

byoBI: Bring your own BI, structured and unstructured

Where a community co-creates business intelligence

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1.0 BI for masses or by masses?

About fifteen years ago, Business Intelligence tool vendors came out with initial offerings that aimed to provide ubiquitous access to analytical information to corporate users. The quest then was to bring 'BI to the masses'. To a large extent, that objective has now been achieved. Most of the progressive companies today have a BI strategy in place with their employees have access to BI tools to access a variety of information related to Finance, Sales, Marketing, HR and other subject areas. The explosion of social networking and content in the form of unstructured data such as blogs, emails, videos, images and other forms now begets another direction to BI offerings. Companies now need to strategize on ways to harness the unstructured data and leverage their communities to co-create BI. The need of the hour now is to have proper platforms that support BI *by* masses. One such platform, byoBI is explained here in this whitepaper.

2.0 The byoBI world

The community BI paradigm is best explained with the concept of a byoBI world. byoBI or 'Bring Your Own Business Intelligence' is a world of analytical components that are created by a community of interested users. Unlike the traditional BI environment where the analytical models, reports and dashboards are created by a set of experts, in byoBI, anyone can create BI components. byoBI is a loosely held world or universe that has set of operations that govern access and visibility. The components that byoBI contains are analytical elements called *bidgets*.

3.0 bidgets, the intelligent BI widgets

bidgets are analytical components that are created in the byoBI world. The first property of a bidget is that it can be created by any user in any format. The representation and content of a bidget is totally left to the community. For example, to start with, a bidget can be a simple textual assertion such as "Expanding our companies' product line into Latin America this year is not a sound business decision". When this bidget is created by a user and posted into byoBI, it immediately gets categorized, ranked and presented to the interested community. The second property of a bidget is about the type of operations that the community can do with the bidget. In byoBI world, the bidgets can be viewed, annotated, questioned, rated, mashed-up with referential data and perhaps can be sent to oblivion. The half life of a bidget totally depends upon the net present value that it provides to the community at large.

Typical examples of initial representation of bidgets are:

- "Investing in Lebanon in Q3 is good for our company"
- "Our Product-A is far superior to our competitors product"
- "Opening a capitive support center in Asia will improve our CSATs by 20%"

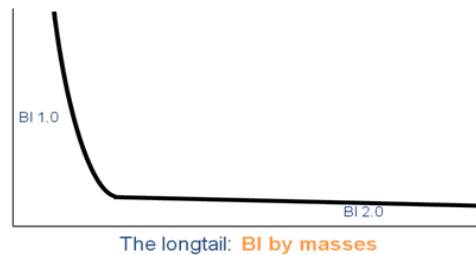
In the initial state, the bidgets may be simple unstructured textual assertions such as above. Over a period of time as they traverse within the byoBI world, they gather additional data points and are gradually converted into structured analytical components that traditional BI tools can visualize and understand.

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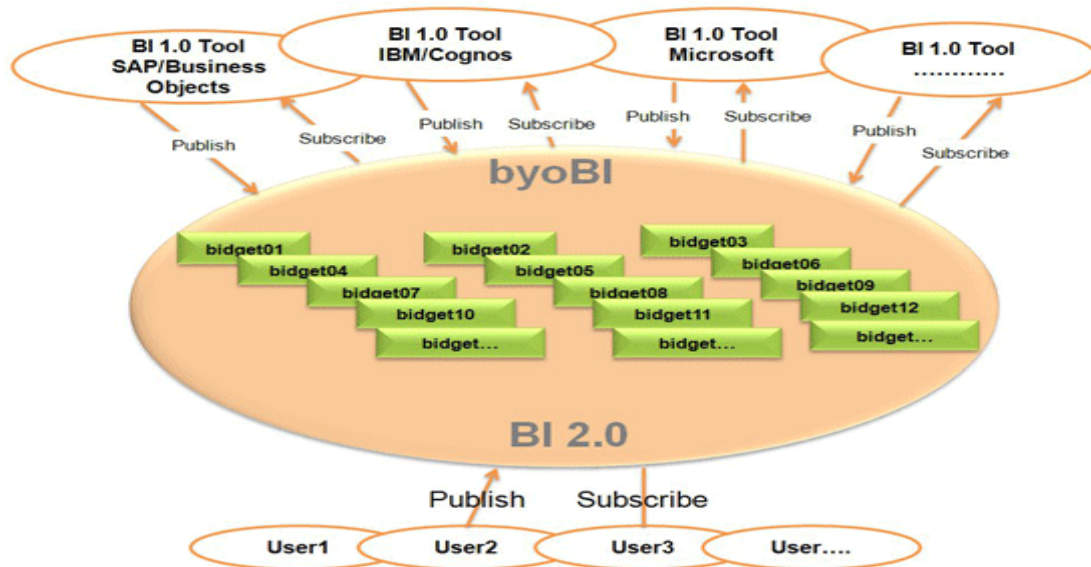
4.0 byoBI, the longtail of BI

Another way to comprehend the value of BI by masses paradigm is by looking at the community created BI as a longtail phenomenon. The Figure 1.0 depicts the longtail. Here the acquisition of BI using the current BI 1.0 tools is considered as the high frequency event. The acquisition of BI by the masses in byoBI world is the longtail. Implemented properly this leads to a much improved BI in both quantity and quality.



