

trainers had to carefully define each of the nine factors.

On another angle, stars consider show-and-tell as icing on the cake—helpful but not effective without the basic work ahead of them. Logically, average workers rate show-and-tell higher because they see colleagues making good presentations and getting rewards—and conclude that one caused the other. This is an example of how average workers turned the priorities of the nine factors upside down.

And taking initiative led to many surprises—average workers misread what it means, and see their own actions as ample. Stars spot immediately when a worker takes initiative in the wrong way, or at the wrong time, or with inadequate push. Results count.

The article has many more case details of interest to training professionals.

Mass Customizing Products and Services, B. Joseph Pine II, *Planning Review* (July-August 1993), pp. 6-13ff

For some time various firms have been changing their operations to increase value to their customers by what is now coming to be called mass customization.

Mass customization is seen in five variations, in a sequence from the quick and easy to the most complex. Few firms could go through the five, step-by-step, but most can see at least two usable stages, the lesser one to permit learning and adaptation in development and production.

1. Customize services around existing standard products or services. Staying with standard products permits production efficiencies, but the added services customize what the customer actually buys. Northwest is getting ready to offer Worldlink, a bundle of services available at the seat—intended for long flights, the passenger can watch a choice of movies, see a sporting event, shop, etc. They decide what they want to do, while the standardized flight itself is going along.

A variation on this first level of customization is to study the customer's use of a product, and then prepare to offer any and all products and services involved in their use of the primary item. Subcontract if necessary, but be the general contractor.

2. Mass produce customized services or products that customers can easily adapt to individual needs. That is, make what it takes for the customer to do the customizing.

Application-specific-integrated circuits (ASICs) are an example—engineers have a wealth of options so

they can program operation however they want it. Prodigy offers a menu of services its customer uses to build the “product” wanted.

This second level is, again, fairly easy to produce. Development and marketing have to make the changes, but production and delivery have less disruption.

3. Move production to the customer to provide point-of-delivery customization. An example here is the “manufacture” of men's suits. A standard item comes from the factory, but local tailoring makes the standard item into something the customer is willing to pay for. The same goes for T-shirts, Lenscrafters, and copy shops. Part of the production function is broken off and assigned delivery retailers or other resellers. Progressive Insurance has a Pacman auto insurance claims service that runs twenty-four hours a day, seven days a week, actually coming right to the scene of an accident.

4. Provide quick response. Called time-based competition, this strategy calls for time reductions throughout the value chain. Production reduces set-up time, operations shortens the order-to-delivery time, development alters products to facilitate these reductions, and marketing sells to customers whose needs can be met with time-saving methods. Motorola reduced order-to-delivery time on its Bravo pager from over a month to three hours.

5. Modularize components to customize end products and services. Bally Engineered Structures provides an almost limitless variety of refrigeration structures—walk-in coolers, refrigerated warehouses, etc., by a single process that creates a panel of urethane between two metal skins. Seven shapes (e.g., a corner piece and a ceiling piece) are fitted into whatever combination the customer needs. TWA's Getaway Vacations purchases components of tours (hotel rooms, airline seats, buses, etc.) and then packages them into tours that customers want. They can put together a tour in six minutes.

Drawbacks to customization include the traditional economies of scale in one standard product, customers may complain that products are overly similar and confusing (General Motors' car lines) competitors can reverse engineer against customization easily, and may lead to less innovative products over time.