ABSTRACT

Software Industry generates huge amount of data in the course of normal operations. This data is often used in the analysis, to measure the performance and identify possible ways to improve it further. This is done systematically and scientifically using business analytics which involves diagnostic, predictive and prescriptive analysis. However, the amount of data is increasing on a timely manner and is further boosted with the availability of digital workplace and technology allowing almost paperless offices through digitization. Data generated through Software companies which is multiple times larger than what used to get generated a few years ago adds to the quantity of data generated. This paper describes the challenges faced by Software companies and how possible business analytics solutions can help address them. It further describes various use cases in the software and logistics space.

Keywords: Customer Profiling, Market Research, Supply Chain, Sales Forecasting

INTRODUCTION

Software Industry functions include design, develop, publish, and support applications software used to collect, store, report, and analyze data from various operating departments of a company. Business analytics & Business intelligence (BA & BI) refers to the tools and systems that play a key role in the strategic planning process of a company. Companies in this industry provide software used to provide statistical analysis regarding customers, market trends, forecasting, and performance management.
In the past, these organizations relied on standard sets of reports produced by their EDP (Electronic Data Processing) departments. These reports were periodic, static in nature and mostly in printed form. In the phase that followed, organizations set up MIS (Management Information System) departments which were responsible for data warehousing and business intelligence. Organizations used standard sets of data values and a few statistical and quantitative techniques for analysis and decision making. The advent of sophisticated, state-of-the-art technologies and superior computing power has changed the scenario. It is now possible to use explanatory and predictive modeling which helps in better decision making. Business analytics has evolved considerably helping businesses worldwide in identifying business opportunities, responding appropriately and thereby benefiting from the results. With ever increasing competition and challenging business conditions, the demand for business analytics is growing exponentially.

REVIEW OF LITERATURE

Most of the literature about business analytics focuses on supply chain and financial services. Even though the travel industry is one of the most customer-centric industries, seldom do travel companies put in efforts in business analytics. Business leaders still struggle to get meaningful insights from available business analytics. Travel companies are yet to begin focusing on identifying the ever changing customer preferences, and accordingly crafting solutions that can make them preferred travel partners. Business analytics can be the most beneficial tool for understanding customer preferences and getting timely answers to many similar questions that require quick and informed decision making.

Indian business intelligence (BI) software revenue is forecast to grow 16 per cent to reach $113 million in 2013, research firm Gartner reported on Jun 10, 2013. BI revenues, which includes revenue from BI platforms, analytic applications and corporate performance
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management (CPM) software, stood at $ 98.1 million in 2012, Gartner said in a report on Jun 10, 2013. The market is expected to grow further to $ 171.2 million by 2016.

OBJECTIVE OF THE STUDY

1. To study the business analytics for Software Industry.
2. The challenges faced by Software companies.

RESEARCH METHODOLOGY

The primary data has been used and with the help of Industry experts. The data has been collected through face to face interview method. The secondary data has been collected from different newspapers, magazines etc. The survey was carried among 50 Industry experts who are Business Analysts (BA's) and Business Intelligence (BI's) in software industry working with different IT companies.

LIMITATIONS OF THE STUDY

1. The Study is limited to only 50 Industry experts.
2. This Study used only some factors to analyze the factors affecting business analytics for Software Industry.
3. The study has also the limitation of time, place and resources.

Business Analytics in the Software Industry

The software industry is highly complex with multiple players and systems interacting with each other at every given point of time for smooth functioning of the business. These various players and systems include IT, ITES providers, call centres, user interfaces and travel departments. It is quite obvious for all of these to generate huge amount of data continuously. But, there are gaps in data collection and it is still a big challenge for the software industry. However, introduction of newer technologies is slowly changing the way software organizations collect and use data.
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It is now possible to capture data directly into the data warehouse. It is also possible to feed supplier data into the software management system. There are numerous other possibilities of using business analytics in the software industry, including,

1. Customer Profiling
2. Customer Support
3. Market Research
4. Product Profitability
5. Demand/sales forecasting
6. Inventory management

Current Status of Business Analytics in Software Industry:

Business analytics acceptance level is highest in the software industry. This is obvious considering the huge amount of financial, client data that this industry needs to function in almost real time to drive the sensitive decision making process. Though this indicates that business analytics is used in some form by logistics organizations, it doesn’t state how widely business analytics is adopted.

