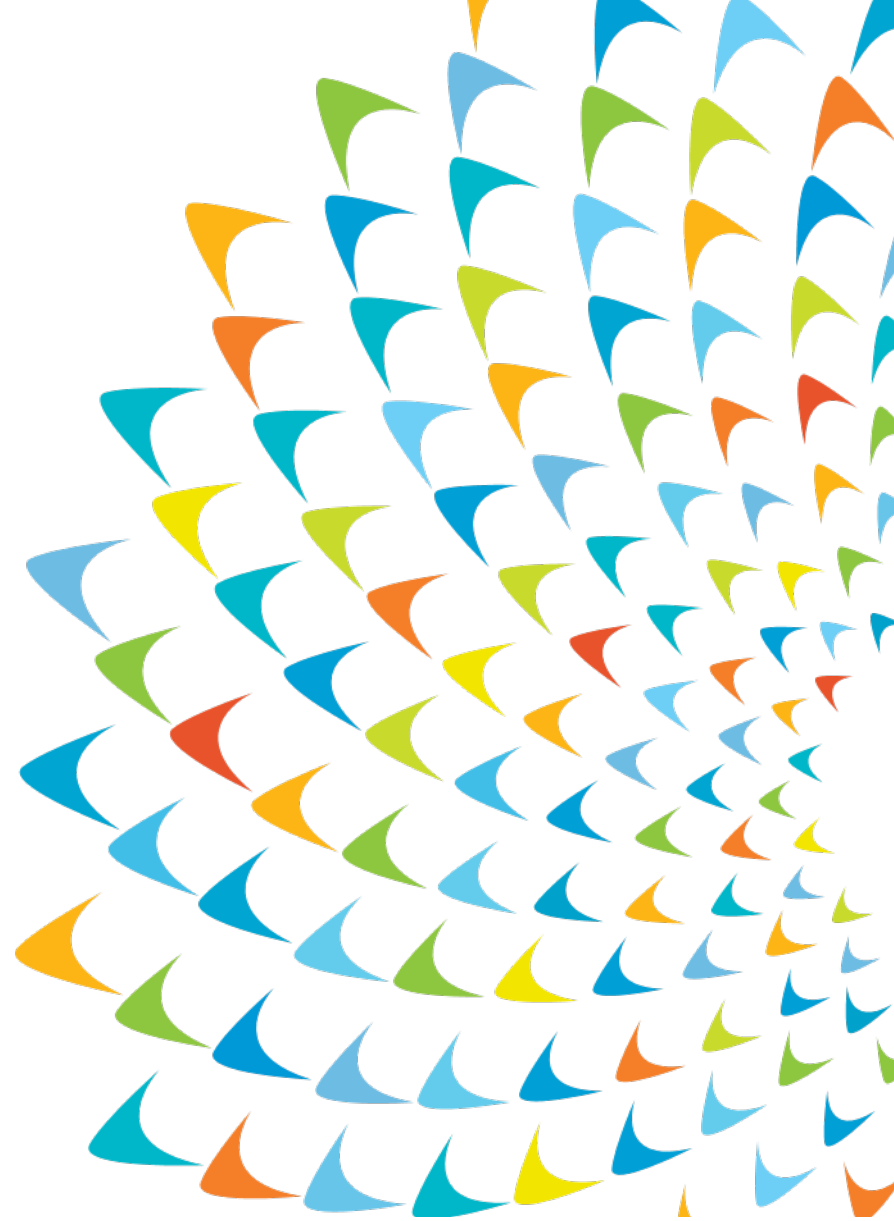


# Global Value Chains and 4th Industrial Revolution: Towards a Consumer- Centered Economy

**Matthias Helble, Economist, ERCD**  
Digital Development Forum, ADB  
Manila, 4 September 2019

*The views expressed in this presentation are the views of the author/s and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. The countries listed in this presentation do not imply any view on ADB's part as to sovereignty or independent status or necessarily conform to ADB's terminology.*



