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Editorial

Information Technology and the Process Revolution

Just how important is Information Technology to the ongoing revitalization of business processes? A conference organized by World Trade in London between June 9 and 10 and sponsored by Siemens AG provided some provocative answers. The conference was titled: *E-Commerce and the Supply Chair Revolution*. Presenters at the conference varied from corporate visionaries such as Jeff Papows of Lotus and Chuck Nixon author of the book, *Net Future*. Apart from the inevitable technical hitches, particularly well handled by the Microsoft presenter, the conference was extremely informative and well crafted.

There were a number of key take-aways from the conference. Let me review some of the ones I considered to be most important from a process standpoint.

Chuck Norris stressed that process revolution is at the heart of what he terms the e-business revolution. The current technologies, particularly Web technologies, provide enormous potential. We are just at the beginning of this particular revolution as it is just becoming possible to seamlessly (and relatively easily and cheaply) integrate enterprise applications through the Web.

Following along with the integration theme many of the other business presenters argued that many of the tools for reinventing business processes are in place already. We are not dealing with vaporware. What was often surprising was the speed at which many of the applications had been developed—even with seemingly complex applications weeks rather than months or years seemed the order of the day. The emphasis was also on identifying the key processes to concentrate on.

To reiterate, one of the key lessons that electronic commerce is teaching us is the importance of integration. As there is a need to provide support for a wide range of business processes there is an increasing need to be able to bring together information from many different parts of the organization. Traditionally this information has been hoarded in the traditional silos of functional business management if it has even been in electronic form at all. Indeed, one of the lessons we are learning as we try to provide process managers and process actors with appropriate information is that much of the information is in heads and hands rather than computers.

Another interesting link between process management and knowledge management occurred to me during the conference. I have already noted that process management requires that we deliver the appropriate information to each stage of the process to enable the process actor to act accordingly. But there is more to it than that. The process actors need to have the appropriate knowledge to make use of the information. This is particularly interesting to me when we are increasingly involving our customers and suppliers as process actors. Suppliers track out production schedules and our inventories and provide the appropriate goods to the appropriate place at the right time. Customers configure their own orders, place them and track them through our manufacturing process. These activities require both information and knowledge. We need to make sure that our customers and suppliers have sufficient knowledge to be able to make the right decisions and take full advantage of the opportunities that we are providing them with. We need to know what they know about us, our products and processes. If they do not know enough to be able to utilize the information that we are providing them with, we have to educate them!

As we become more process-focused we learn that we have to manage processes across traditional organizational boundaries so too with knowledge. it is important to manage knowledge within the organization but it is also increasingly important to manage knowledge across those same traditional boundaries. The Web, through its power of being able to transfer rich multi-media information to almost anyone, anywhere at anytime, allows us to completely rethink the structure of processes and who should be tasked to carry them out. But having the information and being able to use it appropriately are two very different things!

INFORMATION AND KNOWLEDGE PORTALS

Many of us are familiar with the concept of portals on the Web. These are Web sites that provide us with access to a selection of other sites allowing us to access the information that we need, conduct conversations as needed, and carry out appropriate transactions. We are already seeing many companies developing information portals for their employees. It is likely that over the next few years these portals will evolve into sophisticated decision support tools for

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each individual employee. Not only will the portals provide support for all aspects of the individual's work they will also be adaptive—responding to changes in the way the individual works as he/she learns more about the job. The portal will also make suggestions as to how the individual might perform tasks better. Portals will communicate with each other throughout the firm—sharing knowledge so that one individual finds a better way of doing something it will be automatically 'learnt' by the organization and transferred to all other interested employees through their personal portals.

Portals will also increasingly know what their individual user knows. If the user does not have sufficient knowledge for a task or the task changes this will be flagged and the portal will be modified to provide the user with appropriate training.

The above may seem just a flight of fancy and to some extent it still is. However, many of the capabilities that I have referred to are either with us or on the not too distant horizon. Although the successful implementation of knowledge will always be fundamentally a human task the ways in which we can store, access and transfer that knowledge will be significantly transformed through information technology and particularly the web.

MIDDLEWARE

Much very valuable information about processes is stored away in old systems and old programs. One major multinational recently found that one of its core systems had been written in 1968 and never validated properly and certainly never maintained properly. It does not make economic or business sense to simply throw away these old systems. Fortunately what is called the middleware market is now reasonably mature. Middleware is the software that allows us to link these old systems to new applications, most particularly in the context of this editorial, Web based applications. Thus, it is possible to integrate information about processes from a variety of different systems through a Web browser using middleware to interact with the old systems at one side and the browser on the other.

Clearly technology will have a big part to play in our attempts to manage processes and knowledge in the future.

BOOKS TO BE REVIEWED

Another interesting 'spin' on the place of technology is provided by a new book by Michael Schrage called *Serious Play* (Harvard Business School Press, to be published December 1999). Schrage provides many fascinating and stimulating examples of companies that have used the power of technology to provide simulations that empower individuals and groups within the organizations to be innovative. Simulations can be a way of learning more about existing products and processes. They can also be a way of creating new knowledge. I will be reviewing Schrage's book in detail in the next issue of the Journal and on my own Website.

Harvard Business School Press has also released B. Joseph Pine II's book *Mass Customization* in paperback. This book much deserves to be reissued as it has in many ways defined the world that the Web and agile manufacturing has thrust on us. It has also added the term 'mass customization' to our everyday business lexicon. I will take great delight in reviewing this book in the next edition of the Journal and on my Website.

IN THIS ISSUE . . .

As always I have provided you with a mix of cases and academically oriented research in this issue. The cases range from a hospital to consulting practice. The academic papers tackle such issues as justifying knowledge management investments to organizational learning in a variety of interesting settings including air traffic control. I hope that you will find the mix of papers in this issue interesting. I welcome any and all comments concerning the journal. My preferred medium of communication is e-mail and my e-mail address is wensley@mgmt.utoronto.ca.

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