

Mass customization has become a reality; companies can tailor their products to individual specifications as quickly and cost-effectively as they can mass produce them. The process has been used to create customized products as wide-ranging as bay windows, bicycles and birthday cards. But it's not limited to manufacturing. Other companies, including those in the customer service sectors, are customizing their processes. The ultimate goal: Give customers exactly what they want, when they want it, for a reasonable price. This essay will focus on the technologies useful for implementing mass-customization, will discuss the systems that exist within the banking industry, and will provide an example of a set-up process within this student's bank that impedes the efficient implementation of mass-customization.

Question 1: What examples of technology do you see that have enabled mass-customization to occur?

According to B. Joseph Pine II (1993), author of *Mass Customization: The New Frontier in Business Competition*, the technology that enables mass-customerization is information technology (e.g., computers and software). Says Pine: "(Information Technology) resolves the long-standing trade-off between quality and cost and between efficiency and customization." More recently, IT has allowed organizations to focus production efforts ever more precisely on specific markets, then market segments, then niches and, finally, individual customers. "It's really the new technologies that allow it to occur," says Stan Davis, an author and consultant based in Brookline, Mass. "I don't think you can mass customize without the IT." As Russell Strobel, business manager for Motorola's Paging Products Group in Boynton Beach, Fla., puts it: "The computers are the master choreographer." (Leahy, 1999)

Modern technologies have contributed to mass-customization in three areas: information, production and distribution. By making it easy to supply information, information technology, and particularly the Internet, gives consumers a cheap and easy way to find out what goods and services are on the market. Companies can display immense amounts of product information on their web pages and take orders from anywhere in the world. More important, the Internet frees producers from the expensive proposition of paying firms to gather information on what buyers want.

By making it cheaper to personalize during production, IT tools remove the last barriers to providing goods and services for individual customers. Even assembly lines are no longer limited to endless iterations of the same product. Computer-aided designs are replacing costly prototypes. Computer-guided machinery allows production to shift from one style to another with a few lines of computer code, eliminating the time and expense of retooling.

Improvements in distribution reduce the fixed costs of getting products to consumers. Barcode scanners allow overnight shippers to improve speed and accuracy while reducing outlays for a global system to pick up, sort, track and deliver packages. As the Internet spreads into more homes and businesses, the delivery of information products becomes nearly cost-free.

Question 2: Which systems exist in your industry?

Banks have invested heavily in both customizing their credit offerings and in Internet usage, and the focus is on customizing the entire banking experience online. As an example, a banking customer can have cards with variable logos and text, color photos (submitted by the customer) or even a custom printed activation label for each card. Card mailers can contain 2 lines of copy or 20 and all customized to that individual. A bank can incorporate a check or coupon into the mailer or have laser-imaged booklet custom printed for each customer. It's completely variable.

Some banks not only allow customers to personalize the look of their bank cards, but also to develop the entire own banking product. Some credit cards, for example, let the cardholder make a few key decisions, allowing them to set ten or more parameters. When applying for a card, customers can manipulate variables like reward rates and types, interest rate and card fee. The rewards system is especially flexible, not only letting customers determine reward ratio and type (cash or points), but also enabling them to choose which payments will earn them extra rewards: whether it be broad categories like restaurants, or specific stores. Interest rate, bonus rate and card fees are selected by sliding bars that render various combinations of rates and fees. Card fees, for example, can be pushed back to zero by committing to a monthly spending minimum. A lower interest rate leads to a lower bonus rate, etc.

While such mass-customization services allow customers to control some of their personal banking experiences, part of the value to the bank is being able to test various value propositions, gaining valuable insights into which customer segments choose which options. The industry terms this "Self-segmentation through ultra-personalization." (Allen, 2006)

Question 3: Where does setup occur in your business? How could it be eliminated?

While the personalization of credit cards, checks and other financial instruments has become routine in the banking industry, the process for producing those items, at least at the bank where this student is currently engaged, still uses manufacturing processes which predate even assembly line methods. For example, a modern-day credit card, affixed with the individual customer's picture, a smart chip containing security data, and a hologram to deter counterfeiting can all be ordered up in a matter of seconds by the customer using the Internet. However, to produce the card, the following steps are performed manually by a series of different operators for each order:

1. The customer order is printed out and delivered to the card production facility.
2. The customer's digital picture is downloaded into a silk screening printer.
3. A smart chip is programmed with the customer's identifying data.
4. A card blank is manually inserted into an embossing machine, and the card numbers are then impressed into the plastic card.
5. The embossed card is silk screened with the customer's picture.
6. The smart chip and hologram image are affixed to the card.
7. The card is laminated.
8. The card number and customer identifying data are recorded.
9. User instructions and other federally-mandated customer information documents are printed out.
10. A clerk prints a mailing label and affixes it to a mailing envelope.
11. The card is combined with the documents and placed into the envelope.
12. The envelope is carried to the mailing room.

In discussing this painfully inefficient process with the manager of the retail service center, which oversees credit card operations, it was clear that the current method of provisioning cards was not only highly cost-ineffective, but also took so many days to get the cards into the hands of the customers that fee revenues were being lost. It was decided that we would investigate the cost:benefit ratio of outsourcing the processes to a third party vendor, or purchasing the equipment necessary to automate the processes, relieving the necessity for many of the manual steps (such as embossing numbers on the card blanks and manually typing mailing labels).

As the bank recognizes, any enterprise which cannot change its product, process, technology, structure and especially the pace at which it accomplishes customer orders is doomed to the lower financial rewards of commodity industries.

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