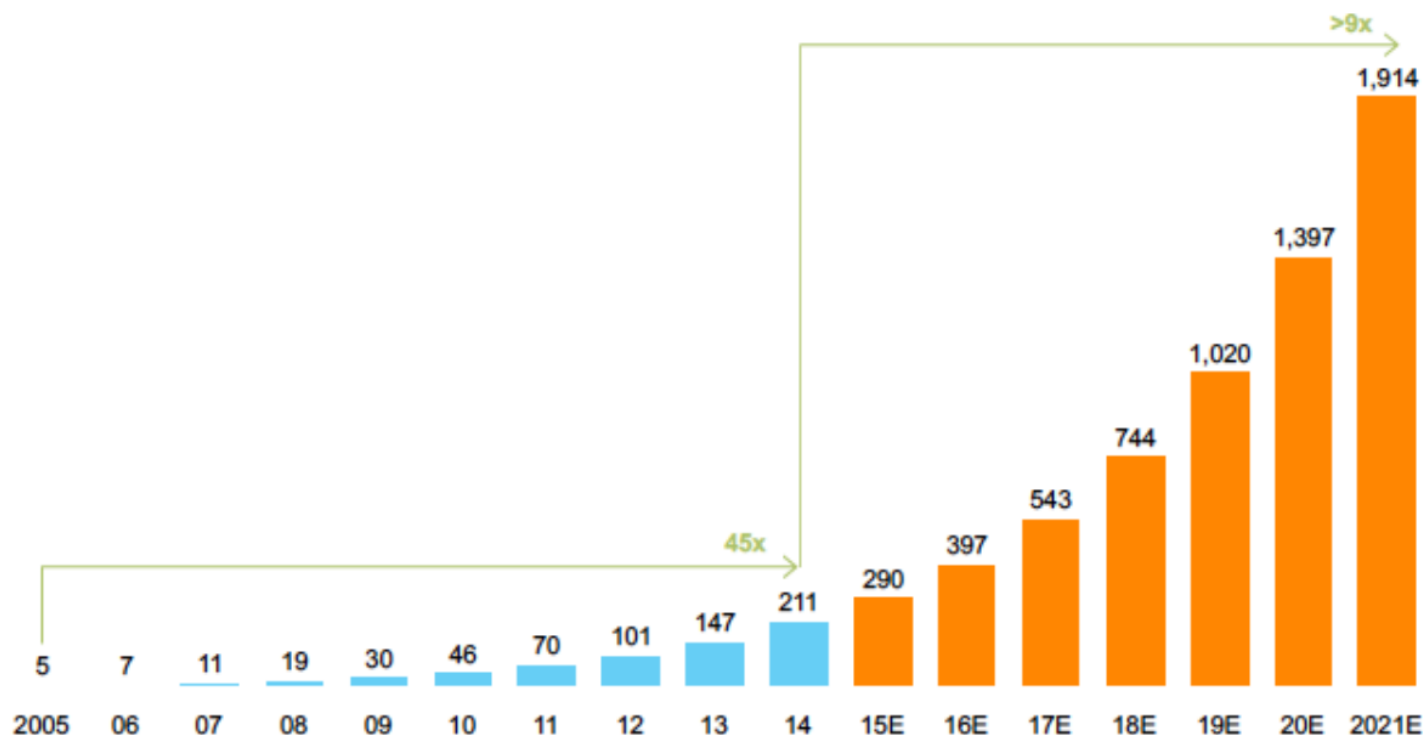


# Dramatic Increase in Cross-Border Data Flows

**Cross-border bandwidth has grown 45 times larger over the past decade—and may grow another nine times larger by 2021**

Used cross-border bandwidth, global  
Terabits per second

Actual Forecast



Source: TeleGraphy; McKinsey Global Institute analysis



# Connectivity and Data Revolution

Connectivity is currently taken so next level:

- Between individuals (e.g. social media; firms and consumers)
- Between individuals and machines (e.g. cobot)
- Between machines (Internet of Things)

Combined with data-heavy new technologies:

- Cloud computing
- Big data analytics
- 3D printing

**What impact on global value chains and trade?**



**I. The Rise of Services**

**II. Towards a Consumer-Centered Economy**





# **I. The Rise of the Services**



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# LEVERAGING SERVICES FOR DEVELOPMENT

