

CHECKED LOCATION AND QUANTITY ON THE INTERNET

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SCANNED FOR ARRIVE

IN THE BUSINESS WORLD, TECHNOLOGY MATTERS – EVEN IF SOME HIGHLY INFLUENTIAL THOUGHT LEADERS MIGHT SAY, OR WRITE, OTHERWISE.

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Former Harvard Business Review editor Nicholas Carr did just that three years ago, when his article, "IT Doesn't Matter" sparked heated debate among chief information officers (CIOs) and business executive from some of the world's top companies, Actually, it was Carr's that raised hackles. Readers brave enough to venture into the article discovered a premise that is difficult to argue with today: IT's core functions within a business – the processing, storage and transmission of data – have become less expensive and more easily replicated, and they should be measured accordingly.

ENTER YOUR PASSWORD TO CONTINUE *****

In the late 1990s through early 2000, many technology and business executives subscribed to what Carr describes as the "IT changes everything" school of thought. "In the height of the dot com boom, we felt that the Internet was changing the rules of the game," notes Baylor University assistant professor of Information Systems, Hope Koch. "Many companies put aside the traditional rules of the game or ways that they evaluated business investments and invested in Internet initiatives. We saw many of these initiatives fail with companies loosing millions in the process. As connectivity increases and technology advances, organizations have to stay abreast of the possibilities, consider how it can help the company achieve value, and in cases where it will, they need to adopt it."

To effectively conduct the evaluation Koch describes, executives should understand the recent important technological breakthroughs, the implications of those breakthroughs on how companies conduct business and the other elements that need to be in place for the technology to make good on its promise.

BIG BREAKTHROUGHS

Brett Moore, CFO of the McLane Group, in Temple, Texas, can recall when his company introduced the first personal computer to one of its operation divisions in 1985. Since then, Moore says, technology developments have dramatically changed how the company, which focuses on grocery distribution among other offerings, interacts with its customers and, ultimately, makes decisions.

"The amount of data that [current] systems can generate is incredible," he notes. "The systems can flesh out trends in your business that might not otherwise be obvious. Ultimately, however, somebody has to know the business well enough to understand how to use that information to identify problems and opportunities."

Moore has worked for McLane since 1983. In addition to witnessing the company's first PC, he also worked closely with Wal-Mart, as the giant retailer developed its innovative supply chain management processes, which are supported by technology, in the 1990s. One of his company's non-grocery offerings includes software developed for the U.S. Army that helps that institution mange its supply chain processes more effectively and efficiently.

Moore points to three technological advancements in the past two decades that have greatly improved business processes: information standards, e-mail and workflow possessing. Universal Product Code (UPC) represents one of the most important information standards in the retail sector. The common item number enables companies to track and store large amounts of data related to each product. "Basically, the way that we structure a retail business is largely driven by that data," Moore notes. There is a hitch, however: different product code standards exist in the U.S., Europe and Asia. More recently, the electronic product code (EPC) represents a standard that enables the transmission of data through radio frequency identification (RFID) systems, of the sort that large organizations, including the U.S. Department of Defense and Wal-Mart, have embraced and asked or required their suppliers to also embrace. Other standards, such as XML and HTML, have also fueled technological benefits. Connectivity requires standards.

The introduction and nearly ubiquitous acceptance of e-mail has helped many companies lower costs. "We recently completed a major closing on a loan package, all of which was performed electronically," notes Moore. "Twenty years ago we would have been burning up the fax machines or Fed-Ex-ing the documents at a much greater cost." Similarly, utility holding company PNM Resources saved at least \$300,000 (from a \$40,000 investment in enterprise collaboration software) by electronically sharing more than 6,000 documents during the purchase of Texas-New Mexico Power, according to Ziff Davis Media's "Innovations 2006" publication.

Workflow processing technology, a capability within may enterprise applications, guides automated processes in accordance with business rules. Back-office finance and accounting systems have automated large amounts of transaction processing, enabling companies to eliminate positions once assigned to highly manual activities (such as comparing invoices to purchase orders) and to reassign those employees to areas where their contributions can add more value (such as financial analysis). Workflow processing also identifies when manual interaction is necessary; if the discrepancy between a purchase order and an invoice is less a dollar, it probably is more cost-effective to let the discrepancy zip through the automated system. However if the discrepancy is \$10,000, an automated alert can immediately appear in the e-mail in-basket of a manager, vice president, or even the CFO.

The breakthroughs that Moore describes spill into other breakthroughs. For example, the accounts payable (A/P) automation once consisted of stand-alone applications operated by A/P clerks in an isolated of the finance and accounting department. The emergence of enterprise resource planning (ERP) systems blended A/P automation with many applications that support many other back-office processing and even customer-facing applications. "Before ERP systems companies would often have separate systems for each functional area," notes Koch. "This created several problems. Employees entered the same information multiple times into multiple systems. System updates like customer address had to be entered in all the different systems. Companies could not get a unified view of their operations, customers, and the customer profitability."

