Time Series Forecasting Project Problem - FAQs

1. **How to treat the null values present in the data? Is it required to use multiple methods to treat the null values for the model building procedures?**
   Ans: Any method can be used to treat the missing values or impute the null values. Please refer to the materials of Week 1 of the mentored learning session. It is not imperative to use multiple imputation techniques to impute the null values.
2. **Models like SARIMA and ARIMA is taking very long to execute. Is there any particular way to make sure that the models run faster?**
   Ans: There is no particular methodology in general which we can apply to make sure that the algorithms are executed a bit faster in the computer system.
3. **Should the differenced data or the original data be used for the ACF and the PACF plots and building ARIMA/SARIMA models?**
   Ans: The differenced data (if differencing is needed to make the series stationary) should be used for plotting the ACF and the PACF plots to determine the appropriate parameters. The stationary training data should be used to build the ARIMA/SARIMA models.
4. **Is it absolutely necessary to build both ARIMA and SARIMA models for this particular problem?**
   Ans: It is not necessary to build both ARIMA and SARIMA models if it can be correctly identified which particular model should be built for this assignment. Appropriate explanations need to be provided for whichever model is being built.
5. **Should two different business reports be created for the project along with two separate Python files?**
   Ans: It is entirely up to the student. Two different business reports accompanied by two different Python Notebooks can be submitted.
6. **What are the expectations for the question which asks for a comment on the final model?**
   Ans: For this particular question, it is expected that the model should be explained in terms of business terminology. It should be clearly pointed out the reason for choosing this as the final model and how will the company be benefitted if they adopt this particular model for future sales.
7. **Is it necessary that all three kinds of Exponential Smoothing models should be built for this assignment?**
   Ans: It is not mandatory to build all three exponential smoothing models. The appropriate exponential smoothing model can be chosen and only that model can be built.
8. **For forecasting into the future, should only ARIMA/SARIMA models be considered or should all the models be considered?**
   Ans: All the models built till the end of the assignment should be considered.
9. **Can we merge these two datasets in a common data frame and perform the project?**
   Ans: No, the assignment needs to be solved differently for these two different data sets. Do not merge these two data sets into one common data frame.
10. **Do the AIC value for Automated ARIMA/SARIMA (in which the model parameters are selected by looking at the lowest AIC) and the Manual ARIMA/SARIMA (in which the model parameters are selected by looking at the ACF and the PACF plots) be close?**
    Ans: There is no such rule that the AIC values for these two models should be close.
11. **Is there a need to compare and contrast the results of the two datasets (Rose and Sparkling)?**
    Ans: There is no need to compare the results of the models built on two different data sets.

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