5.0 byoBI Interfaces

Figure 2.0 depicts typical interfaces of byoBI with external world. On one end, the community of users interacts with byoBI using a 'subscribe' and 'publish' mechanism. On the other end, existing BI 1.0 solutions that an organization might have implemented may decide to interface similarly or completely choose to ignore. With time and improved maturity of the byoBI world, the external BI 1.0 tools and business applications will interact with byoBI to enhance their own value and effectiveness.



6.0 Key functionality of byoBI

byoBI by definition is a loosely held container of bidgets and with community participation on virtually any aspect of business intelligence, the prospect of noise is quite high. It is essential that byoBI platform provides some guided functionality so that the bidgets become more meaningful. Some base line functionality that the byoBI should provide is explained here.

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- **Search & Viewing a budget:** Powerful search, viewing and visualization capabilities are needed for community to look at the available budgets
- **Subscribe and publish:** Users should be able to subscribe to a variety of business categories and be able to publish budgets under these categories
- **Rating a budget:** Users should be able to rate the budgets using a common yardstick across byoBI
- **Question a budget:** An aided and structured questioning mechanism is required to let users question the budget on the fundamental premise or additional related material that is attached with the budget
- **Respond to a budget questionnaire:** Users should be able to respond to the community generated questionnaires around the budget to substantiate the value of the budget
- **Contextual mash-ups:** A contextual help that overlays known business dimensions or structured queries so that the budgets become more meaningful are an advanced functionality
- **Aided visualizations to budgets:** Automated mechanisms which allow the lay users to upload an Excel file and convert them into a visually pleasing representation
- **Ranking:** Ability to rank the budgets based on one or more of the attributes of the budget. The ranking can be a simple function of the parameters such as: #of clicks, #questions, #responses, #mashups, #references etc.
- **budget automation:** While the community creates budgets, the majority of these budgets created by users will be in unstructured form. Technologies that can understand, extract, categorize and summarize the linguistic meaning of the text associated with budgets will be a great value to automate the meta attributes for budgets

7.0 Architecting and implementing byoBI

A variety of architectures and technologies are easily available today to design a byoBI framework. It is important to design it with simplicity in mind. To start with a simple interface to subscribe and publish budgets in easy to comprehend formats can be designed within corporate intranets. As the community participation improves, more advanced functionality such as auto generation of budgets, aided mash-ups etc. can be provided. Tone at the top is a key for a successful adaptation. The executive management should actively encourage the community involvement in creating and reviewing the budgets.

8.0 The missing link to auto generation of budgets: Unstructured Text Analysis

Conservative estimates indicate that more than 50% of corporate data today is in unstructured format. More liberal studies peg this number around 80%. In either of these cases, it is a fact that companies today have more unstructured data than structured data. A data warehouse built using only the structured data does not provide the whole truth of the enterprise.

Fortunately, we now have the technologies that can understand the linguistic structures of written text, understand them and extract structured entities from them. The unstructured text elements and assertions of budgets and other corporate data can be thus routed to these Text Analysis tools to automatically create budgets. Such an auto creation of budgets, may not be ready for prime time today, but we are not too far in reaching this goal.

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9.0 Pros & cons of a byoBI strategy

The advantages of a successful roll-out of byoBI are many-fold:

- Endless Innovation from a community of business users
- Unleashing the power of ‘dark matter’ in enterprises: Unstructured Data
- Integrating the islands of BI1.0 silos

Companies need to however carefully examine if they are a candidate for implementing a BI by masses strategy. Some of the considerations before embarking on this strategy are:

- *Textual analysis & data mining techniques are still evolving for unstructured data*
- *Interoperability and compatibility of BI1.0 tools for byoBI framework*
- *Managing sentiments: Open community has lofty expectations from virtually endless possibilities of byoBI*
- *Maturity & Ability of enterprise to formulate & implement a byoBI strategy and rationalize ROI*

10.0 Summary

80% of corporate data is in the form of texts from voice recognition, wikis, blogs, taxonomies, IM, emails, etc. Companies need to form strategies to utilize this data effectively. A platform such as byoBI, provides a framework for employees to co-create BI and allows BI to be constantly challenged and questioned. Text Analysis tools can be an integral part to auto-generate intelligent BI components or bidgets within byoBI, thus enhancing both the quality and quantity of actionable Business Intelligence.

About the author & the company

Mr. Anisingaraju has over 20 years of experience in the software industry and is currently the President & CEO of InfoSTEP Inc. He is involved in thought leadership in architecting analytical solutions for managing Internal Controls & Assurances and BI 2.0 applications using structured and unstructured data. An invited speaker at several national and international forums, he holds a Masters degree from Indian Institute of Technology, Kanpur. He is also a Certified Information Systems Auditor and served on the board of Silicon Valley chapter of ISACA, a global IT standards governance institution. He currently serves on the boards of MIC Electronics (MIC.NS) besides InfoSTEP Inc.

Based out of Santa Clara, California, InfoSTEP is focused on providing end to end Business Intelligence solutions to its clients. The company was established in 1998 and has been working with a variety of clients including Adobe Systems, BMC, Cisco, Stanford Medical, Wells Fargo and others. InfoSTEP's Center of Excellence (COE) for BI does proactive and reactive research in several BI verticals, tools and technologies to provide best of breed frameworks and implementation methodologies to its clients. For more details about the company, please visit www.infostep.com.