Emerging Trends in Business Analytics

The rising trends and innovations discussed in this paper represent the approaches to these business challenges. In fact, it is a very good sign for this field that regardless of the form of the solution, process, technology, system integration, user interface, etc. The key factor which acts as the driving force is the business problem.
In order to minimize the discovery cycle time, facilitate the definition and achievement of business goals, and deploy analysis results to wider audiences, developers of analytical solutions started verticalization their software. The first step in this verticalization was the incorporation of task specific knowledge. Examples include knowledge about how to analyze customer data to determine the effectiveness of a marketing campaign, knowledge on how to analyze click stream data generated by a website to reduce shopping cart abandonment and improve ad effectiveness, knowledge about how an investment bank consolidates its general ledger and is able to produce various types of forecasts, or how an insurance company is able to analyze data in order to provide an optimally-priced policy to an existing customer. In the process of incorporating industry-specific knowledge, companies are also able to optimize the performance of their applications for the specific verticals. For example, a company that developed an analytic application for budgeting and forecasting targeted at the financial services industry determined that its OLAP engine’s execution speed could be optimized by limiting the number of dimensions handled by the engine to nine, a number deemed as sufficient for the particular application in that industry.

Over the past years the analysis of customer data has attracted the most attention and has provided success in reducing customer attrition, improving customer profitability, increasing the value of e-commerce purchases, and increasing the response of direct mail and e-mail marketing campaigns. This has paved the way for new applications of business analytics to emerge. Of these new areas, three applications are particularly promising: supply chain visibility, price optimization, and workforce analysis. Organizations have automated significant portions of their supply chain. In the process they have enabled the collection of significant data about inventory, the performance of suppliers, logistics, etc. New applications are now able to analyze this data to provide insights about the performance of suppliers and partners, material expenditures, accuracy of sales forecasts to better control materials inventory, accuracy of production plans, the accuracy of plans for order delivery, etc.
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The wide adoption of CRM and Supply Chain Management software has allowed enterprises to fully interface/integrate their demand and supply chains. Based on this integration, enterprises are now able to capture up-to-the-minute data about the demand of a particular product, as well as data of similar granularity about the corresponding data’s supply. Companies whose cost or revenue model is dependent on hourly models, e.g., contact centres or systems integrators, are able to use this new generation of employee-centred analytics to optimize staffing levels and skills requirements in order to minimize the number of employees that are not able to bill.

Challenges faced by Business Users:

The business user, while an expert in his area, is unlikely also to be an expert in data analysis and statistics. To make decisions, the business user must either rely on a data analyst to extract information from the data, or employ analytic applications that blend data analysis technologies with task-specific knowledge. Mostly, the business user must impart domain knowledge to the analyst, and then wait while the analyst organizes the data, analyzes it, and communicates back the results. These results typically raise further more questions and hence several iterations are necessary before the business user can start acting on the analysis. In addition to this, analytic applications must not only incorporate a variety of data mining techniques, but also provide recommendations to the business user of how to best analyze data and present the extracted information.

Business Analysts are expected to better utilize the extracted information and improve performance along multiple metrics. Unfortunately, the gap between the relevant analytics and the critical needs of the intended business users still remains significant. Final Data must be integrated from multiple sources. The extract-transform-load process is typically complex and its cost and difficulty are usually high.

Difference between Business Analytics and Business Intelligence

Experts maintain that business analytics is basically one term for a bigger concept and is associated with the following complex functions:
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- Enterprise information
- Enterprise performance management
- Data warehousing
- Analytic applications
- Business intelligence
- Business risks
- Compliance
- Governance

Business intelligence is an umbrella term as well but it is a more focused concept. Enterprises that utilize tools, infrastructure, applications, and practices permit them to access and analyze data. This leads to improvements in optimization and performance. This means that they make use of business intelligence programs. The two are not really new concepts. Business analytics and intelligence have emerged as principal implements that guide decisions and strategies for disciplines like marketing, research and development, customer care, credit and inventory management. Both are progressing rapidly to meet business challenges and develop fresh opportunities.

These two are distinct but connected tools. Business intelligence provides a way of amassing data to find information primarily through asking questions, reporting, and online analytical processes. On the other hand, business analytics takes advantage of statistical and quantitative data for explanatory and predictive modeling. Analytics focuses on solutions-oriented capabilities which create value and convert information into knowledge. Both business intelligence and analytics are going forward briskly. Organizations are now turning to these vehicles to encompass bigger and assorted data sets. These consist of unstructured data like documents, e-mail, audio files, and video footages.
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It is more than just corporate reporting and a bunch of tools to wheedle the required data out of enterprise systems. This is being utilized to categorize inept business methodologies which are ripe for reconstruction. In fact, you can begin to analyze data using these tools instead of waiting for Internet technology to manage complicated reports. It may be true that business intelligence has a great potential, the implementation process can be affected by a lot of challenges especially technical and social aspects. However, business owners should make sure that data feeding these applications should be consistent and wholesome so users will trust the program.

CONCLUSION

The study reveals that the innovations and trends of business analytics have major advantages in the software development or maintenance projects. In this paper, business value is measured as progress towards bridging the gap between the needs of the business user and the accessibility and usability of analytic tools. Business analytics can be used to obtain meaningful predictive insights. Software Industry now majorly depends on business analytics & business intelligence for Customer Profiling, Customer Support, Market Research, Product Profitability, Demand/sales forecasting, Inventory management.

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