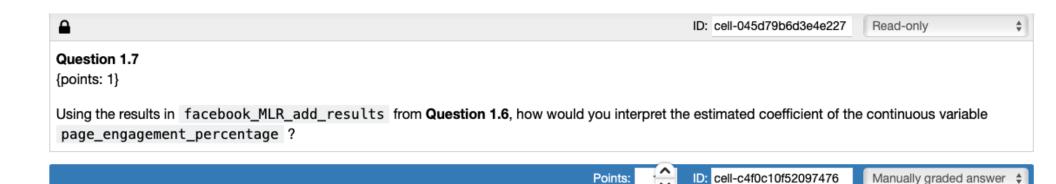
Tutorial 4

Solutions to manually graded questions

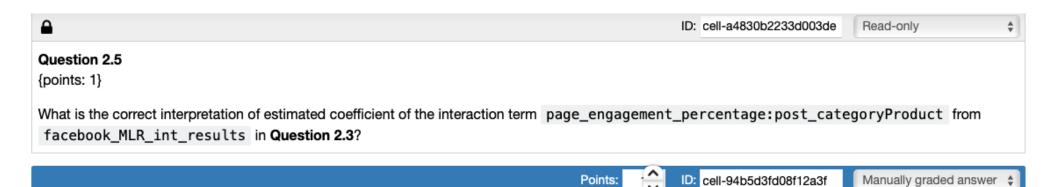


Your answer goes here.

BEGIN SOLUTION

• For any type of post, the expected total engagement percentage increases by 1.04% per 1% increase of the page engagement percentage.

Note: an important part of the answer is "For any (or all) type of post".



Points:

Your answer goes here.

BEGIN SOLUTION

• The difference between the slopes of Product and Action is -0.22%

or

• The expected total_engagement_percentage increase per one unit increase in page_engagement_percentage is 0.22% lower for Productposts than for Action-posts' (1.09% for Action-posts and 1.09 - 0.22 = 0.87% for Product-posts)

Question 2.7

{points: 1}

- **2.7.0** Using the results from facebook_SLR_action_results and facebook_MLR_int_results in **Question 2.6**, explain why the estimated coefficients of page engagement percentage are the same in both models
- **2.7.1** Using the results from facebook_SLR_product_results and facebook_MLR_int_results in **Question 2.6**, explain why the estimated coefficients of page_engagement_percentage are *not* the same in both models.
- **2.7.2** Explain why the estimated coefficients of page_engagement_percentage in facebook_SLR_product_results is *not* the same as that of page_engagement_percentage:post_categoryProduct in facebook_MLR_int_results using the results from **Question 2.6**.



Your answer goes here.

BEGIN SOLUTION

- 2.7.0 Both models estimate the LR for the baseline (or reference) level Action .
- **2.7.1** The estimated coefficient of page_engagement_percentage in facebook_SLR_product_results is the slope of the LR for the Product-posts. However, the estimated coefficient of page_engagement_percentage in facebook_MLR_int_results is the slope of the LR for the baseline level Action (for the Action-posts)
- **2.7.2** The estimated coefficient of page_engagement_percentage in facebook_SLR_product_results is the slope of the LR for the Product-posts. However, the estimated coefficient of page_engagement_percentage:post_categoryProduct in facebook_MLR_int_results is the difference in the slopes of the line for Product-posts and the line for Action-post.