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Virtualization, Green Initiatives, & Manufacturing the next wave of IT

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I see a number of trends in the IT industry that will soon play a central role in shaping up successful business practices, and have a domino effect on associated industries. Here are some thoughts emanating from my experience as a professor, the CEO of an IT products company, FatPipe Networks, and as the Chairman of the Board of the Governor's Office of Economic Development for the state of Utah.

Simplification in IT

The first major trend I see is a move towards simplifying IT products and services. There is a bewildering array of choices for IT managers. Over a period of time, there is going to be a need for simplification so that the IT managers can have better control of technology. With more and more Software as a Service (SaaS) applications becoming popular, people will want to simplify their IT practices and move towards SaaS. The trend started with Citrix and thin client nearly 20 years ago, where computing power was removed from the desktop to the server. The trend will now move slowly from the server hosted in-house to virtualized server farms and cloud computing applications. This trend will accelerate as more companies move towards SaaS oriented delivery models rather than IT products and services residing at the company's own site. With virtualization becoming popular, it would be possible to implement these SaaS models with a higher level of reliability and a high level of confidence from the IT manager's perspective.

The next issue is focused on the management of data centers. Storage devices and services will be needed to accommodate SaaS and virtualization models. This consolidation of information increases the usage of data centers, which raises another important issue: energy consumption. Data centers are getting larger by the day, and unfortunately, they are power (energy) hogs. They are the new smokeless smokestack industry of America, as they significantly increase the carbon footprint in the community where they are located. What needs to be done is to lower the cost of power consumption by the data centers and use renewable energy for a major portion of their needs.

Green Initiatives

In the next few years, there will be a committed focus on Green Initiatives - making everything 'low power' and 'green' wherever and whenever possible. And we see how data centers risk becoming the pariahs of the community due to their high consumption of energy. Nobody wants them in their backyard, as it will affect the cost of residential power over a period of time. To illustrate this point consider this: A data center employing 50 people consumes about 50 Megawatts of power which translates to 1 megawatt per person locally employed. For comparison purposes, 1 megawatt can power 5,000 homes. So the data center employing about 50 people sucks up as much energy as 250,000 homes (sufficient for a city of nearly a million people). It is clear that they must move to lower energy consumption. In the case of data centers, a LEED certification of the building is meaningless as it saves about 100 to 200 KW of power, a miniscule amount compared to the overall power consumption of say 50 MW.

Currently, companies are situating data centers in low energy cost states, but that's a temporary fix. What companies need to do is coming up with a 'greener' plan so that the major portion of the data center power consumption is offset by green energy. So, we will see an increase in investments toward green energy initiatives and making IT 'green'.

.Likely Move of the VCs

Witnessing the trend, the investors are swaying more towards green energy projects and less towards IT startups. This means that IT startups

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have to compete harder for investor money. However, because a lot of the IT development can be done in countries like India, the need for capital is also less. IT entrepreneurs who band together to start a company can pool their financial resources and develop the product in India before they go for VC funding. This means that less VCs are involved in the early capital raising rounds and more involved in the execution of sales and marketing, which reduces their returns. It plays favorably toward entrepreneurs of Indian, Chinese, and East European origins, who are able to tap into their links in their home countries.

Another feature of the new trend is that the VC base has shrunk in the last year. This means that there is less competition for giving money. Marginal ideas and 'me too' execution plays will have difficulty being funded. Entrepreneurs have to show a strong differentiation from the current products in the market. Similarly, the VC industry will also have to undergo a change. Most VCs are former associates within the VC group with financial degrees who rose within the ranks to become partners. The problem with that is that they were unable to bring a high level of expertise to the table with regard to how to run a company, especially in the area of manufacturing. VCs need to bring in former entrepreneurs who have real world management skills, so that they can really help their portfolio companies.

Traditionally, IT companies outsourced their manufacturing and therefore did not need an in-house manufacturing expert. On the other hand, green energy companies are heavily manufacturing-intensive. Generally, most new entrepreneurs and VCs have low experience levels when it comes to large-scale manufacturing. For instance, in the solar energy field, many thin film solar innovators have stumbled. The ones that stand out as winners are those who have a deep expertise in manufacturing. First Solar is the best example of that. First Solar was able to ramp up and become one of the largest solar thin film manufacturing companies in the world because it knew manufacturing. Similarly, Chinese companies have done exceedingly well in the solar energy area, as they have deep manufacturing expertise. The company that has expertise in manufacturing will also be the king of the hill in the green energy area, as the mantra will be about low cost production.

This brings up two other important issues. Firstly, since green energy is manufacturing-intensive, the potential buyers tend to be established manufacturing companies. These companies usually develop competing products rather than acquire companies. When they do acquire, the valuations are typically lower than what IT companies are normally paid as they are not used to high valuations.

Secondly, entrepreneurs will have to contend with established manufacturing companies that have large patent portfolios. Most new companies entering manufacturing may find that they are in danger of violating patents owned by existing manufacturing companies. Unlike software and IT companies, manufacturing companies aggressively defend their patents.

We may have to wait for a while to see how the new trends in green energy initiatives and relationship between VCs and manufacturers emerge. This will have a profound effect on the manufacturing landscape, and so subsequently on the IT arena as well.

The author of the article is Ragula Bhaskar, CEO, FatPipe Networks.