*Prospects and Policies*



Edited by Matthias Helble and Ben Shepherd

Published: 3 July, 2019, available for free:

<https://www.adb.org/sites/default/files/publication/506216/adbi-leveraging-services-development-prospects-policies.pdf>

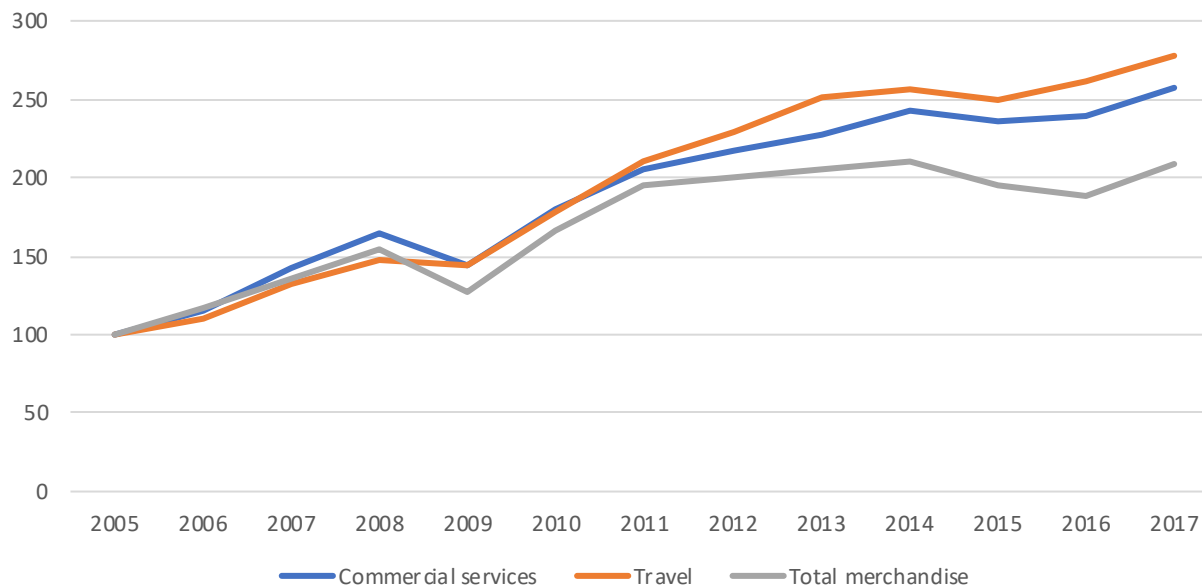
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# Increasing Services Trade in Asia

- Services are increasingly **tradable** thanks to new technologies.
- Services are increasingly **traded**, also among developing countries.

Asia's Exports for Commercial Services, Merchandise and Travel to the World (indexed 2005=100)

