**BEFORD ANALYSIS & CONCLUSIONS**

1. After doing Benford Analysis and finding the digit-wise deviation for first 4 digits, it is important to interprete these deviations and draw conclusions therefrom.
2. If the deviation is a minus figure, the possibility of any fraud is minimal.
3. However, it is important to remember that all minus deviations will be compensated by plus deviations. Then it becomes necessary to concentrate on plus deviations.
4. Generally speaking, the deviation – whether plus or minus within the range of 0% - 2% is acceptable since no data can perfectly match the standard.
5. The plus deviation in the first digit for the digits 5 – 9 is more important because the fraudster will benefit more by altering the higher value of first digit i.e. 5 to 9. For example, the digit 5 can easily be altered to digit 6, the digit 7 can easily be altered to 8, the digit 1 can easily be altered to digit 9.
6. In case of plus deviation of more than 2%, following steps need to be taken:

* Draw the sample of all the figures beginning with that digit
* Arrange all the figures from highest to lowest
* Search the duplicate figures, especially the identical supplier with the identical bill.
* Verify all the purchase bills for this digit, especially the bills with higher amounts.

1. The possibility of fraud is highest in the first and second digit itself. However, for large sums like millions or crores, even third & fourth digit also are important. E.g. The zero in 3rd or 4th digit can be easily altered to nine & the fraudster will benefit hugely from such alteration.
2. The deviation could be innocent also, especially when the Unit purchases fixed quantity of the item at fixed rates, at periodical intervals from the same supplier. However, such instances also can smell fraud because there is a possibility of recording the original bill and the duplicate bill.
3. In case of very large data – say more than 10000 purchase vouchers, analysis of entire data at one go could be wrong since the deviations will be evened out in large data. In such case, take either quarterly or six-monthly data at one time for analysis.
4. In short, deny nothing but doubt everything.
5. While doing the vouching of all the vouchers pertaining to a particular digit, one has to see following points –

* Overwriting of first or second digit (or third & fourth – if required)
* Amount in figures & words. It is difficult to overwrite the figure in words.
* Identical bill numbers
* Appearance of the bill to find out whether the bill is morphed
* Bills with caption “Duplicate”

1. All other internal control procedures like authorisation, level of authorisation, confirmation from stores and purchase department etc. are equally important.
2. Benford Analysis is basically done to avoid mindless vouching of great volume and zero-in on the fraud possibilities only.
3. If Benford Analysis is augmented with random sampling, the results could be even better. The volume of random samples will depend on the overall volume of the data. For large data, the random sampling could be 5% to 10%.