Mobile Technology: A Means To Improve Operational Efficiency

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The use of mobile technology as a means to improve operational efficiency has become increasingly prevalent in the manufacturing industry. More and more companies have realized the benefits that can be gained from investments in various mobile devices and complementary business software. Furthermore, mobility is here to stay, says Satya Ramaswamy of Tata Consultancy Services. In this Q&A with Manufacturing Business Technology ***[1]*****, he discusses the opportunities and challenges of using mobility in manufacturing, as well as the future of the technology in the workplace.**

Q: What are some of the key opportunities manufacturers have been able to receive from embracing mobility?

A: A lot of what we are seeing today from mobility in manufacturing is really brought about by the tablet devices, because they enable a good connection back to enterprise systems However, they also do much more.

The email-based smartphone devices allow you to essentially respond to email wherever you are, but now these tablet devices extend to a totally new level, including in manufacturing. Because you are able to look more of a deep dive into the information you're getting and then make more informed decisions.

Anything that happens with a business process can been seen and acted upon, and it also helps improve accuracy.

We are seeing a lot of interest in several key areas. One is in maintenance. When we talk to customers both here and in the U.S., there is an interest in using mobility to help with preventing shutdowns. That's a big trend these days, and essentially that's driven by the ability of these mobile devices to send and receive push notifications, as well as the ability for these devices to act on them quickly.

It's all about getting access to the critical information wherever you are and being able to interact with that information.

Inventory management, warehouse management, quality, and production decision-making are other areas of interest. With regard to decision-making, the key-decision makers are bound to the desk if they have to make a key production decision. But now they can be mobile when they make those decisions.

Q: How well have companies adopted this technology in their businesses, or are we at a point where there is still a long way to go?

A: The tremendous amount of interest in the consumer space has opened the minds of the industry toward looking at mobile devices as a way to further increase their operational efficiency. Every organization is looking at how it can bring better efficiency and compete better in the market, not only through operational efficiencies, but by better decision-making, better product development, and so on.

Interestingly enough, the mobile devices, especially the tablet devices, play right into that area. They introduce connected computers with parts of a business process where none may exist today, the ability to get out of your desk and be more productive by being mobile. Customers are trying out a sample application to see how it is going, but now they're realizing there is real business value to doing a lot of this stuff. Therefore, they want to adopt it in a much bigger way. A lot of them are trying out one or two applications and then seeing the business benefits. Then they go back and want to do it in a more comprehensive manner. I expect 2012 to be a key turning point in the deployment of mobility in several industries, including manufacturing.

Q: What have you seen as some of the key challenges that manufacturers face with mobility?

A: There are several key challenges that customers face. First is the notion of diversity. Today there are multiple types of devices. Enterprises may mandate one particular type of smartphone device and one particular type of tablet device. However, there is significant interest in the concept of bringing a device to work. Also, clearly the range of people in the enterprise world who are using it has increased. So how we handle having multiple types of devices?

Thankfully, everything is converging into three or four major platforms and essentially two types of devices – the smartphone and the tablet. How you handle it is by using the right type of architecture. It's about keeping the computing on the device minimal and keeping as much business logic on the network as possible.

The third challenge is user-experienced design. The user experience on a mobile device is fundamentally different than the user experience on the PC-based desktop for two reasons. Smartphones have a smaller display, and the way you interact with the applications is very different.

Finally, security. Security is clearly at the front of the minds of many (manufacturers), for a variety of reasons. It's all about protecting intellectual property and protecting the operational information. But a lot of concerns regarding security are of the unknown variety. But for those known security issues, there are clear-cut solutions for them.

Q: How long is the shelf life for mobility? Is this something we're going to see, mobile devices improving on themselves, over the course of the next several years?

A: Absolutely. And I see that for several reasons.

Long ago, in 1996, when I was working for a mobile manufacturer we thought the mobile phone would get commoditized and become uninteresting. But that never really happened. They have a lot of inherent goodness about them. From a consumer perspective, the mobile device is a reflection about who you are. I can tell a lot about a person by the phone they are using. That has gone through a great cycle. People didn't want to be seen as having an old phone. They always went for the latest models and the coolest features. That drove innovation in a big way.

In the enterprise space, we're just getting started with respect to mobility. Tablets are in the very early stage. But it's very promising. But there is a lot more efficiency to be had by introducing these connected computers into the business processes.

The next big wave deals with the places that the desktop computer can't be taken. Now you're able to take the mobile devices to those places — and these devices are connected to your enterprise system.

There are also phenomenal things happening on the server side. There has been a dramatic increase in the development of this modern distributed computing paradigm in the space of big data. This enables you to crunch a large volume of data in a way that was not possible before and then send that information straight to the mobile devices.

Combining mobile devices and enterprise servers brings a lot of efficiency to the table. But once you combine that with this modern distributed computing technique, you certainly have a phenomenal opportunity to improve operational efficiencies.

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