

Trend # 9 – Use of Information & Technology to Drive Competitiveness

Deep Parekh, Partner, Equus Group, LLC

This is a topic of great personal interest, having run a software company (PlanCentral) in the past. This month we explore the use of information and technology to drive competitiveness. Companies have traditionally been victims of software purchases and implementations that have gone seriously wrong. No doubt, the net value gained has been positive, but not without many instances of out-of-control projects and skyrocketing over-spends on technology. Technology is not the evil force at play, but the actual vs. perceived use of it which is the issue. The use of information to drive competitiveness is an interesting case, where during the past 10 years, the Enterprise Resource Planning (ERP) systems have enabled the generation of trillions of terabytes of data, about shipments, plans, orders, point of sale, etc., of which precious little is being used for any value besides retrospective reporting.

The Bottom Line

Both information and technology are available in plenty. It's not about the latest software technology you buy or about the amount of information that you own, but about your staff's actual use of it and the ability to develop conclusions about markets and business situations in the future to derive competitive advantage out of it

- Companies are sitting on mountains of information and different platforms of technology...and using very little of it
- Information needs to be converted to analytics; technology as the means to convert information to analytics – analytics is the new basis of competition between companies not products
- Analytics drives supply chain design and execution; it drives investment decisions, tradeoff decisions, and decisions of how to get more competitive using existing or new resources and products
- Technology trends towards more of a service than an asset deployed in the business – technology becomes more of 'Software-as-a-Service' (SaaS); Infrastructure investment becomes redundant as network speeds increase, hosting security increases, and costs drop

Still Chewing and Already Taking the Next Big Bite

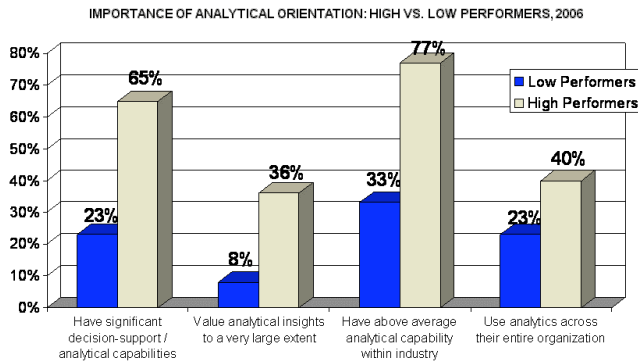
AMR Research did an excellent article some years ago on 'shelf-ware' – the software that companies have purchased that they have not used (and therefore still sitting on the shelf, so to speak): "Lessons learned to date suggest that we're on the right track, but still have a long way to go. In a series of detailed field studies, some encouraging, while sobering, findings emerge:

- **Supply Chain Management (SCM)**--Of 42 companies using SCM software, performance improvements (inventory turns, cycle times, customer service levels) are being delivered and overall vendor satisfaction is 6.95 on a scale of 1 to 10, yet 85% are implementing or using only one or two modules.
- **Procurement**--Of 60 companies using procurement software, the reported savings averaged 10% of addressed spending, but future phases addressing more complex spending categories are on hold. Only a third of respondents would consider the applications for direct procurement.
- **Customer Relationship Management (CRM)**--Of 100 companies using CRM software, 74% say their expectations have been met and 68% say planned Return on Investment (ROI) was achieved or is on track. Most, however, have implemented less than half of the software that has been licensed.
- **E-Logistics**--Of 200 logistics professionals using e-logistics software, only 30% expect improvement in key operating metrics (inventory turns, fill rates, costs) of at least 10% within one year. Some 60% expect that improvement, but after five years."

Fast forward a few years, and we find the same situation today. Companies we work with are using small percentages of the functionality of the tools and technologies that they have purchased, and are continuing to balloon IT budgets for ever-advancing software. Our key message to shippers and Logistics Service Providers (LSP) is to invest in technology not as a given fact-of-life but to seriously consider what value it will deliver, just like any other investment in capital projects. Further, today more than ever, the concept of software as a service (SaaS) is more prevalent in the industry, from applications for HR, payroll, accounting, sales force automation, and supply chain management. Utilize these SaaS offerings as a solution to your issues instead of investing in the software itself.

Competing on Analytics

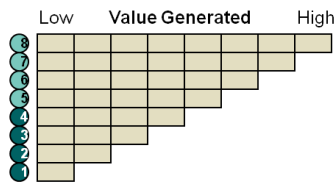
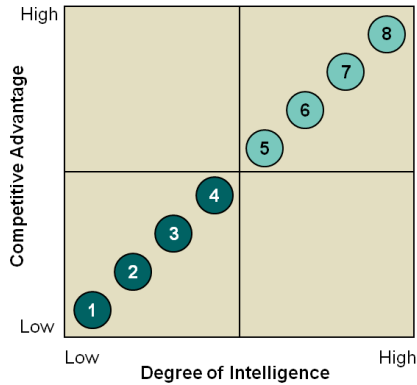
I recently read "*Competing on Analytics*", by Thomas Davenport and Jeanne Harris. It was an eye-opener in terms of not only the research that went into it, but also of the astounding results that companies have gained through analytics. We see in Figure 1 that a majority of high performing companies used analytics on the information they have to gain competitive advantage.



Source: Davenport & Harris, *Competing on Analytics*, 2007, pp. 47

Further, International Data Corporation (IDC) found that analytical projects aimed at improving production had a median return on investment (ROI) of 277%, customer relationship management (CRM) of 55%, and business intelligence (BI) projects using predictive technologies of 145% compared with 89% for projects without them. These analytical projects leverage the technologies that companies buy (such as solutions for CRM, BI, etc.), and turn information into insight, and insight into action.

