

BI- From Raw Data to PowerPoint

November 2008

Sanjay Shah

Introduction

Lingua franca of corporate bodies around the world is MS-PowerPoint. Irrespective of the BI solutions corporates use, the information generally gets downloaded into an Excel spreadsheet, gets properly formatted, and then linked to a PowerPoint presentation. Senior management who make major corporate decisions, do so on the basis of such information.

The journey of raw data from some ERP/non-erp database to the power point presentation, is long and tedious and ends generally at 3 am in the morning. Red-eyed, the analysts get little time to 'analyse'. Most of their time has gone in just making the report !

However, help is at hand. Using simple technologies it is possible to automate this process. Such automation will not only help you speed up the MIS (management information system) process, but will also help you in considerably improving the content of your MIS.

My Observations on the Corporate Reporting Process

Let take an example of MIS in the area of Sales. In my practice, I have seen both large and small corporate adopt the following process to generate their MIS reports:

- Senior management define a report layout
- The sales MIS person (SM) will download some report from their ERP in text or excel download format
- Junk data like headers and footers will be manually deleted and the data will be ready to be reported.
- Using functions like vlookup or sumif etc. data will be linked to the reporting format.
- Sometimes this process is done at each business unit. The report is then sent by email to the head office. Then the SM at the head office will consolidate these reports into the corporate report again using excel links etc.
- This process, which is essentially manual, will be repeated every month.
- If the senior management want another format, the process is essentially repeated. For example if initially the report tabulated product wise sales in descending order, and the new report requires customer by product sale, the report will have to be recreated manually.

The major disadvantages of this process are :

- The process is manual and time consuming
- The process tends to be person dependent
- As it involves manual handling of data, corporate governance practitioners frown upon such methods
- The report becomes two dimensional, and intuitive exploration of the data becomes impossible.
- For every change in format, the entire process has to be repeated. Due to the time and effort required to generate new reports, generally people tend to make do with existing information.
- It is difficult to look at the underlying data from the report, as such management questions cannot be immediately answered. And by the time the analysts are ready with the answer, the question has become irrelevant !

Business Intelligence (BI) purists say that senior management should learn how to use the BI tools themselves. There should not be any 'other' reporting system other than the BI system. Senior management say that they don't have time either to learn a new tool or to manipulate each report to the view which they wish to see. Looks like we are stuck between a rock and a hard place. And since the senior management calls the shots, there is a whole slew of people whose job mainly consists of taking data dumps from ERP or BI systems and create excel based reports and link them into power point presentation for the consumption of senior management.

MIS Automation to the Rescue

I feel that the people who do the above process are doing a great job in giving information to their management and keeping the corporate wheels turning. But if they learn a few simple automation tools, their life will be greatly simplified. However they should be prepared to learn a few simple tricks of automation. I give below a list of techniques and hints.

- 1 Store data in a database and not in Excel – A database give you great data handling possibilities. You could start storing data into simple tools like MS-Access which is very easy to learn. You may later like to upgrade to larger databases like SQL Server or such other larger relational databases.
- 2 Automate Extraction of Data – You can take data directly into your MS-Access tables from the ERP tables using ODBC. If you have to take data using an interface file, them I would prefer you take it from text files. This is very useful since in some cases your data may exceed 65k rows. Use the text file conversion mechanisms available in MS-Access. You can store all the repetitive steps in an MS-Access macro so that you need not repeat this manually each time.
- 3 Connect Base data to Master data – You may need to store some master data into MS-Access tables. Such master data may either be replicas of master data stored in the ERP tables, or they may be some new dimensions which you wish to add which are not available in the ERP tables.

In an excel environment you would do this using the vlookup function. In the database environment, you do it using database joins. These are generally done visually. Using database joins your base data can be connected to various master data. Once this is done, you need not do this each time.

- 4 Create Excel Pivot Table Report – Based on the database views you make from your base and master data, create an excel pivot table report. The pivot table will give you the basic flexibility of generating reports as you like it.
- 5 Create User Defined Reports – Create user defined reports using a combination of functions like `getpivotdata()`, functionalities like 'ShowPages' of pivot table and excel macros to automate the various steps of creating the reports. Create excel graphs which are based on pivot table data and using vba code which automatically maneuvers the pivot table based on the selections given by the user. The possibilities are limitless.
- 6 Link to PowerPoint : Use the facility of linking the excel object into PowerPoint. If you do a copy paste, you will have to do this each time. However if you do an object linking, whenever you open the PowerPoint file, the system will automatically update the contents.

(All the above examples are fictitious examples created for demonstration purposes. The data was created in MS-SQL Server on which business rules were applied and the report visualization was done in MS-Excel Pivot Tables.)

Conclusion

The key to a good BI solution is very close interaction with the actual decision makers and identifying the way they read and act on that report. This will give clues to identify and apply business rules on raw data and create intelligent dimensions. The activity of identifying such intelligent dimensions, is a continuously evolving one. These intelligent dimensions are ultimately the difference between success and failure of a BI application from the business users' perspective.

- end

About the Author:



Sanjay Shah (B.Com, CA) is the CEO of Prosys Infotech Private Limited, a Pune, India based company specializing in developing BI solutions on the Microsoft BI Platform. Prosys has developed BI solutions for various companies like Honeywell Automation India Ltd., Alfa Laval India Limited, Tata Auto Components Ltd., Kirloskar Group Corporate Office, Kansai Nerolac Paints Limited etc. He can be contacted at sanjay@prosysinfotech.com.