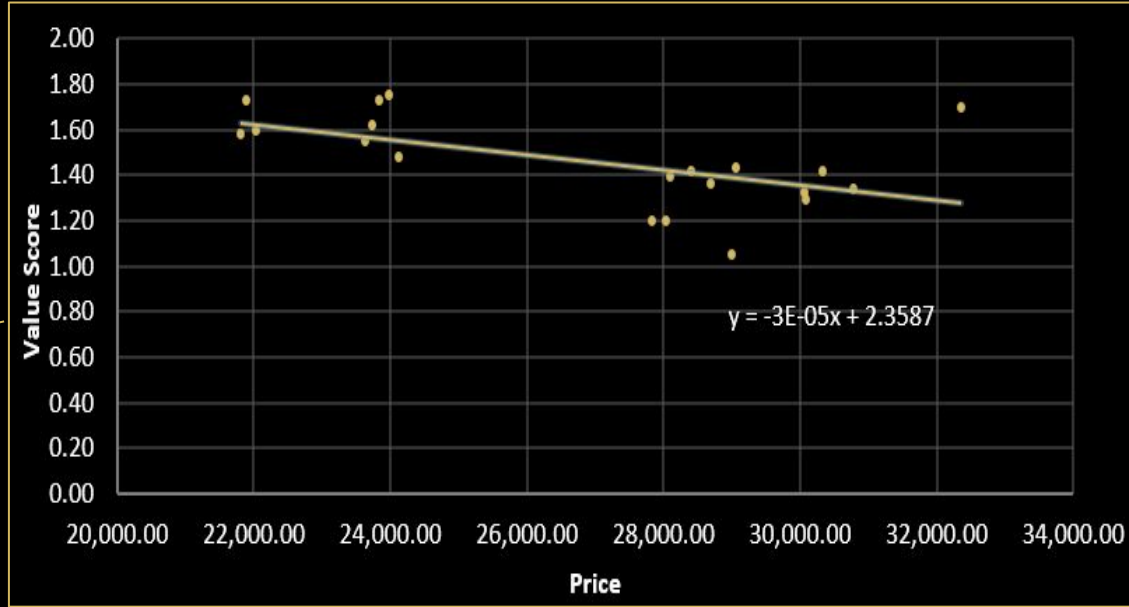
Our report considers the variables of Price, Cost per Mile, Road-Test Score, and Predicted Reliability to predict the value score.

