

Models in Engineering

TA Sample Essay Evaluation: Joining Models Together

WEEK 3: JOINING SEVERAL MODELS TOGETHER

Choosing One Model or Several

Identify an analysis for which your company uses or would like to use modeling from several domains, and identify whether a combined model or separate models makes sense.

Points: 3—Details provided about estimates based on historic trends. Response explicitly chooses combined models and identifies financial analysis based on code complexity as a benefit. An even stronger response could highlight more specific details from week 3 and use more measurable language with less subjectivity (eg. “would be great”, “help make”, etc.).

Challenges in Model implementation

What are some of the challenges in implementing your chosen approach?

Points: 2—A specific challenge is described over several sentences, although “connect meaningfully” is vague and the response could improve the summary of this challenge. A clearer identification could have described a “mismatch between inputs and outputs” when connecting models together. The response introduces “development cost” as an outcome of connecting the models together, but fails to fully develop the impact on decision making from this outcome. Furthermore, the response appears to make a serious reasoning error when distinguishing between “likeness” (in the response) and “likelihood” (in the prior sample referenced) that substantially detracts from any ability to reason about decision making. It also suggests a misunderstanding about the models.

Advantages of Modeling Strategy

What do you believe are the advantages of your chosen approach and their impact on the organization?

Points: 1—This response claims that the benefit of combining models is to translate outputs into a common organizational language of financial impact, but a prior response indicates that the existing model output (before combination) is “money spent”. Therefore, the advantage as written is unclear because money spent is already a financial impact. A better response might have indicated that the financial impact would be more accurate by accounting for possible delays due to bugs.

Disadvantages of Modeling Strategy

Identify the downsides of your chosen approach and the impact on the organization?

Points: 3—This response provides a disadvantage (possible loss of accuracy due to assumptions) and impact (reduced trust and incorrect decisions). Note that the details provided were general and could

have applied to joining almost any models together—the response could have been further improved with details specific to the models of choice rather than simply regurgitating course material.

Qualities of Great Models

Evaluate how well you believe your approach satisfies the qualities of great models that you learned about? Describe how you will rate your model in terms of the below-mentioned qualities? For each of the 14 qualities of great models (Weeks 1-3), rate your proposed model(s) based on those qualities and also specify how it helps either satisfy or not satisfy those qualities.

Points: 2—Every model is rated but several justifications details simply state an opinion without providing details from the model that satisfies it.