TECH FOR YOU 924

TECH FOR YOU

Using Business Intelligence (BI) Tools and Techniques[1]

Data Indigestion and Information Starvation

It is estimated that the amount of private and enterprise data stored on computers is doubling every twelve to eighteen months. It is neither information technology nor the lack of information that holds enterprises back. Information systems today are producing more and more data for users resulting in data indigestion and information starvation. Data indigestion refers to the phenomenon in which enterprises are inundated with data at all levels, but cannot use it or understand its value. Information starvation refers to the phenomenon in which enterprises are unable to discover relevance in the information they have to work with. What is missing in many information systems is analytical information which can aid decision making and be a guide to users. Using technology, what the business leader requires is an information system which can turn data into decisions for creating a new landscape to chart the enterprise future and avoid being lost in the deluge of data. Information is no longer power, but relevant information applied to action is the key enabler for enterprises. Peter Drucker says: "What is important is not the tools but the concepts behind them". It is important to create a conceptual map of the information architecture of the enterprise so that using the right tools relevant information can be provided to the decision maker. Data Warehouses, Key Performance Indicators, CAAT Tools and Broad Based Digital Dashboards find place in the list of the top issues identified by CPAs in Public Accounting. Chartered accountants with their expertise in business processes supplemented with knowledge of BI tools and techniques can provide greater assurance while auditing information systems and can also provide value added services.

What is Business intelligence (BI)?

Business Intelligence (BI) enables enterprises to harness the power of information. BI in simple words refers to the process of collecting and refining information from many sources, analysing and presenting the information in useful ways so that users can make better business decisions. BI has been made possible because of advances in a number of technologies, such as computing power, data storage, computational analytics, reporting and networking. There are many definitions of BI, but one of the most apt one is: "BI is essentially timely, accurate, high-value, and actionable business insights, and the work processes and technologies used to obtain them". BI provides an approach to solving business problems with a framework for managing tactical and strategic operations performance. From the perspective of decision-making, BI uses data about yesterday and today to facilitate making better decisions about tomorrow. This is done through various means such as selecting the right criteria to judge success, locating and transforming the appropriate data to draw conclusions, or arranging information in a manner that best provides insights into the future thus making enterprise to work smarter. BI enables managers to see things with more clarity, and empowers them to peek into the possible future. Traditionally, BI has been associated with data warehousing, but in the near future, it is expected that BI technology will be able, with increasing efficiency, to reach out into the source systems, grab data, and transform what it finds into what it needs to perform its analysis. The key benefit of BI is the promotion of good decision-making habits at all levels which positively impacts enterprise performance. Research shows that BI continues to be the number one spending priority for Chief Information Officers.

Key BI Tools and Techniques

Simple reporting and querying: This involves using the data warehouse to get response to the query: "Tell me what happened." The objective of a BI implementation is to turn operational data into meaningful knowledge. This requires that BI must be connected with the enterprise data and all the necessary data is avail-able in one place, in one common format. Data Warehousing (DW) provides the perfect architecture to combine all the data dispersed throughout the enterprise in different applications in a variety of formats, on a range of hardware, which could be anywhere to be converted into one common format and available centrally for further processing. DW is collection of data from multiple sources within the company and outside the company. It generally includes data relevant to the entire enterprise. The data could be summary data and historical data as well as current operational data. The data requires "cleaning" and other integration before use and is therefore stored in separate databases from current operational data.

Business analysis: This involves using the data to get response to the query: "Tell me what happened and why." Business analysis refers to presenting visualising data in a

multidimensional manner. Query and report data is presented in row after row of two-dimensional data. Typically, the first dimension is the headings for the data columns and the second dimension is the actual data listed below those column headings. Business analysis allows the user to plot data in row and column coordinates to further understand the intersecting points.

Dashboards: This involves using the information gathered from the data warehouse and making it available to users as snapshots of many different things with the objective of getting response to the query: "Tell me a lot of things, but without too much effort". Dashboards are flexible tools that can be bent into as many different shapes as per user requirements. It includes a collection of graphs, reports, and KPIs that can help monitor such business activities as progress on a specific initiative.

Scorecards: This involves providing a visual representation of the enterprise strategy by taking critical metrics and mapping them to strategic goals throughout the enterprise. Scorecards offer a rich, visual gauge to display the performance of specific initiatives, business units, or the enterprise as a whole and the individual goals in the context of larger enterprise strategy. Scorecards distill information into a small number of metrics and targets and provide users with an at-a-glance perspective of information. A scorecard has a graphical list of specific, attainable strategic milestones, combined with metrics that serve as benchmarks. Specific measures on how well the company has actually performed specified activities are linked in the scorecard with graphical display highlighting the status of each goal.

Data mining or statistical analysis: This involves using statistical, artificial intelligence, and related techniques to mine through large volumes of data and providing knowledge without users even having to ask specific questions. The objective is to provide interesting and useful information to users by design even without their querying. Data Mining involves data analysis for discovering useful patterns that are "hidden" in large volume of diverse data. For example: Market segmentation - identify common characteristics of customers who buy same products, Market Basket Analysis - identify what products are likely to be bought together and Insurance Claims Analysis - discover patterns of fraudulent transactions.

Implementing BI in Enterprises: Integrating Business with Technology

Technologies such as data warehousing, data-marting, data-mining, online analytical processing, three-tier client-server technologies, desktop navigation tools, search engines, etc. can consume data and produce information to anyone at anytime and anywhere. However, if these technologies are not effectively implemented, they can only cause information over-load producing only more irrelevant data at a faster pace. An effectively implemented BI can provide relevant information to the right people at the right time for the right managerial decision, thus actualising the dream of making data into decisions. BI is made possible on account of the massive computing power available today, but implementing BI is not just about buying the tools, but about creating the right culture dedicated to the principles and practices that make high-quality, usable insights possible. Using BI requires not only understanding how to use new tools, but also developing the perspective of asking the right what-if questions and using the answers in decision-making. The implementation of BI requires commitment from both business and technology with business managers providing a rational, measurement-based approach for setting strategy and running operations and the IT professionals supporting the BI culture. Successful implementation of BI requires ensuring that business comes first and technology is second. BI with the right management culture will usher in system of evidence-based rational decisions with a clearer picture of the past and present based on analysed data.

Transitioning from Classical Pull Information to Emerging Push Key Insights

In its traditional role, BI relied on a pull environment. This requires users to go out and create queries, build reports, or view the standard reports created by someone else. Users always need data to do their tasks, and it's up to them to navigate through the query and reporting systems to get what they need. The latest generation of BI tools is moving more decisively to a push environment. With push technology, a designated power user assembles data on behalf of the user community and delivers it at critical moments. The underlying data is the same as in a pull environment, but the data "pusher" decides what data is important, the staff to whom it's important to, how it should be presented, and when that information should flow into the hands of the enterprise's critical teams.

Conclusion

BI tools and techniques enables users to derive business insights that are accurate, valuable, timely which can be used for effective decision making enabling employees to add value to the enterprise. Although BI tools are available in high end ERP software and also as specialised tools, it is important to remember that the concept of BI is present in most of the software in the form of reporting and querying tools. Chartered accountants during the course of their assignment for assurance and consulting can use the power of querying and reporting as relevant even in a limited way, as feasible. However, for those interested in providing BI implementation and consulting services, it is must to have good understanding of technologies, tools, processes, and trends that make up BI with the practical skills in using software. ■