Key takeaway: the data should drive the model, the model should drive the recommendations.

1. Output not generated from .Rmd file. Make sure you understand the philosophy of how RMarkdown can help you create analyses really fast. If it feels like a lot of busy work, you might be doing something wrong. Pasting graphs into Word is a pain.
2. Start with an introduction to orient the manager on what you are doing and why before jumping into the analysis.
3. Replacing outliers with the mean. I apologize if you were recently taught this, but it makes no sense at all. Pretend you were looking at income distributions and you considered outliers to be anything over $400,000 with an average of $70,000. That means that someone making $400,001 would be treated the same as someone making $70,000. So all the variables highly correlated with income (e.g., education) will be mismatched for these imputed means. My recommendations: either take out outliers (you typically have plenty of observations) or simply set the outliers to some reasonable limit (in my example, set any income over $400,000 to be equal to $400,000)
4. Referring to variable names in a manager report such as “tmp” and “hum”. Just say “temperature” or “humidity”
5. Plotting issues. Check the labels and clean them up if needed! The manager doesn’t know what “weathersit = 1” means, only the analyst does. So change the labels.
6. A manager does not need to see more than a couple of decimal points in a coefficient estimate. This is not NASA.
7. Ugly R code in the output. Look into the kable package for presenting regression summaries in RMarkdown.
8. Tiny, unreadable graphs. If you have to shrink graphs to make them fit, you probably have too many graphs.
9. Make sure to show coefficients and p-values. Even if a manager does not understand regression, this is about the only technical thing that is okay on a manager report.
10. The writing is way too technical or clunky. For example, “the coefficient measures the change in bike usage for each change in weather” is no good. Just say “We find that that bike usage tends to decrease by about 400 when it rains”
11. Check the units: temperature was scaled, so some of you had crazy high temperature coefficients (in the thousands) that do not relate at all to changes in bike usage per degree change in weather.
12. Never use the coefficient magnitude to compare variables, unless they are definitely on the same scale. We did this in the class example in week 1, because we were comparing three advertising budget variables. You can’t compare the coefficient on a degree change in temperature with a binary holiday coefficient. Or another way to think about this, what if you scaled temperature so the coefficient represents the effect for every 10 degree change in weather (which is easier to feel than each single degree). Your coefficient magnitude will be divided by 10 even though it essentially represents the same thing. Tell me if this is confusing.
13. Don’t treat month or season as a continuous variable: December is not 12 times January. Nor is Winter equal to 4 times Spring.
14. Don't show the residual vs fitted in a manager plot. Remember, you just learned these! A typical manager will have no idea how to read this, nor do they need to for this report.
15. Know your audience. Your report is more appropriate for another analyst rather than a manager who does not have an MSBA.
16. Typos or spelling errors – don’t give a manager any excuse to throw out this report
17. Make sure to quantify effects. Don’t say there was a “negative” effect, say “when it rains, daily bike rentals decrease by 400”
18. How much do these recommendations cost? Will the expected gain in demand offset the costs? For instance, if you want to run a “rain related promotion” say by giving umbrellas and you have a rain coefficient of -400, you know that umbrellas will not completely reverse the impact of rain, but you can guess it may help a bit (say instead of -400 it might bring it up to -200). Either way, you now have an upper bound on how effective rain promotions can be, so now think of solutions that might cost less than 400 bike users x typical profit from bike user.
19. Using the exploratory analysis to form recommendations, rather than the model. This is fine, but then you don’t really need a model.