



## **Introduction to Mass Customization**

A.D. Baker, PhD, Director of Research & Development, Agent Technologies Inc.

### **What is Mass Customization?**

Mass customization aims to provide goods and services that meet individual customers' requirements with near mass production efficiency.

### **Who is Doing Mass Customization?**

For over a decade, futurists have said that mass customized goods and services are the future for our economy. These predictions seemed off the mark for most of the past decade, until towards the end of the decade, it became obvious that Dell Computer Corporation had used this paradigm to go from a negligible market share to market dominance in the PC industry. Now other companies are experimenting with the paradigm: Nike athletic shoes; Mattel toys; CDNow CDs; P&G cosmetics and coffee; GM, Ford, Saturn and Nissan with automobiles; Levi's and Brooks Brothers with apparel; and a host of small startups making products as varied as custom athletic equipment, custom nutritional supplements, custom bicycles, and custom lighting systems.

### **Why Mass Customize?**

The mass customization value proposition comes from the dual opportunities of increased market share and higher profit margins.

**Market Share:** Mass customization can result in increased market share: by satisfying the customer with the exact product they want; by meeting customer pull for custom made products; by offering a product with is differentiated from other products through being specifically made for each individual; by being able to quickly spot market trends; by creating high switching costs for the customer through having established knowledge of their exact preferences, measurements, or lifestyle; and by being able to use that relationship to add related businesses.

**Profit Margins:** The mass customizer receives higher profit margins: by being able to charge higher prices; by increasing inventory turns; by eliminating finished goods inventory; by eliminating the chance of inventory obsolescence; by freeing up working capital through manufacturing faster than suppliers expect payment and receiving payment from consumers upon shipping the order; by eliminating distribution channels and selling custom products directly to the customer; by getting the consumer to trade up to higher margin features; and by using the direct relationship with the customer to add high margin businesses.

### **How to Mass Customize?**

These phenomenal benefits are not obtained by incremental changes to a mass production system, but by a fundamental switch in production paradigms. Our advice for making the change is

- 1) Start small. As systems and techniques are proven, scale them up.
- 2) Start at the front end of the production processes first, use shallow customization there, and as the mass customization systems are proven, backwards integrate into the parts of the mass production systems which will provide the greatest consumer value by being made flexible.
- 3) Use software systems designed to support this new paradigm, don't expect that mass production software can be made to fit this new paradigm with only minor modifications.
- 4) Make the above stated benefits of mass customization the goals of the mass customization project. As the mass customization project is being planned and deployed, check the project against these goals.
- 5) Let us know if there is any way we can help.