Within companies, it is important to keep in mind that different forms of automation can, and frequently do, integrate. "There are a lot of technologies fighting for attention out there," says Baylor University assistant professor of Management & Entrepreneurship, Pedro M. Reyes. "And you have all of these different champions who espouse a specific technology to solve a particular problem. Leading practitioners are starting to realize that it's not just one technology that will solve problems, there will be a convergence of different technologies that addresses the next big challenges." SECUR



WHEN CONSUMERS CHECK OUT AT A PAY BY TOUCH CUSTOMER'S GROCERY STORE, THEY SIMPLY SLIDE THEIR FINGER INTO A SMALL DEVICE THAT SCANS THEIR UNIQUE PRINT, ENTER THEIR ACCESS CODE AND THEN SELECT THEIR PAYMENT MODE ON THE SCREEN IN FRONT OF THEM.



Since its inception in 2002, San Francisco-based Pay By Touch has demonstrated a commitment to integrating new technologies to help its customers. The company provides "biometric authentication, loyalty, membership, and payment solutions." When enrolled consumers check out at a Pay By Touch customer's grocery store, they simply slide their finger into a small device that scans their unique print, enter their access code and then select their payment mode (electronic check or a full range of credit and debit cards) from the "electronic wallet" on the screen in front of them. Many of the grocery stores link the customer's purchasing history to their loyalty programs through another Pay By Touch offering called personalized marketing.

The offerings reduce identity theft risks and free consumers from having to fumble with checks, credit cards and loyalty cards, which speeds the payment transaction. Pay By Touch customers have benefited by using the system to encourage less expensive payment channels (electronic checks), greatly increasing the redemption rates on their loyalty program offers and, in the process, boosting their consumers' shopping frequency and their own revenue growth.

"We think that this will be a \$100 billion market-cap company," says Bill Townsend, Pay By Touch executive vice president and a graduate of the Hankamer School of Business. "It will be just like a Visa or MasterCard, and people will just expect that when you walk into a store, you put your finger down to access your account."

It's a bold claim, but, so far, a legitimate sounding one: customers have embraced the technology, and the company's venture funding is off the charts.

But Townsend also understands that technology is a double-edged sword for companies that sell technology. Townsend was part of the founding management team at Internet search engine Lycos, Inc., and has launched and managed several companies including YouthStream Media Networks (now Alloy), GeoCities (now Yahoo!), NewsAlert (now MarketWatch), Deja News (now Google and eBay), and voice-over Internet Protocol (VOIP) pioneer Really Easy Internet (now Hey, Inc.).

Connectivity and other technological advancements have greatly lowered the barriers of marketplace entry: someone with a \$12.99 per month DSL connection and a \$500 PC can set up shop on the dining room table and become an eBay success story. And today's market leader can quickly lose ground to new competitors.

Today's market leaders can also fall prey to fast-changing customer sentiment and preferences. "It used to be that you would start a company and then spend five to 10 years building your brand," notes Townsend.

"Today, brands are made in a matter of months."

Koch agrees that the speed of numerous business dynamics has greatly increased, but she also points out technology has not altered the essential rules - or objective of business (see "Same Objective, New Means").

ELEMENTS OF SUCCESS

Since technology continues to evolve, simply adopting the latest technology will not automatically give an enterprise a sustained competitive advantage, says Koch. On the other hand, the failure to adopt important technology has hurt numerous companies.

"Wal-Mart was one of the first adopters of inter-organizational systems," Koch notes. "Because they were sharing information easily with their business partners, they were able to deliver products to consumers at lower prices. K-Mart did not pay attention to inter-organizational systems and by the time they did, they had lost most of their market share to Wal-Mart. K-mart eventually filed for bankruptcy."

There are several non-technological factors that separate Wal-Mart from K-Mart, Dell from Gateway, VHS from Betamax or, more recently, MySpace.com from Geocities.

In some cases it is timing. In other cases, it comes down to marketing. Most audio/visual experts agreed that Betamax was a superior technology, but VHS out-marketed Betamax.

Reyes has studied RFID for years, and he noticed a significant spike in interest and acceptance of the concept after an IBM television commercial - one that simplified

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Technology is not a game-changing force in business. Today, companies must continuously innovate to add value for their customers, which represents the same objectives companies have marshaled their creativity to achieve throughout business history. * * * * *

What has changed, notes Baylor University assistant professor of Information Systems, Hope Koch, are the means available to companies seeking new ways to add value. In addition to speeding up just about all customerfacing processes and feedback mechanisms, Koch identifies four other technology-fueled changes that affect how companies add value to customers.

