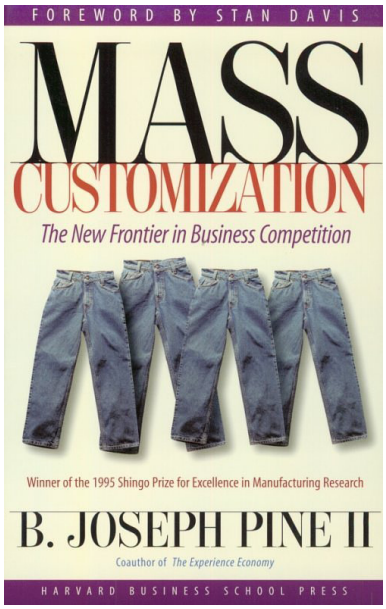
Joseph Pine



Pine, J. 1999. Mass Customization: The New Frontier in Business Competition, Cambridge, Massachusetts: Harvard Business School Press

Author, speaker, and management advisor to Fortune 500 companies and entrepreneurial start-ups alike. He is co-founder of Strategic Horizons LLP, a thinking studio dedicated to helping businesses conceive and design new ways of adding value to their economic offerings.

His Book Mass Customization: The New Frontier in Business details the shift companies are making from mass producing standardized offerings to mass customizing goods and services that efficiently fulfils the wants and needs of individual customers

4 Types of Mass Customization

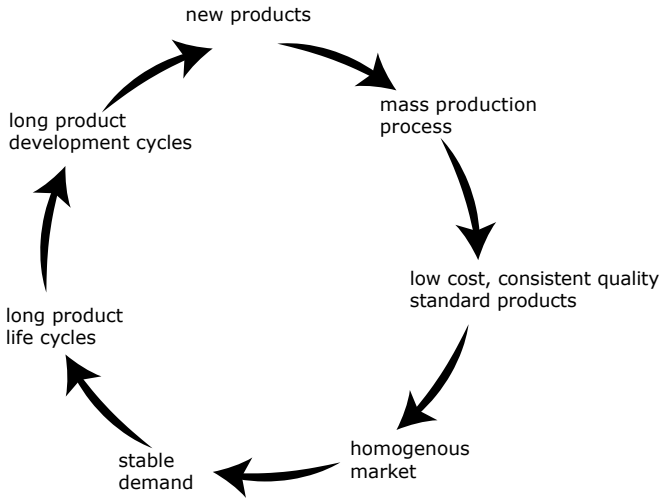
Collaborative customization - (also considered co-creation) firms talk to individual customers to determine the precise product offering that best serves the customer's needs. This information is then used to specify and manufacture a product that suits that specific customer

Adaptive customization - firms produce a standardized product, but this product is customizable in the hands of the end-user (the customers alter the product themselves)

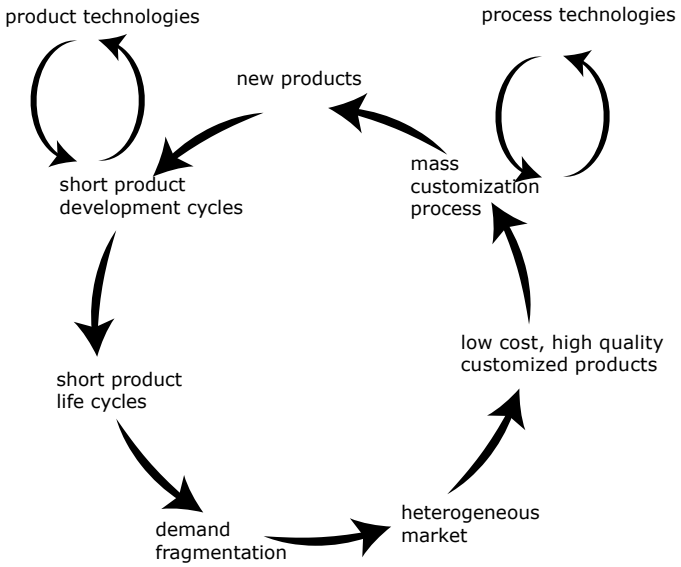
Transparent customization - firms provide individual customers with unique products, without explicitly telling them that the products are customized. In this case there is a need to accurately assess customer needs.

Cosmetic customization - firms produce a standardized physical product, but market it to different customers in unique ways.

the system of mass production



the emerging system of mass customization



The Six Degrees of Modularity

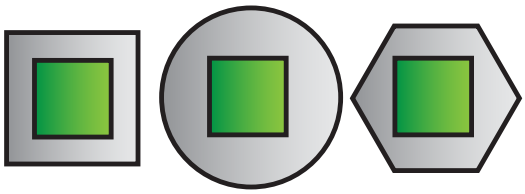
William J. Abernathy and James M. Utterback's "Pattern of Industrial Innovation", Technology Review July 1978

Modiefied by Joseph Flaherty on April 19th, 2009

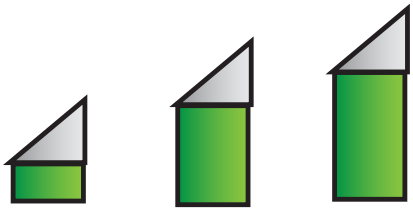
http://replicatorinc.com/blog/2009/04/6-types-of-mass-customization/

Modiefied by The Daily Module on September 1st, 2011

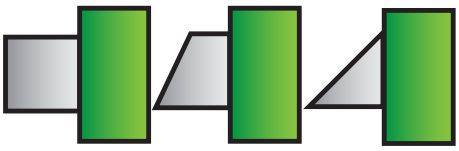
http://module-r.com/blog/design/the-six-degrees-of-modularity