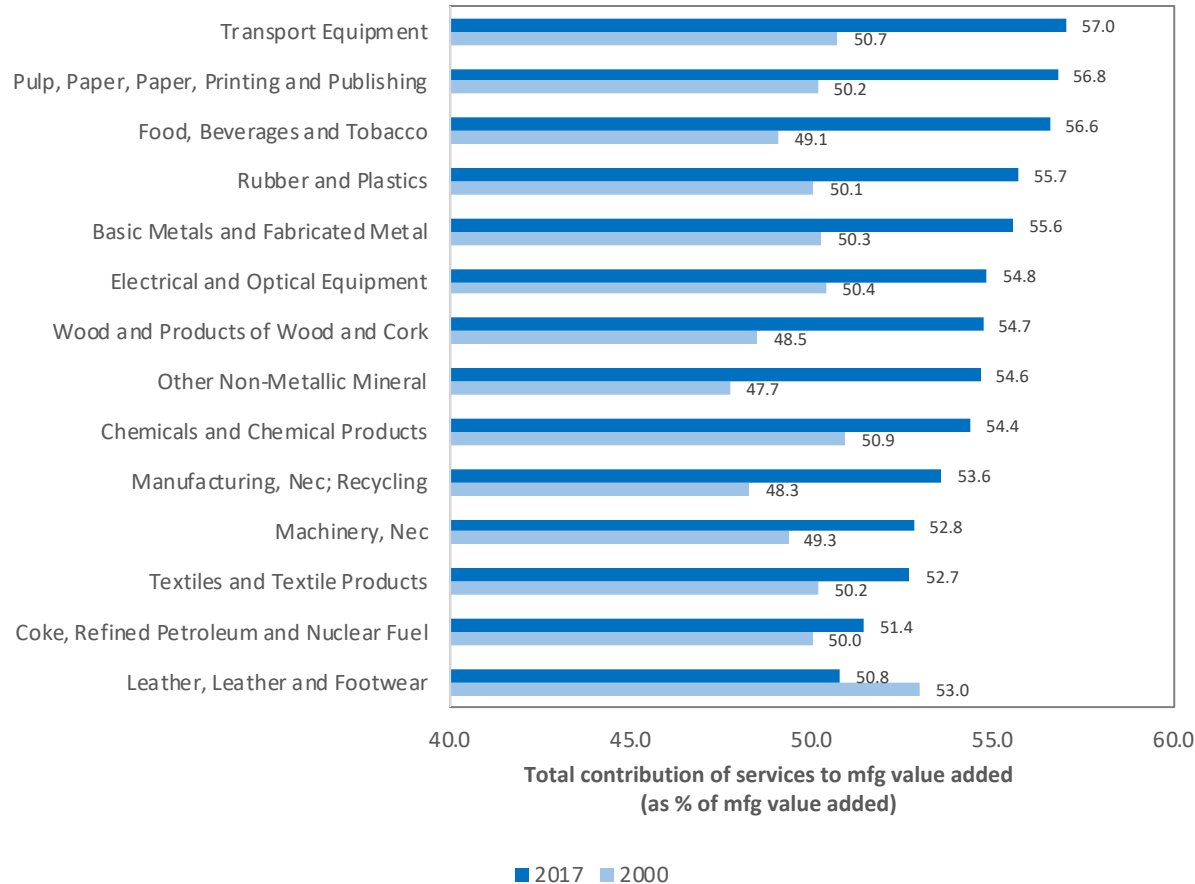


Source: WTO (2018) and authors' calculation



# Manufacturing and Services Intertwined

**Total (direct and indirect) contribution