VALUE SCORE VS. PRICE



REGRESSION EQUATION

$$y = 2.3587 - 0.00003x$$



NEGATIVE CORRELATION

As price increases,
the value score
decreases

VALUE SCORE VS. PRICE



P-VALUE

Below 0.05,
price is
significant

0.0083



T-TEST

T-Critical ± 2.101 ,
price stays in
the model

-2.962



R-SQUARED

Higher than for
other predictor
variables

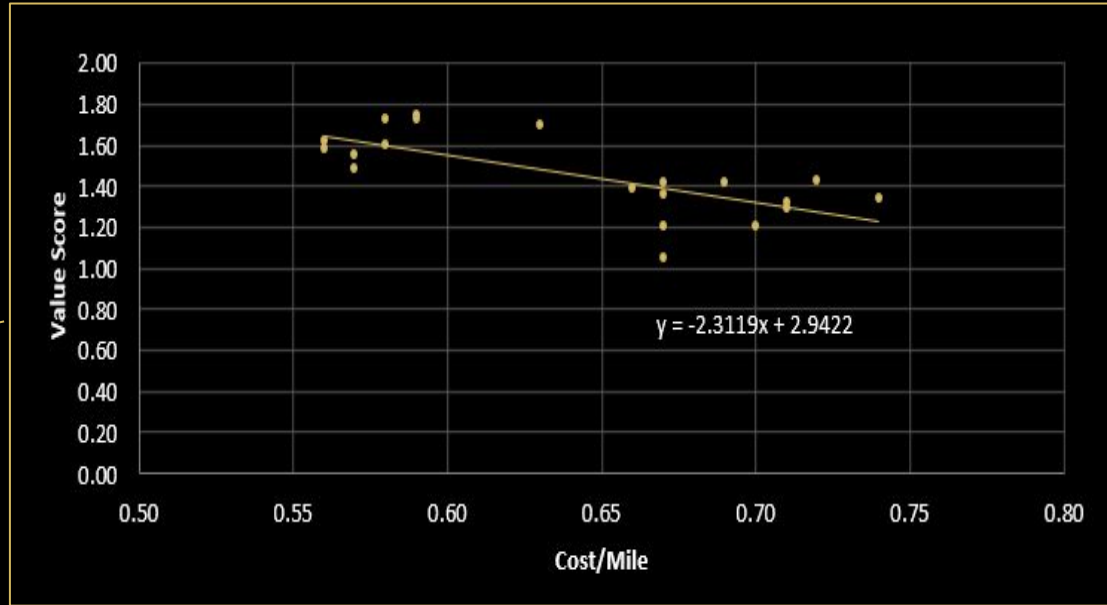
32.8%

VALUE SCORE VS. COST PER MILE



REGRESSION EQUATION

$$y = 2.9422 - 2.312x$$



NEGATIVE CORRELATION

As cost per mile increases, the value score decreases

VALUE SCORE VS. COST PER MILE



P-VALUE

Below 0.05, cost
per mile is
significant

0.004



T-TEST

T-Critical ± 2.101 ,
cost per mile
stays in the
model

-4.354



R-SQUARED

Highest of
predictor
variables

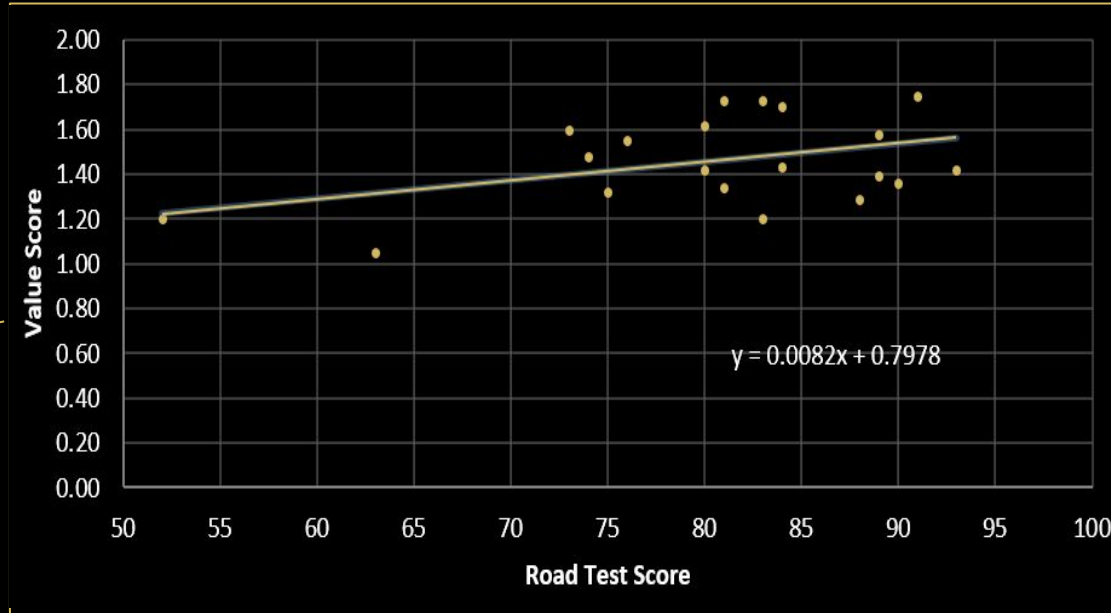
51.3%

VALUE SCORE VS. ROAD TEST



REGRESSION EQUATION

$$y = 0.7978 + 0.008x$$



POSITIVE CORRELATION

As the road test score increases, the value score increases

VALUE SCORE VS. ROAD TEST



P-VALUE

Above 0.05, road
test is not
significant