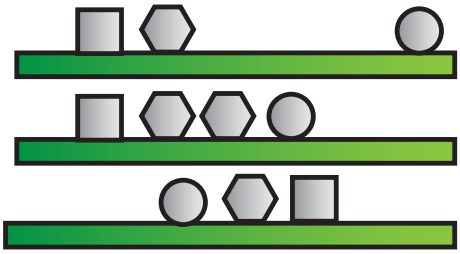
component sharing modularity
products are uniquely designed around a base unit of common components.
example: elevators



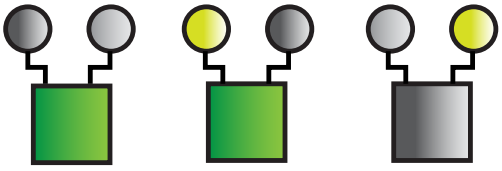
cut-to-fit modularity
alters the dimensions of a module before combining it with other modules.
example: eyeglasses, shelving



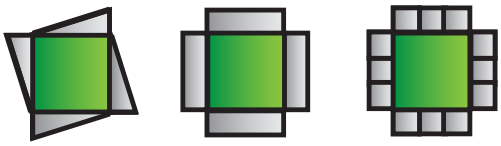
component swapping modularity
ability to switch options on a standard product
example: personal computer



bus modularity
ability to add one or many components to an existing base
example: track light, charm bracelet



mix modularity
similar to component swapping, but when combines the modules lose their unique identity
example: house paint



sectional modularity
similar to component swapping, but focuses on aranging standard modules in a unique pattern
example: Legos, tile mosaic

Mass Customization in Housing
An Open Building/Lean Construction Study

OBOM Research Group Faculty of Architecture Delft University of Technology, the Netherlands
http://www.obom.org/DOWNLOADS2/MCinHousing.pdf

This paper was presented at Dense Living Urban Structures International Conference on Open Building, Hong Kong, October 23-26, 2003

Carel Weeber

Weeber, C., Vanstiphout, W. 1998. Het Wilde Wonen, Rotterdam: 010 Publishers

This paper looks closely at the writing architect and ex-chairman of the Royal Institute of Netherlands Architects, Carel Weeber

He published an article in a Dutch newspaper, with reflections on mass housing. As an alternative, he advocated a high degree of user participation, called 'gewild wonen' (desired living)

Open Building

Open Building is a multi-facetted concept, with technical, organisational and financial solutions for a built environment that can adapt to changing needs.

It can be expressed in terms of care, responsibility and technology
People, who care about the environment they live in, will make it a better and safer place

Buildings, which are designed and built with separate systems, can create conditions for responsibility and care

The subdivision of the building process needs to reflect the lines of decision making and the definition of responsibilities between the parties.

This in turn creates buildings that can be modified and taken apart again

Reducing waste by co-ordinating dimensions and positions instead of improvising on site by cutting to size.
Applying information instead of energy

Lean Production & Lean Thinking

Learn Production, first conceived in the automotive industry, is the minimization of waste and energy in mass production

In 'The Machine that Changed the World' (Womack, Jones, Roos, 1990), Lean
Production was not limited to the manufacturing industry, many others, like the housing industry were not considered 'lean' at all

Lean Production guide lines were described in more general terms as
'Lean Thinking'. It can be summarised in five steps:

-Value: determine what the customer expects as the added value

-Value Stream: deliver the wanted added value

-Flow: Optimize the production process

-Pull: Optimization of the production process is directed by 'pull', the clients wishes, rather than 'push', selling products, not asked for

-Perfection: continuous improvement

Lean Construction

The basic principle of 'lean' is to reduce waste: 'specifically any human activity which absorbs resources but create no value'

Essential features of Lean Construction include:

-A clear set of objectives for the delivery process

-Aimed at maximising performance for the customer at the project level

-Concurrent design of product and process

-Application of product control throughout the life of the product from design to delivery

Open Building & Lean Construction

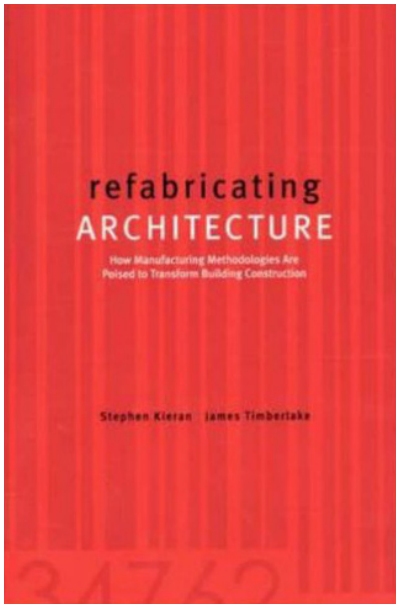
They both originate from dissatisfaction with traditional second wave industrial production that was felt at approximately the same time

Both can complement each other, what they have in common is the sympathy they feel towards lean thinking.

Open Building is concerned with the quality of the built environment and the way it is established; decision making, design, construction, & real estate management.

'Lean Construction rests on production management

Refabricating Architecture



Kieran, S., Timberlake, J. 2003. Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction, New York, New York: McGraw-Hill Professional

Architecture as art &/or commodity

Commodity of value - "before the 20th century, the more human energy that was invested in an architectural work, the greater its value. Since excess of handcraft was an indulgence, anything extra represented great expense & effort,"

Today, "it is the machine that is the tool of commodity,"

Clients want more for less, as machines can replace handcraft in many areas

A QUALITY X SCOPE = COST x TIME

[desirable factors] [undesirable factors]

B QUALITY X SCOPE > COST x TIME

[desirable factors] [undesirable factors]

-Clients want more for less, as machines can replace handcraft in many areas