of services to manufacturing value added by sector (2000 and 2017)**

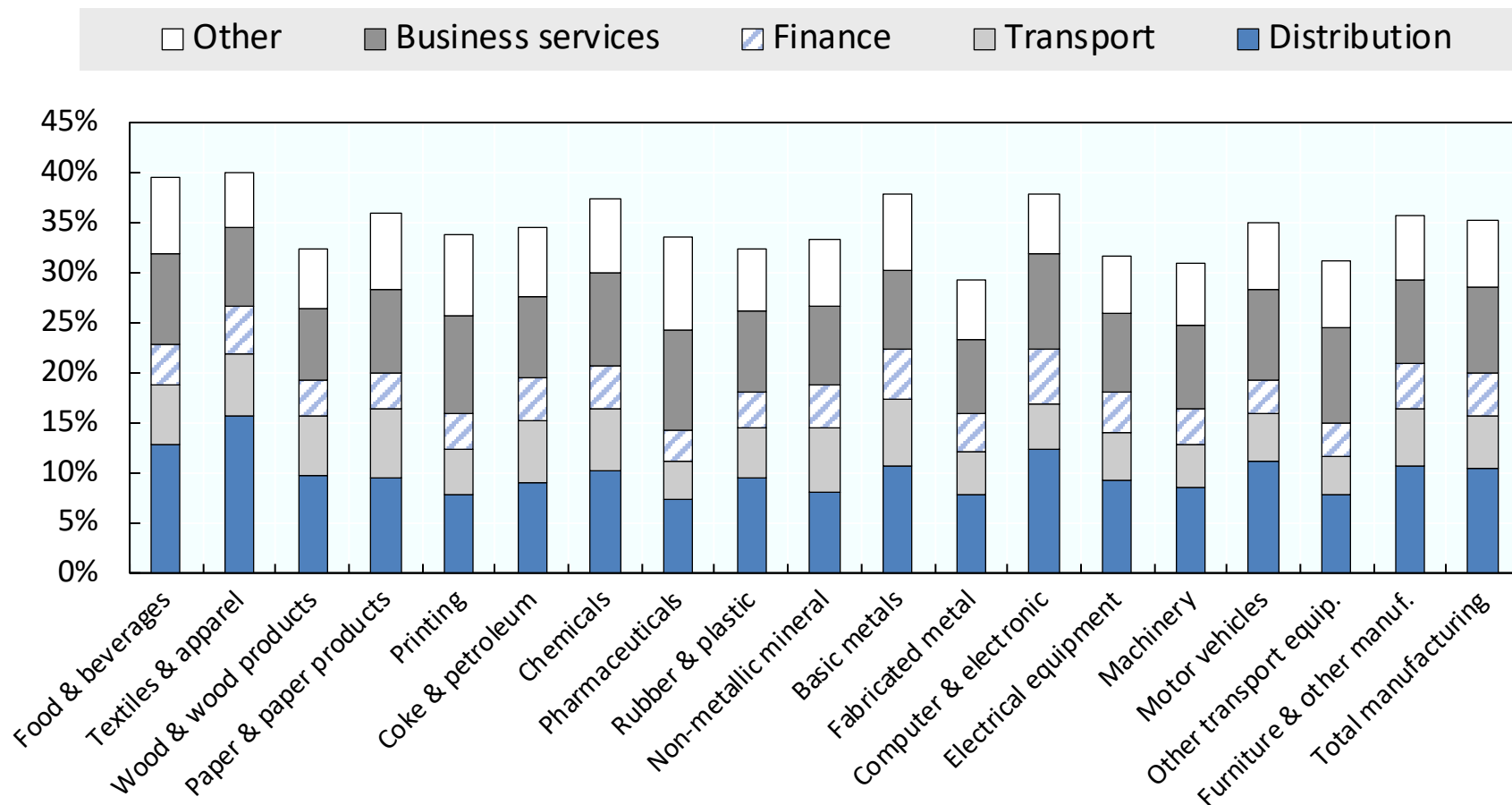


Source: Mercer-Blackman and Ablaza (2019)



