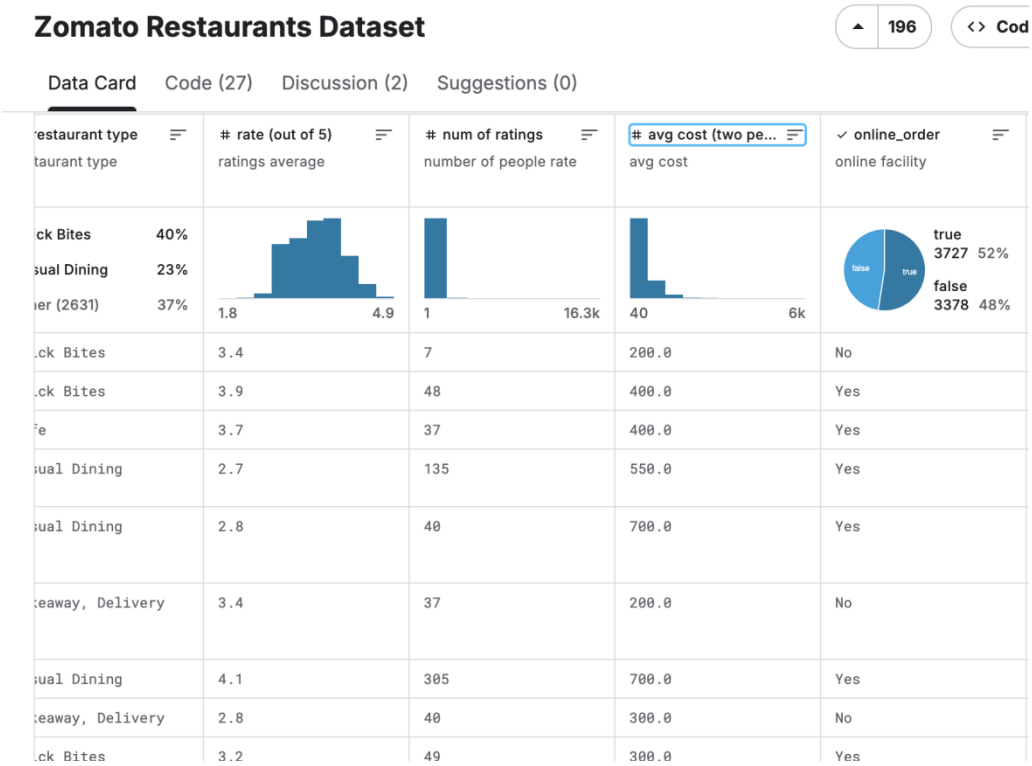
Introduction and question:

Food, an important part in everyday life. People love delicious and delicate food, and willing to spend money and time for it. Food delivery platform provides convenience to people who prefer to stay home, especially among students and urban populations. Online restaurant platforms such as Zomato allows customers to write reviews and give rating based on their dining experience.

This project examines the following research question: **Do restaurants with higher average costs receive higher customer ratings?**

Data description and sources:



Above is a part of how my datasets(uncleaned version) looks like in Kaggle. This dataset is about delivery orders on Zomato, which contains information on thousands of restaurants, including customer ratings and average cost for two people. Each observation represents a restaurant.

The key variables used are:

Rating: the restaurant's average customer rating (out of 5)

Average cost for two: a measure of restaurant price level

The final dataset contains 6,984 restaurants, providing substantial variation in both pricing and ratings.

Methodology

The model is specified as: Rating = $\beta 0 + \beta 1(\text{Average Cost}) + \epsilon$

The null hypothesis is that average cost has no relationship with restaurant ratings. Given economic intuition that higher prices may signal higher quality, I also assess whether the estimated relationship is positive.

This model is limited in that it examines only a bivariate relationship and does not establish causality.

Results and analysis

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OLS Regression Results

Dep. Variable:	rating	**R-squared:**	0.141
Model:	OLS	**Adj. R-squared:**	0.141
Method:	Least Squares	**F-statistic:**	1149.
Date:	Fri, 12 Dec 2025	**Prob (F-statistic):**	2.64e-233
Time:	09:28:15	**Log-Likelihood:**	-4006.9
No. Observations:	6984	**AIC:**	8018.
Df Residuals:	6982	**BIC:**	8031.
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
Intercept	3.3107	0.008	418.785	0.000	3.295	3.326
avg_cost	0.0004	1.11e-05	33.897	0.000	0.000	0.000

Omnibus:	114.742	**Durbin-Watson:**	1.907
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	109.245
Skew:	-0.271	**Prob(JB):**	1.90e-24
Kurtosis:	2.716	**Cond. No.**	1.10e+03

Using a two-sided hypothesis test, I reject the null hypothesis that average cost has no relationship with restaurant ratings. Since the estimated coefficient on average cost is both positive and statistically significant, the results provide clear evidence of a positive relationship between restaurant cost and customer ratings.
The model explains about 14 percent of the variation in ratings, indicating that price is related to perceived quality but is not the primary determinant of customer satisfaction.

Conclusions

This project analyzed whether restaurant cost is associated with customer ratings using data from Zomato. The results indicate that higher-priced restaurants receive slightly higher ratings on average, suggesting that price may act as a signal of quality. However, the relationship is moderate, and many other factors influence customer satisfaction. Overall, the analysis shows that while cost and rating are positively related, price alone does not fully explain differences in restaurant ratings.

Reference:

Zomato Restaurants Dataset
https://www.kaggle.com/datasets/abhijitdahatonde/zomato-restaurants-dataset