0.0714



T-TEST

T-Critical ± 2.101 ,
road-test leaves
the model

2.000



R-SQUARED

Lower than other
predictor
variables

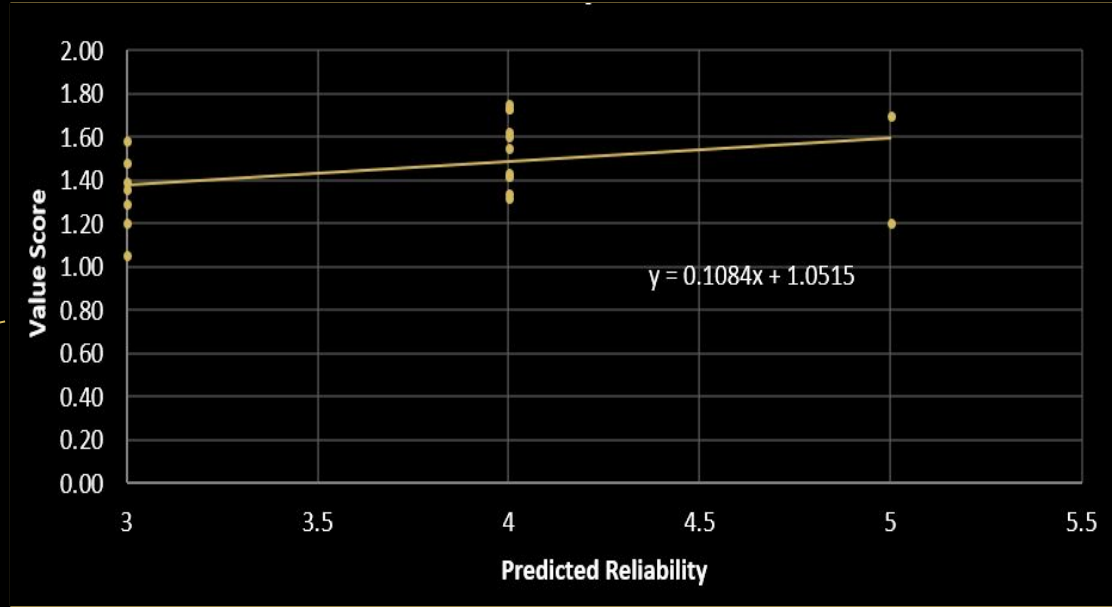
16.9%

VALUE SCORE VS. PREDICTED RELIABILITY



REGRESSION EQUATION

$$y = 1.0515 + 0.108x$$



POSITIVE CORRELATION

As predicted reliability increases, the value score increases

VALUE SCORE VS. PREDICTED RELIABILITY



P-VALUE

Above 0.05,
predicted
reliability is not
significant

0.1296



T-TEST

T-Critical ± 2.101 ,
predicted
reliability leaves
the model

1.588



R-SQUARED

Lowest of
predictor
variables

12.3%



So what's
the
conclusion?

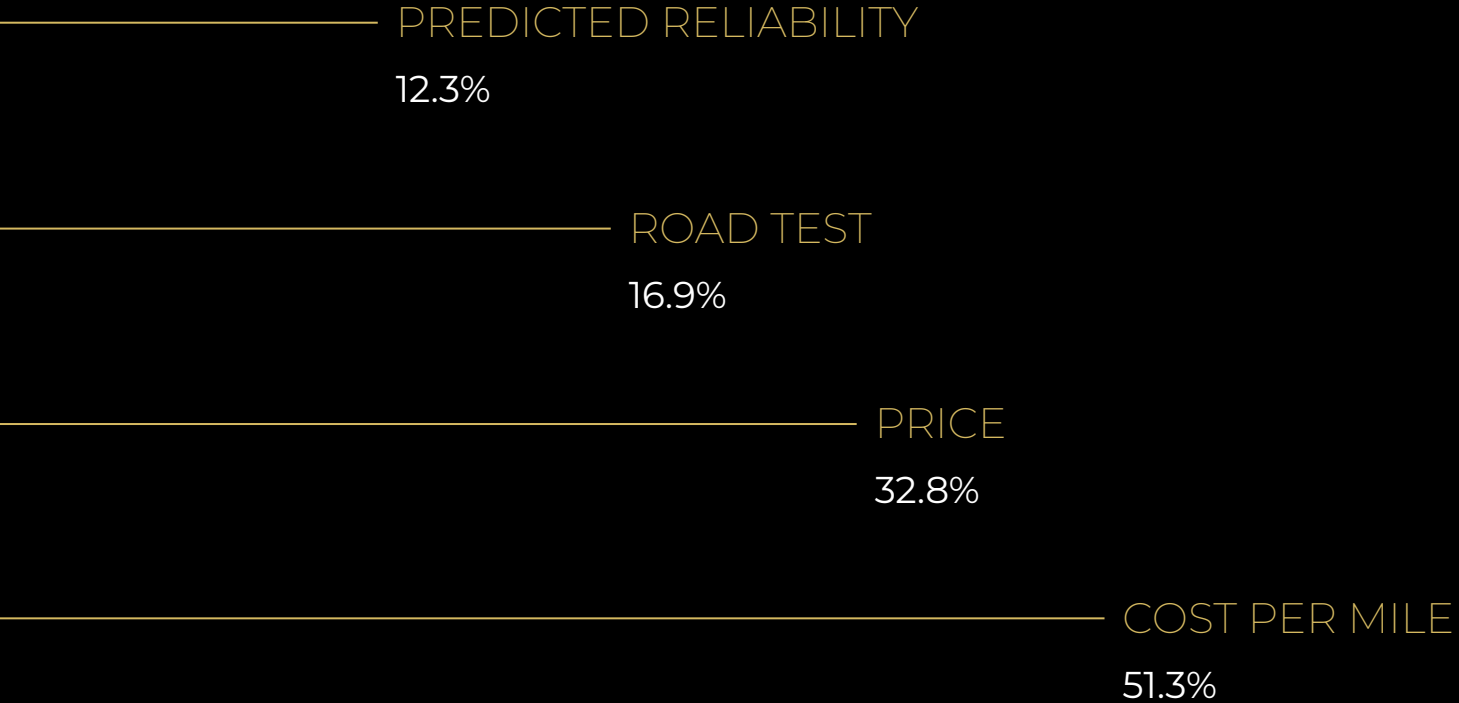


CORRELATIONS

The price and cost per mile **have influence** over the value score and **must stay** in the model.

The price and cost per mile aligned by both having P-values less than 0.05 and t-estimates less than -2.101.

R-SQUARED



RECOMMENDATION



Build a new model that considers both price and cost per mile to predict the value score.



THANKS

Any questions?