# Services Embodies in Manufacturing

Services inputs embodied in manufacturing output, by industry, 2014

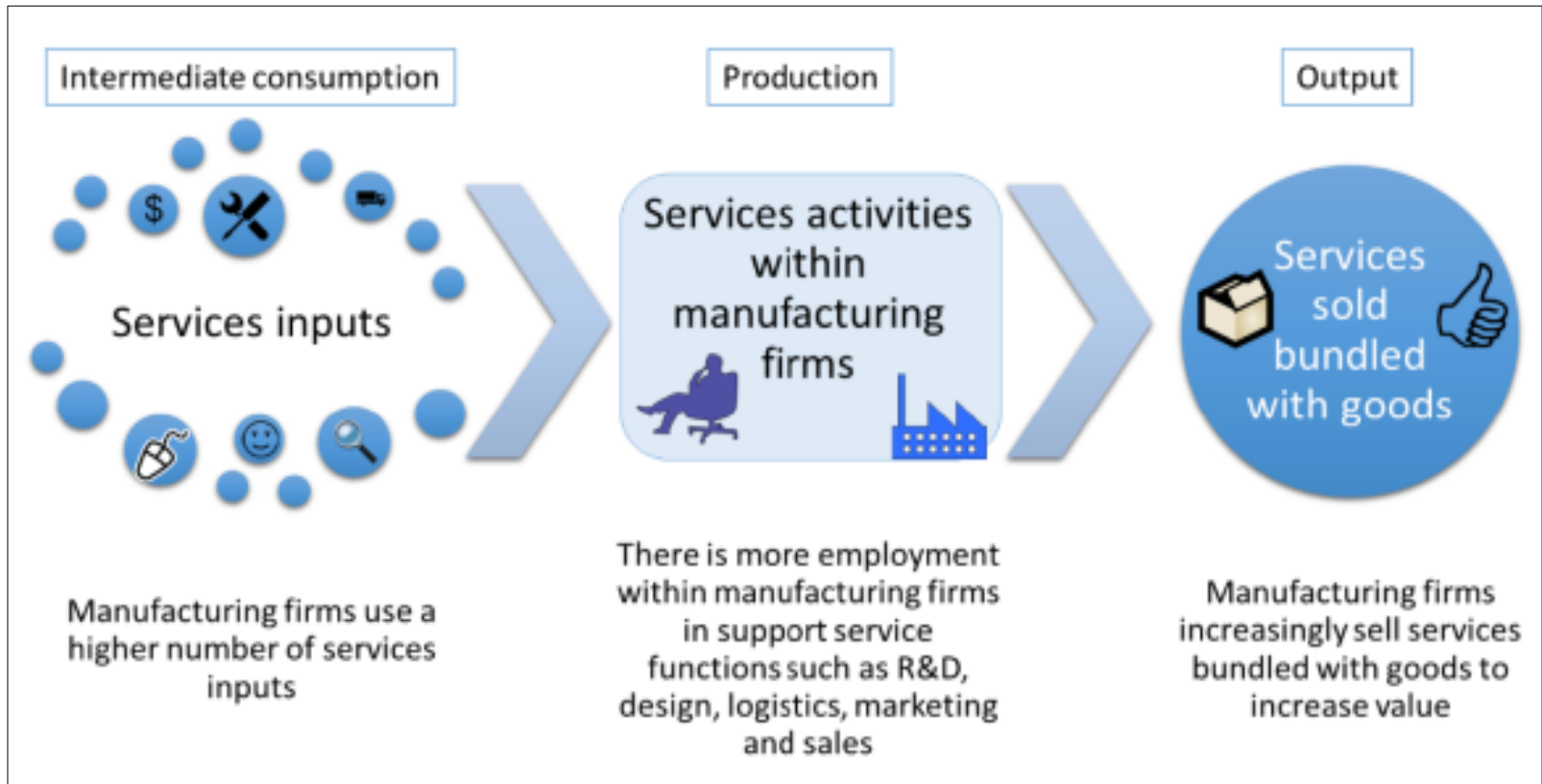


Source: Miroudot (2019)



# Servicification of Manufacturing

## Taxonomy of services activities in manufacturing GVCs



Source: Miroudot and Cadestin (2017)



# Factory-less Goods Producers

- Manufacturers that outsource entire production process.
- Debate on whether they should be part of the manufacturing sector.
- But most statistical offices are unable to identify them.



Source: Miroudot (2019)



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## **II. Towards a Consumer-Centered Economy**



Do you know who knows...

- Where you live?
- Where you work?
- Who your friends are?
- Your interests? Your next travel destination?
- Your health status?



# The Consumer-Centered Economy

In digital economy vast amount of consumer information is collected.

4<sup>th</sup> Industrial Revolution also allows to integrate this information in all stages of the value creation:

- **Pre-production:** Consumer feedback enters the R&D process.
- **Production:** Customers' preferences are directly integrated into product or services (or even provide services directly).
- **Post-production:** Marketing and after-sales services take into account consumers' profiles and previous product choices.

Trade costs between firms and consumers have fallen.



# Examples of Consumer-Centered Economy

Car manufacturing: VW offers 117 steering wheels and 341 front seats for the Golf model.

Garment: Japanese producer offers tailor-made T-shirt for 12 USD.

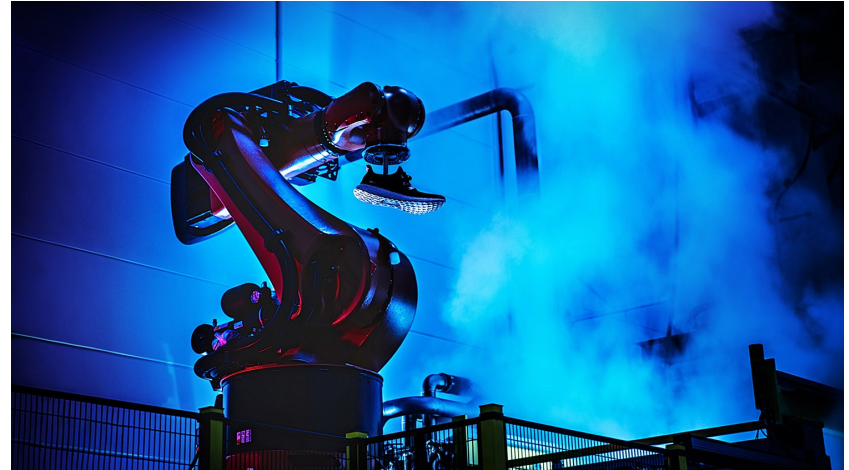


Source: Nikkei Asian Review (2018)

