

DRAFT II

What Areas Will Business Focus on in the Next Few Years April 2010

These forecasts are based on my discussions with many of you, reading books, scanning magazines, bookstores, news and last just "observation". The main driving force in the "forecasts/guesses about the future" has always been one main tenet: "Follow the \$\$\$\$\$\$\$\$\$\$!"

This look at future directions will focus on operational areas of business, concepts, methodologies and tools; primarily aimed at Decision Sciences and IT. There are some basic overall trends that apply to help drive these directions:

1. Business is global and "globalization" will continue; but the area of focus will gain more momentum re the far-east and emerging markets.
2. Energy costs will continue to rise again from the lows we saw in 2008-9.
3. Security is a problem and will continue to be a greater problem for business operations; including software systems as data continues to mount; both in collection, storage and mobility.
4. Risk and the assessment of risk will have a growing focus following the last economic downturn and current environmental events.
5. The costs of health care will continue to rise, require substantial resources and will become more dependent on Decision Sciences and IT to try and bring costs under control.
6. Someone will be forced to tackle the dependency relationships of Medicare, Social Security and Tax policy.
7. **Value added** job creation and exporting services will become more pressing issues going forward in the U.S.
8. Speed, speed and more speed in analysis will now drive forward at a greater pace.
9. The overall trend toward mobile communication and computing will continue to expand unabated.
10. Social networking will be integrated into many areas as a data and analysis source. (see SAS[®] Social Media Analytics as an example).

Given this rather brief overall view; the areas I see gaining more focus going forward are:

Business Intelligence (BI) - This area has really taken off and major technology firms (IBM, Oracle, SAS, HP, SAP, Microsoft etc.) have purchased smaller providers of methodologies and tools. A major consolidation has taken place; but more firms have sprung up that address the front end of BI systems. The emphasis will shift from the database aspect of BI to the Decision Making focus. This shift has driven new concepts and software.

The Utilization of Analytics Will Continue to Expand – The demand for tools from companies such as SAS, SPSS (IBM), HP, Minitab, Excel and other supporting software will continue to expand along with a demand for personnel to utilize these tools in a decision analysis context. Additionally this will now include the move toward more visualization, graphic presentation and “data exploration”. As we generate more data there will be growing emphasis on data, text and video mining. Also driving this is e-discovery; which will be a force in the coming years and may deserve to be a category by itself. Currently many providers of SaaS are using analytics as a competitive tool. They provide feedback analytics on the services provided. These activities are turning into growing business opportunities – see “Building Businesses with Databases” in this forecast.

Predictive Analytics – “Encompasses a variety of techniques from statistics, data mining and game theory that analyze current and historical facts to make predictions about future events.” - Wikipedia. This area will continue to expand due to the support software developments and the focus on speed, risk abatement and the number of variables needed to assess risk over time.

Complex Event Processing (CEP) – “Primarily an event processing concept that deals with the task of processing multiple events with the goal of identifying the meaningful events within the event cloud. CEP employs techniques such as detection of complex patterns”. – Wikipedia. In the drive to assess risk more quickly (more accurately has yet to be seen) methodologies and software tools have developed to handle large amounts of analysis quickly. This software depends greatly on pattern matching; but will continue to evolve rapidly and will become part of predictive analytics.

In Database Analytics: Driven by the need for speed. This methodology allows developers to move the computational operations into the data warehouse, doing away with data movement and taking advantage of parallel processing capabilities; thus contributing greatly to shortened time frames for computing and efficiency. This trend will continue to grow as we accumulate more data and work on reducing lag times.

Health, Safety & Environmental (HSE): (Late Addition) – Quite often a department in a manufacturing organization (particularly oil, gas and chemicals); that does not receive a lot of publicity. Events of the last few weeks have brought this area into recognition again – coal mining accidents and the Gulf of Mexico oil rig fire and blowout). These events will bring this area back into the spotlight again and be one more area that will now receive much more “analytic/risk assessment” attention. Sooner or later, someone is going to recognize that we still have “Data Historians”.

