

Framtidens behov och utmaning

Rekonfigurerbarhet och Agilitet

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Produktionstekniska dagen

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industrial
development
center

Omvärld



Produktionsparadigmer

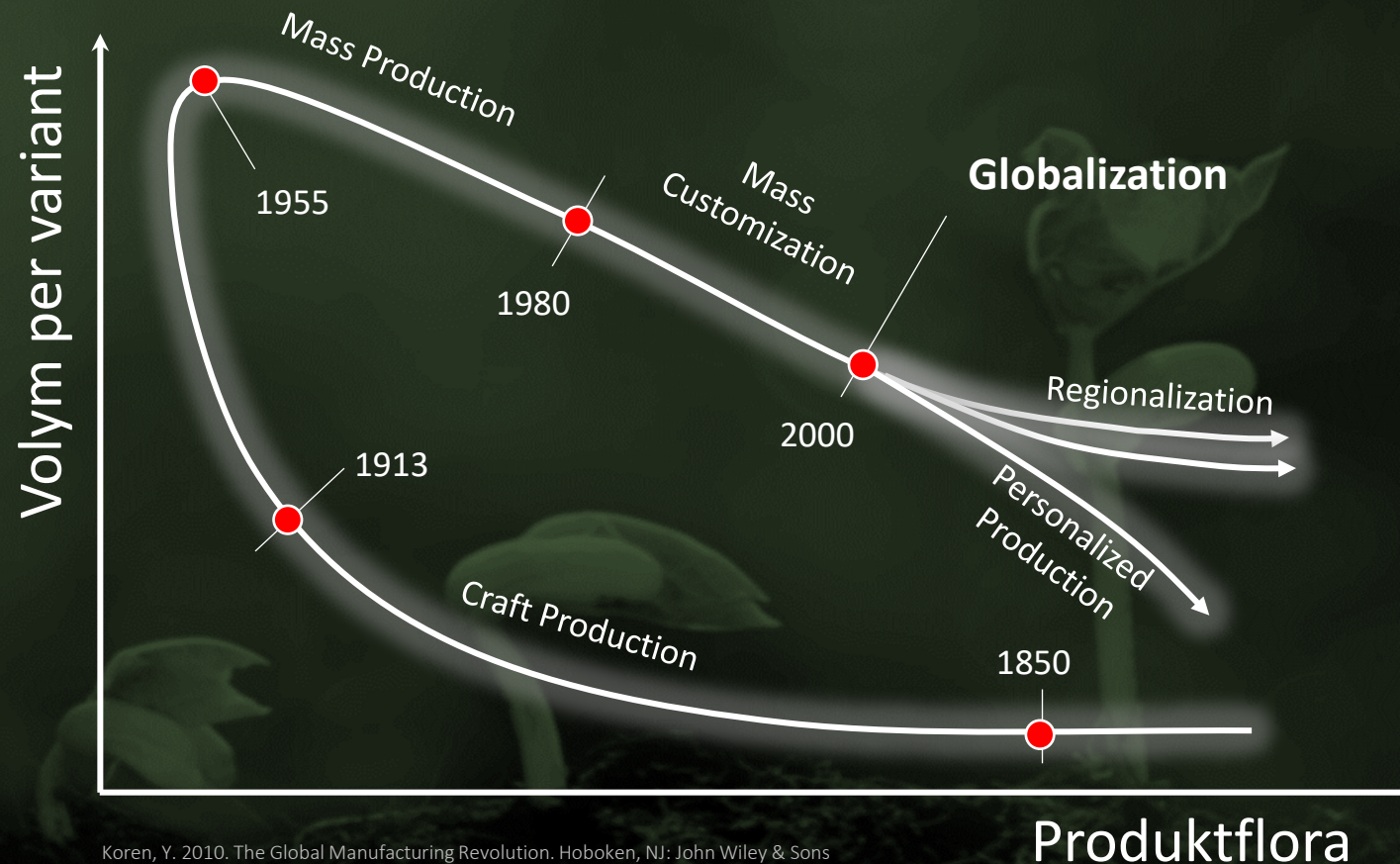
Mindre konkurrens

Stabil Efterfrågan



Varierande Efterfrågan

Större konkurrens



Koren, Y. 2010. The Global Manufacturing Revolution. Hoboken, NJ: John Wiley & Sons

Rekonfigurerbarhet

Modularitet

Skalbarhet

Integrerbarhet

Konverteringsbarhet

Diagnostiserbarhet

Anpassningsbarhet

Modularity – the compartmentalization of operational functions and requirements into quantifiable units that can be transacted between alternate production schemes to fit a given set of needs.

Integrability – the ability to integrate modules rapidly and precisely by a set of mechanical, informational, and control interfaces that enable integration and communication.

Diagnosability – the ability to automatically read the current state of a system and controls so as to detect and diagnose the root-cause of defects, and subsequently correct operational defects quickly.

Scalability – the ability to easily change existing production capacity by rearranging an existing production system, and/or changing the production capacity of reconfigurable components (e.g., machines) within that system.

Convertibility – the ability to easily transform the functionality of existing systems, machines, and controls to suit new production requirements.

Customization – the ability to adapt the customized (non-general) flexibility of production systems and machines to meet new requirements within a family of similar products.

Koren, Y. and Shpitalni, M. (2010), "Design of reconfigurable manufacturing systems", Journal of Manufacturing Systems, Vol. 29, No. 4, pp. 130-141