Sustainable Production Taxonomy
Global Manufacturing Think Tank
Cranfield University
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Stephen Fox
Sustainable Production Taxonomy

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Sustainable Production Taxonomy

Distributions of Manufacturing

Distributed

DIY

Artisanal

Industrial

Centralized

Industrial

1st Wave
2nd Wave
3rd Wave
Rural
Urban
Web
Parts
S/CKD
Unlit
Large Process
Large Assembly
Geo Cluster

Economic

Ecological

Social

Institutional

Production Sustainability
Opportunities for Manufacturing

Australia

Losing manufacturing

Mass internal migration
Opportunities for Manufacturing

Australia

Intense sunlight

Vast underground waters
Opportunities for Manufacturing

Iran

Manufacturing in north

Poverty in south
Opportunities for Manufacturing

Iran

Cotton, fish, sand

Close to big markets
Opportunities for Manufacturing

Somalia
Manufacturing destroyed
Fragile regions
Opportunities for Manufacturing

Somalia

Rich in natural resources

Entrepreneurial people
Opportunities for Manufacturing

Turkey

Manufacturing in north

Poverty in south
Opportunities for Manufacturing

Turkey

Government support

80 new factories p.a.

Distributions of Manufacturing

Production Sustainability
Challenges for Manufacturing

Path Dependency

Lock-in
Challenges for Manufacturing

Path dependencies and lock-ins can involve new manufacturing investments being based on past investments. This happens even when past investments were not successful. For example, EU’s 2016 relaxed “rules of origin” deal with Jordan for factory production.
Challenges for Manufacturing

Fads

Hype
Challenges for Manufacturing

Fads and hype use vague terms and fallacious reasoning, including: arguing from authority, fallacies of single cause and incomplete evidence, which involve cherry picking particular aspects of special cases, such as digital data transfer in production of wooden furniture.

nullius in verba

take nobody’s word for it
Challenges for Manufacturing

Success trap

Groupthink
Challenges for Manufacturing

Success traps involve entrenched beliefs that what was successful in the past remains forever relevant. Within a country, a sector and/or an organization this can lead to inept groupthink about what to do and how to do it, which then leads to manufacturing failures such as SA80 rifle in the UK.

SA80 RIFLE: MAIN FAULTS
- Faulty bolt and cocking system
- Faulty cartridge ejection system
- Faulty loading of ammunition from magazine
Many distribution options for manufacturing

Many global opportunities for new manufacturing

Many social psychology challenges in linking options to opportunities
Summary

Understand options
Generate opportunities
Address challenges

Symbol System for Strategic Design of Innovative Production Systems
Some References

Fox, S. (in press) Mass imagineering, mass customization, mass production: complementary cultures for creativity, choice and convenience. Journal of Consumer Culture,


stephen.fox@vtt.fi