

New Technologies Bring New Life to Mass Customization

To hear Frank Pillman describe it, mass customization is the oldest “new” idea in business. A research fellow at the Massachusetts Institute of Technology in Cambridge, MA., Pillman says mass customization – the practice of creating products and services geared specifically for individual customers – is an idea that predates the 19th century industrial revolution.

“At a time when there were craftsmen and artisans, everything was mass customized,” explains Pillman. As manufacturing processes became both automated and standardized, individual craftsmen and artisans were largely replaced by companies that mass-produced goods. As technology emerged, mass-produced goods became much more economically feasible than producing goods for individual consumers.

Today, with the firm establishment of the Internet and other networked technologies for doing business, mass customization is again a choice option. Several years ago, jeans makers Levi’s garnered plenty of attention by offering a customized option; customers could send in their personal measurements via the Internet, and in return Levi’s would manufacture a pair of custom-made jeans. While the idea resonated with the business press and Internet aficionados, it never threatened to displace Levi’s mass-production model. As Pillman sees it, “the Levi’s mass customization strategy didn’t take off because the company couldn’t establish a system for reordering jeans; after eight years, Levi’s finally abandoned its mass customization effort in 2003.”

And yet Pillman and others are convinced that mass customization can be a major differentiator for companies, particularly when it comes to customer-focused innovation. After all, with ideas for products and services coming directly from customers themselves (rather than, say, filtered through market research exclusively), companies have at their fingertips a veritable treasure trove of customer preferences – and the technology to mine that treasure. So why is mass customization still a relative novelty in business and not a mainstream practice?

Defining the Challenge

“Part of the problem,” says Pillman, “is a misunderstanding about what mass customization is, and what value it can bring to a company.” At its heart, Pillman says, mass customization is “a strategy that integrates the customer into the value chain.” Traditionally, companies have viewed the concept as one that involves a customer who selects product features from an assortment of predefined options – say, size seven narrow-width sneakers made out of red canvas and featuring pink laces. While such a practice certainly allows a level of customer-driven innovation, Pillman contends that the model doesn’t extend far enough. “To derive true customer-driven innovations,” Pillman says, “companies need to offer products that never before existed (rather than just combinations of product features that customers combine), and the new products should be based ideally on information and ordering trends customers themselves submit. It’s this model that remains an untapped frontier and yet that can provide the most value to companies.”

To get started on a mass customization strategy, business and technology leaders must use their new tools to change how they view customers. “Look at them not as simply sources of revenues,” Pillman says, “but as fonts for ideas and product innovation.” For example, rather than mine CRM data and e-mail correspondence primarily for cross-selling and troubleshooting purposes, examine the data in terms of deriving new products and services. Making such a shift means that customer data often reserved exclusively for marketing and service personnel should be made available to other groups throughout an organization: namely, research and development and engineers.

The State-of-the-Art

Joe Pine, cofounder of consulting company Strategic Horizons LLP based in Aurora, Ohio, and a longtime proponent of mass customization (his book, *Mass Customization: The New Frontier in Business Competition*, was published in 1993), agrees with Pillman's assessment as to the current state of mass customization.

"While the logic for pursuing mass customization is so compelling – particularly in terms of differentiation – new business models and ideas never catch on as fast as you think they will," Pine says. That said however, Pine sees plenty of good examples of technology-fueled mass customization, particularly in the apparel and footwear industry. "At Land's End," Pine says, "sales of mass customized clothes has been a boon for online sales accounting for 40 percent of online sales versus about 5 percent a couple of years ago."

Why has Land's End been successful? Both Pine and Pillman say mass customization requires customers to thoroughly know what they want to buy and understand how to build and view what they want virtually. That means web-based interfaces have to be simple to use and powerful enough to accommodate changing requirements.

"For consumers especially, visual representation is really important," Pine says. "Consumers want to see the look of a shoe change immediately as they click on different characteristics."

And while many companies have invested in customer-centric systems such as CRM and ERP, those technologies often aren't implemented in ways that can facilitate mass customization. As Pine sees it, companies need to operate CRM and ERP systems in a much more modular fashion in order for those systems to be useful for mass customization; too many processes within such systems are rigidly specified.

While many ERP systems contain configuration and design tools, Pillman says that mass customization requires more than just flexible manufacturing capabilities. "It's really a change management challenge," he says. "Companies can have all the technology to support mass customization, but there's still a learning and knowledge management component that gets overlooked."

For example, Pillman says that mass customization represents a golden opportunity for companies to learn from customers. But to accomplish that, companies need to collect and aggregate the information customers submit and derive useful information from that data. "Thus far," Pillman says, "relatively few companies are doing that because they don't view mass customization as a strategy for complimenting the business; instead they see mass customization as an end to itself."

Pine remains optimistic about the future of mass customization.

At its heart, mass customization is a strategy that integrates the customer into the value chain.

"At its simplest, mass customization comes down to efficiently serving customers uniquely," he says. With companies networked to customers via CRM, ERP, the Web and e-mail like never before, getting those customers to actively design and order their own products already has its technological underpinnings.

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