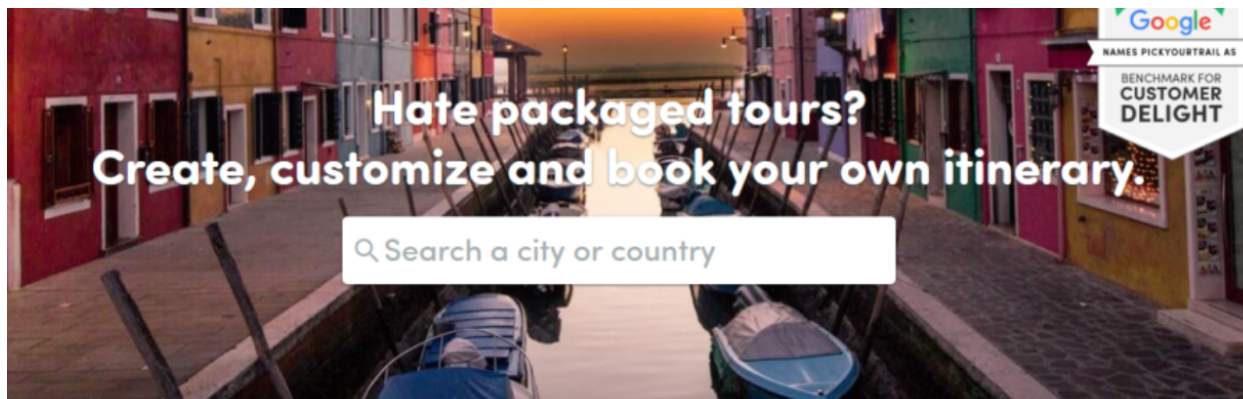


## Other examples:

- Customized shoes
- Bespoke skincare
- TV watching
- Customized vacation
- Personalized health care
- Personalized education
- ...



Source: MIT Technology Review (2017)



Source: Pickyourtrail (2019)



# Main Implications for the Manufacturing Industry

- i. From exchange of goods to exchange of **services and information**.
- ii. From transport connectivity to **information connectivity**.
- iii. From producing to markets to **producing to consumers**.
- iv. From static value chains to **complex, rapidly changing value chains**.
- v. From centralized mass production to **customized local production**.
- vi. From competition on costs to **competition on many dimensions**.
- vii. From low skilled jobs in manufacturing to **high skilled jobs in services**.



# Trade Policy of the 21<sup>st</sup> Century

- Facilitate free flow of data across borders (while protecting consumers and avoiding cyber attacks)
- Promote freer flow of services
- Provide multilateral framework for e-commerce
- Trade facilitation for digital trade
- Ensure protection of IP rights
- Implications for Asia:
  - Provide skills for a service-based economy
  - Promote seamless connectivity (e.g. shipping connectivity of Bangladesh same as for Senegal)
  - Promote access to finance



# Summary and Conclusion

- Increasing relevance of services trade in global value chains.
- 4<sup>th</sup> Industrial Revolution moves the consumer to the center of economic activity.
- Competitiveness of firms in global value chains mainly depends on ability to handle complex production processes.
- Cheap mass production will become less important.
- 4<sup>th</sup> Industrial Revolution gives opportunity for more local production.
- Old paradigms of trade policy as well as economic development need to be rethought.





**Thank you very much for your attention.**

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**Services Book:**

**<https://www.adb.org/sites/default/files/publication/506216/adbi-leveraging-services-development-prospects-policies.pdf>**

**Consumer-Centered Economy Paper:**

**[https://doi.org/10.1162/asep\\_a\\_00632](https://doi.org/10.1162/asep_a_00632)**