The book does a great job describing the state of companies using analytics, as shown in Figure 2 below. Considering how companies use systems and information, each type of output defines a level of advancement in gaining competitive advantage for the enterprise. The lowest level on the scale is the standard reports coming out of most systems which generate information to understand posteriorly what happened. Most companies we find are at the stage 2 or 3, where they can generate ad hoc reports to understand details around their operations, and drill down to understand for troubleshooting and problem resolution. There are fewer companies that are generating statistical analyses and to predict business and market trends, predictive modeling, and business optimization based on different future scenarios. However, the 'Analytics' type of activities are what truly generates the competitive advantage. Some of the companies that are participating in these more advanced analytics to gain competitive advantage are Proctor & Gamble, Anheuser Busch, Mars, Amazon, Walmart, and AstraZeneca.

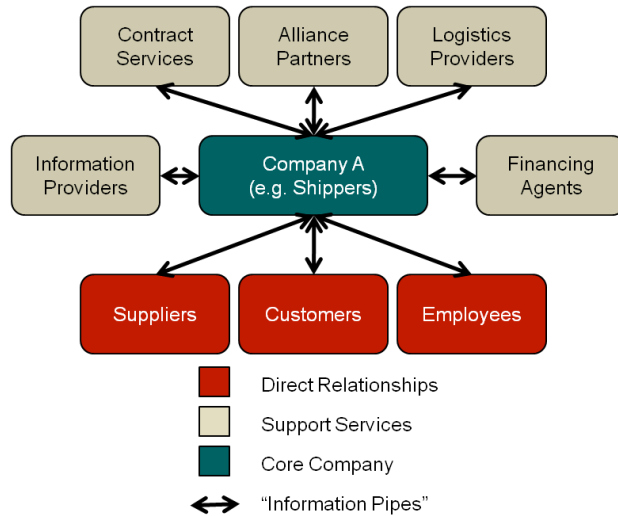


#	Output	Question Posed	Type of Activity
8	Optimization	What is the best that can happen?	Analytics
7	Predictive modeling	What will happen next	
6	Forecasting / extrapolation	What if these trends continue?	
5	Statistical analysis	Why is this happening?	Access & reporting
4	Alerts	What actions are needed?	
3	Query / drill down	Where exactly is the problem?	
2	Ad hoc reports	How many, how often, where?	
1	Standard reports	What happened?	

Source: Adapted from *Competing on Analytics*, 2007, pp 8

The New Rules

Dr. Sumantra Sengupta, a well-known supply chain thought leader, and currently VP Hitachi Consulting, in his book, *"The New Rules – using information to unleash the hidden capital in the extended value community"* (Chandos, 2002), defines an information management framework that is worth implementing for any company, shipper or LSP. Figure 3 shows the Extended Value Community (EVC) that forms one of the central themes in the book, adapted for this column. The author puts forward that "information management is extremely important concept in the community. The traditional view – that possession of information is power – is mythical. The new rules demand that information should be accessible in near real time by all the participants in the community and the participant decide the analytics that leverage that can be extracted from the use of the information." The differentiating factor in this approach is it reduces the 'information latency' - instead of different players in the EVC receiving information second- and third-hand, all players receive it at the same time, taking out the guess work in anticipating ever rapidly changing customer and consumer demand.



Strategic Direction

We recently caught up with London-based Martin Jarvis, an eminent global supply chain and Sales & Operations Planning (S&OP) authority, who had much to say on this topic. His belief is that

most major technology vendors are behind the curve in developing flexible technology that people can easily adapt to, with built-in design, implementation, and maintenance flexibility that allows the software to be used in the right manner, and leveraged for the right information. Many instances exist where software had to be re-implemented due to its inflexibility in adapting to organizational design shifts, where business groups collapse into each other, mergers between different categories of products, or functional integrations. He is a strong believer in using 'agent-technologies' which can 'crawl' around the different pieces of information available and across the different software technologies, consolidate and compare different information and provide insight into where the business is going. "It is not just the intention but the actual application of the new technologies that can yield competitive advantage," says Martin Jarvis.

For example, imagine a technology agent sifting through service levels, inventory policy information, production conformance to plan, commodity prices, logistics conformance to schedule. An intelligent technology agent could conclude with the insight that there could be a severe service issue in the next 'X' months due to reducing production plan conformance, shortfall of anticipated inventory policy, inconsistent delivery schedules. Further, with anticipated rising commodity prices, it would stimulate a decision to stock up on the material commodity and gear up additional production resources as contract capabilities, and sort out the delivery schedule compliance with the logistics company. This allows the company to maintain competitive advantage through the better use of information and systems to generate anticipative insights. Jarvis concludes that whereas these 'plan-o-bots' are useful at an aggregate level, their true value lies in sifting through the terabytes of data at the SKU, location, daily level, with millions of possible combinations with other relevant causal factors.

So, what needs to be done?

We propose a 5 step approach to leverage your technology and information to derive competitive advantage:

1. Take an inventory of all the data and software technology you have and audit its usage
2. Plot yourself on the competitive advantage scale shown above in Figure 2
3. Understand where you want to be on the competitive advantage scale in terms of utilization of this information
4. Articulate the gap, and develop an understanding of how you can better extract and use your information and technology to gain competitive advantage
5. Execute the necessary changes to the current systems and information structure you need in order to use your information in a competitive manner

Deep R. Parekh is a Partner with Equus Group, LLC, a Supply Chain Advisory Services and Management Consulting firm based in New York, NY and Sao Paulo, Brazil. He welcomes your feedback and comments at deep.parekh@equusllc.com, and can be contacted at +1-212-905-3336.