

# 1 Mass Customization, Components and Customer Intimacy

## 1.1 The Lego Generation Grows Modular, with Grown-up Products and Configurators

Fortune Magazine awarded Lego the accolade of “Toy of the Century” at the end of the previous millennium. In 2002, Lego also became the winner of Strategic Horizons’ Experience Stager of the Year award<sup>1</sup>. Since its foundation, the Danish Lego company (LEg GOdt = play well) has claimed “play” to be a very important aspect in the development of a child. In many ways, the global acceleration towards modular products and services in this new millennium shows they were right.

The generations brought up with Lego bricks now build grown-up products, using the same “building brick” principles – in diverse businesses such as trucks (Scania since the 1960’s) and computers (Digital started the trend in the 1970’s, Dell continue it today). These grown-up “Lego-style constructions” can become increasingly complex with a vast number of combinations and permutations, so we often use modern tools called *configurators* to keep track of, search for, and put together all the components (or building bricks) in a manner matching an individual customer profile.

What is a configurator? And how does it help? Well, if you think back to your childhood adventures with Lego bricks, how often did you find that the ideal model house could not be built because you had insufficient bricks, the wrong shapes, the wrong colors or perhaps the result was just a little unstable and tended to fall apart when touched. A configurator is a smart software tool that allows us to capture basic rules to ensure that we will only specify and build products which are *feasible*, based on the components (or building bricks) available to us; at the same time, we have the configurator ensure that all important customer requirements *are met* by the resulting product.

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<sup>1</sup> B. J. Pine and J. Gilmore founded Strategic Horizons LLP (based in Aurora, Ohio) in 1996 as a thinking studio dedicated to helping companies conceive and design new ways of adding value to their economic offerings. They can be visited at [www.strategichorizons.com](http://www.strategichorizons.com).

Given the flexibility of Lego bricks and sufficient imagination, a child will create just about any toy they need from the bricks available. Similarly, given the flexibility inherent to “Lego-style” components, plus a smart configurator tool and an e-commerce server a salesperson and his/her customer can create almost *any* product variant needed, from the components available. Mass Customization *delivers what the customer needs*. This is essential in *good* business of *any size*, from toy business to big business.

## 1.2 The Causes: Why Custom-tailored, and why Industrial Mass Customization

Economic and political changes have led to de-regulation in many industries and the removal of trade barriers in many others. The global market is becoming saturated and the customer’s knowledge and discernment is increasing. Improved education and access to information is producing customers that are both *cost-conscious* and *demanding*. An increased awareness and greater access to similar products is leading to increased competition and price sensitivity.

Companies must compete on the basis of giving the customer exactly what he or she needs, where and when he or she wants it – but profitably and at a price the customer is prepared to pay. How can all this be achieved at the same time? As shown in the next chapters, the fundamental principle of the solution is to combine components and increasingly intelligent software tools. Custom-tailored mass production alone doesn't sound as an easy “quick-fix” solution; in fact, it sounds like its own contradiction. And indeed, prior to the recent wave of technology and e-commerce developments, only a handful of forefront corporations were capable of delivering Mass Customization. However, in the 21<sup>st</sup> century, customization is becoming imperative across the marketplace, in manufacturing as well as in complex financial services, enterprise software packages or even health care (individually customized treatment plans or adaptive software continually fine-tuning drug dosage to match patient status in real time).

Mass Customization is *imperative across business sectors*.

The paradox of the modern enterprise is that it must *reduce* costs while offering a much *richer product variety* to its customers than ever before. Maximum flexibility and customization have become a necessity but these need to integrate well with large-scale *industrial processes*.