RELATIONSHIPS HAVE

CHANGED. Relationships in business have grown more strategic. IT systems now manage the bulk of transactional relationships. "The relationship between a company and its trading partners is strategic," notes Koch, "in that it focuses tackling larger supply chain and customer service issues rather than executing transactions."

"The development of the web based technology called HomeTracker in 2001 enabled First Preston to communicate in real time with over 2,000 subcontracted small businesses across the United States that provided services to our real estate portfolios," says Nancy T. Richards, chairman and CEO of First Preston Management, an 18-year old full-service real estate advisory, management and marketing firm in Dallas. "Not only did

this technology foster great efficiencies in our operations, but it also enabled these small businesses who were stakeholders in their communities to grow through the training and access provided to them by the system."

"At Accenture, we help companies become high performance businesses," says Ed J. Fikse, senior partner. "In the 30 years or so I've been with Accenture, I've seen how technology has evolved from assisting an organization with a single back-end process, to managing every aspect of its business. Technology used to be about helping companies become efficient. Today it's that and helping companies survive and get a competitive advantage in the marketplace. That's an amazing change in a relatively short time – almost as much revolution as evolution."

the benefits of the technology by explaining that the boxes in a trucker's load can talk – appeared on the airwaves.

Inside organizations, two elements absolutely must be present for a new technology to make good on its promise of helping a company add value to its customer base: people and processes. Technology is an enabler, but a needy one: people must use the technology to make existing processes better, or the technology will not succeed.

One of the primary challenges of RFID, Moore notes, is that it poses significant integration challenges: companies need to essentially reverse-engineer the technology into their existing business systems.

"A mentor once told me that you do not solve problems with computers," Moore recalls. "You use people to solve the problems and computers to help you do it. A common mistake businesses make is that we think

by putting in a system it's going to solve our problem."

What truly solves problems, he adds, involves a more comprehensive changemanagement effort: putting best practices in place, implementing technology to support those processes, training employees to properly execute the new processes and technology and then

THIS IS YOUR SHIP-MENT CALLING TO SAY HELLO AND TO LET YOU KNOW I³M ON TIME AND I³LL BE THERE TODAY establishing internal controls and quality controls to ensure that the people, processes and technology are performing as designed.

Adapting the company's processes, people and technology is vital, particularly in today's fast-paced marketplace and global business climate.

"You may have a wonderful idea for a business that is highly dependent on what is happening in the marketplace today," Townsend explains. "But if you don't build a culture that can adapt to the changing marketplace, you'll just be

another 'dot.bomb.'"

To avoid that fate, Pay By Touch has invested in proven technology, a strong intellectual property (IP) portfolio and talented employees. "And we have adapted the business model and the product offering almost on a quarterly basis while still maintaining our vision of making Pay By Touch the most trusted, secure way to pay for goods and also to be a trusted intermediary of a consumer's personal information," he says.

Technology matters, but it matters most when it is embraced by people to support and strengthen business processes.

EXPECTATIONS HAVE

CHANGED. Customers now expect that a company be available 24 hours a day and to provide information on the web along with self-service options. "Companies that fail to do so," Koch says, "risk losing customers."

"Technology, and more specifically information technology, has changed the face of the commercial real estate industry through its transparency and easy access," according to Larry P. Heard, president & CEO of Houston-based Transwestern Commercial Services, one of the largest privately held commercial real estate firms in the country. "The capital markets and investors from around the globe now have real time information on job growth, absorption, new supply and space demand in every market around the country at their fingertips on a moments notice. Two decades ago, it was anybody's guess on the information that was vital to the success of our assets and our industry."

CHOICE HAS INCREASED.

Consumers can now select which companies they do business with by clicking a mouse. This puts companies under pressure to continually deliver top service and generates uncertainty in the business environment – even within the confines of a traditional 'old-line' industry like tire manufacturing.

"Technology has allowed us to begin personalizing our messages to our customer base. In the past, we hoped for repeat business based solely on the quality of our product and the customer's in-store experience. However, we had little ability to touch the customer in ways that offered additional value to drive the customer to a repeat visit," says Joe Copeland, CEO Goodyear - South Pacific Tyres in Australia. "Today, we SMS our customers with unique offerings tailored to their vehicle, driving habits and changing weather conditions."

SMS, or Short Message Service, is a text message service available on most

digital mobile phones, other mobile devices and computers.

"The goal of this effort, of course, is to create relationships that will transcend price and the general transitory nature of the tire purchasing decision, consumers purchase tires on the basis of need, not want, generally."

YOU MUST GET WORK Done where it is done Best (and cheapest).

Technology, in the form of telecommunications wires spanning the globe, helped stimulate the rise of outsourcing, including outsourcing performed in India, China and other "offshore" locations where labor costs dwarf those in the United States and where certain capabilities match or exceed those available domestically.



