What Business Intelligence Really Means with Time Series Analysis

Posted on Sep 05, Posted by [Tom Reilly](#) Category [Forecasting](#)

Exploiting the Value of Information

Don't tell me I can look anywhere in the database. Tell me where to look for something I didn't know.

    -   Have we detected a common systematic patterns amongst many SKUs where certain SKUs seem to be exhibiting similar unusual patterns as discussed in the next 3 bullets:
    -   Have we detected a statistically significant change in the most recent observation in our time series?
    -   Have we detected a statistically significant change in the trend in our time series?
    -    Have we detected a statistically significant change in the average(ie level shift) in our time series?

Do I need to plan using daily data?

    -   Are days of the week unusual?
    -   Are there particular days in the month unusual?
    -   Is the Monday after a holiday or Friday before a holiday unusual?
    -   Have we detected a statistically significant change in the seasonal factors(ie day of the week impact) in our time series?
    -   Will we make the month end number? It is 10 days into the month. Most use a overly simple ratio estimate when they should be using daily data to model and forecast the probability that we are going to exceed the plan/goal number for the month.

I need to know when we will reach our capacity. When in the future will we exceed a

user-specified high-side critical value and precisely when is this expected to happen with a confidence level?

Have we detected a statistically significant change in variability?

Have we detected a statistically significant change in the model such that the older data needs to be truncated as the pattern has completely changed?

What can we expect to happen if we alter our advertising/promotion/price activity?

Tags: Tagged in: time series forecasting trends level shifts seasonality outliers