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TURNING TOWARD DATA & MOBILITY

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Mobile Communication & Computing – As noted as an overall trend; the amount of data we are dealing with is not only growing exponentially; but also how and where we use this data is continuing to be more and more mobile. The power and size of the mobile devices we now have available will continue to allow us to create data (communication), collect data and analyze data using much more powerful new software and access devices.

Individual Focus & Personalization – Noting the areas above and their substantial progress over the last 4 years; these advances have given us even greater ability to “personalize” on individuals, groups, organizations, geographic areas, etc. and do it rapidly. These new analytics, databases, hardware & software have given us immense flexibility from individual “flyers” to “corporate dashboards” and this **focused flexibility** will continue to grow in several dimensions.

Visualization/Graphics - Our software systems to handle graphics, dashboards; including geographic information systems have advanced rapidly and the demand for visual presentations of data have followed suit. In many areas of analysis these graphical presentations are finding more and more utilization in business analyses presentations and will continue to grow at a substantial rate; given they can be used to show changes in outcomes with the change in the value of the variables. This is also being enhanced by the fact that we are involved with a more and more visual consumer of these analyses.

Virtualization & Cloud Computing – Both of these areas will continue to grow; but issues will evolve at the intersection of the rate of data growth, the rate of storage capacity growth, storage costs, pricing the contracting to make virtualization and cloud computing possible. [Very worthwhile reading: (“The Economist”: Data, data everywhere: A Special report on managing information, February 27th, 2010.). We have lived through a long period where the cost of storage had been driven down by the rapid expansion of our ability to generate storage capacity. We now are entering a new era – multiplication of users, devices and graphics. This same logic can also be used to take a new look at the capacity to move information.

Master Data Management (MDM) – The importance of MDM has returned. When we had much smaller amounts of data storage available at a much higher cost, MDM was an important area of development. Now that the generation of data has increased exponentially, lag time has continued to decrease and in data base analytics has developed; once again MDM has become an important area of development. Since no slowdown in the areas that drive MDM is seen in the near future; this area will continue to grow in importance. One other factor driving this area is the interest in medical records. See OSI pi as an example.

Life Cycle Management (Data) – More emphasis on this area will now evolve, not only applied to the management of hardware and software; but also with respect to data. The economics of data storage along with cost management will now develop more rapidly. This practice will also be driven with our move into more virtualization and cloud computing.

IT & Analytic Business Alignment - Alignment has not gone away. There is a growing demand that IT and Analytics develop a focus in the firm to support competitive position in the market by supporting customers and suppliers. By doing this the new direction of alignment in these areas is to “generate revenue” with the investment and activities.

Building Businesses with Databases, Analytics and Research: The New SaaS – With the servicing of many corporate needs via web based programs (everything from job sites to strategy analyses), wireless communication, social networking etc.; the data amassed and held by different firms gives them a substantial opportunity to provide analyses based on the data that they hold in their databases. As SaaS grows the potential to build data that will enhance the future delivery of multiple services grows. “My database has the data and I have the analytic talent to deliver projects against your data; without adding to your staff.” This trend has so many different convergences with other technologies it is difficult to enumerate them; but it will have a substantial impact on the analytic services industry going forward.

Process Improvement – The process improvement concept will not diminish but will now be driven by the large expenditures in the health care area and opportunities for diminishing risk (environmental). The last impetus for this area was the movement into sales, marketing and services; but now it will be necessary to focus on the processes driving health care and governmental costs to promote efficiencies in processes in these areas.

Real Options Analysis – Real options are an opportunity to take actions in the future (my definition). This concept, its methodologies and tools are a way of looking at investment alternatives/resource allocations under uncertainty. It will expand in utilization due to the new software: CEP, BI and the research that has been carried out in this field. The fallout from the financial travails of the past 2 years has heightened the interest in risk assessment around real investment alternatives; beyond simple NPV or ROI analyses.

And Now.....????????????????????

Please e-mail me any comments or additions that you might have re where you think things are headed "down the road".

Jerry

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