**Diagnostic Analytics**

It is the next step to the descriptive analytics that examines data or information to answer the question, “Why did it happen?,” and it is characterized by techniques such as drilldown, data discovery, data mining, correlations, and causation. It basically provides a very good understanding of a limited piece of the problem you want to solve. However, it is very laborious work as significant human intervention is required to perform the drill-down or data mining to go deeper into the data to understand why something happened or its root cause. It focuses on determining the factors and events that contributed to the outcome. For example, assume a retail company’s hardlines (it’s a category usually encompassing furniture, appliance, tools, electronics, etc.) sales performance is not up to the mark in certain stores and the product line manager would like to understand the root cause. In this case the product manager may want to look backward to review past trends and patterns for the product line sales across different stores based on its placement (which floor, corner, aisle) within the store. It’s also to understand if there is any causal relationship with other products that are closely kept with it. Look at different external factors such as demographic, season, macroeconomic factors separately as well as in unison to define relative ranking of related variables based on concluded explanations. To accomplish this there is not a clearly defined set of ordered steps defined, and it depends on the experience level and thinking style of the person carrying out the analysis.

There is a significant involvement of the subject matter expert and the data/ information may need to be presented visually for better understanding. There is a plethora of tools: for example, Excel, Tableau, Qlikview, Spotfire, and D3, etc., are

available build tools that enable diagnostic analytics.