



# AI, SOCIAL CHANGE, AND PUBLIC POLICY

INTERNATIONAL CONFERENCE OF THE GEUMGANG UNIVERSITY WITH  
THE SUPPORT OF THE KOREAN NATIONAL COMMISSION FOR UNESCO

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# A PICTURE PUZZLE: DIFFERENCE? (EXCEPT TIME DIFFERENCE)



# ENGINE (1<sup>ST</sup> INDUSTRIAL REVOLUTION)



URBANIZATION



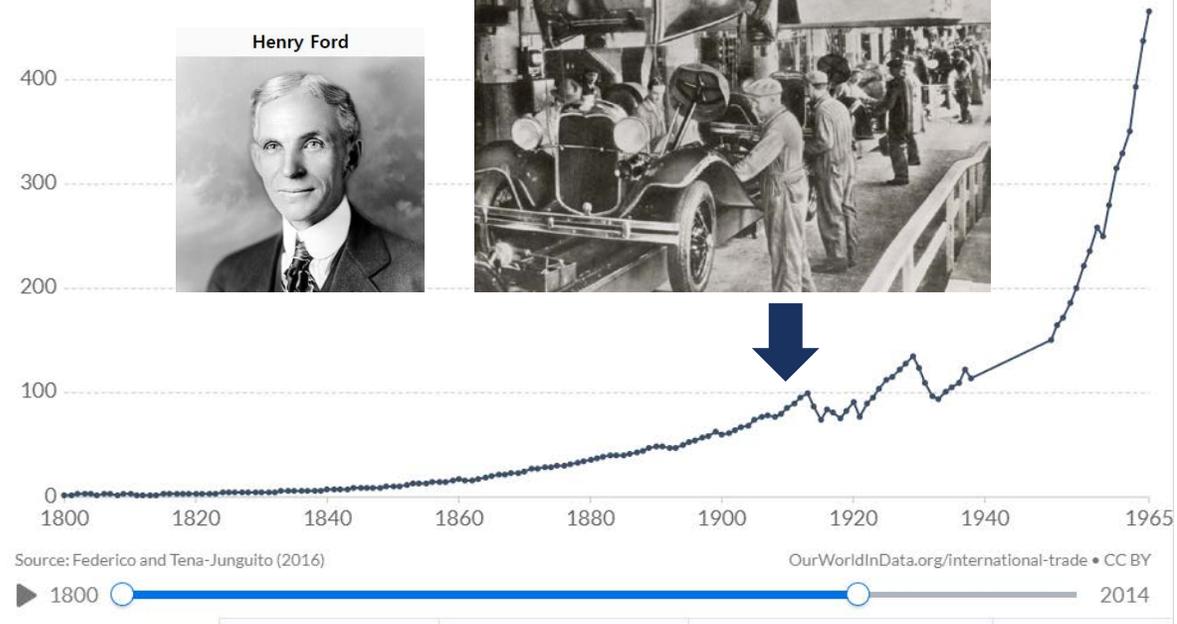
# ENGINE (1<sup>ST</sup> INDUSTRIAL REVOLUTION)

## The value of global exports

Time series of value of world exports at constant prices, relative to 1913 (i.e. values correspond to world export volumes indexed at 1913=100)

Our World in Data

LINEAR LOG



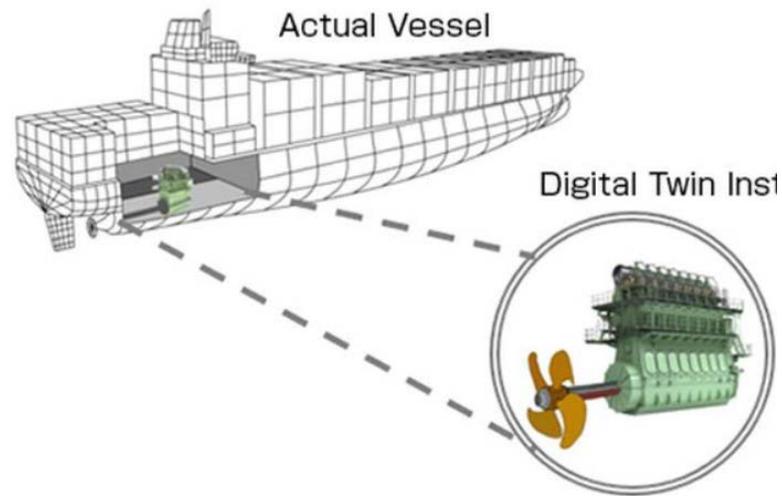
GLOBALIZATION

# ENGINE (1<sup>ST</sup> INDUSTRIAL REVOLUTION)

- **Capitalism**
- **Urbanization**
- **Globalization**
- **Schumpeterian Economy (Innovation Economy)**

# I. GENERAL PURPOSE TECHNOLOGY (GPT)

- **General Purpose Technology (GPT)** (vs. Special Purpose Technology (SPT))
  - GPT is a technology that can be eventually used widely to various purposes
  - GPT radically save labor time and cost as well as radically change life pattern and social structure
  - Examples: engine, electricity, computer, internet, etc.



Bresnahan, Timothy F., and Manuel Trajtenberg. "General purpose technologies 'Engines of growth'?" *Journal of econometrics* 65.1 (1995)

Gambardella, Alfonso, and Anita M. McGahan. "Business-model innovation: General purpose technologies and their implications for industry structure." *Long range planning* 43.2-3 (2010)

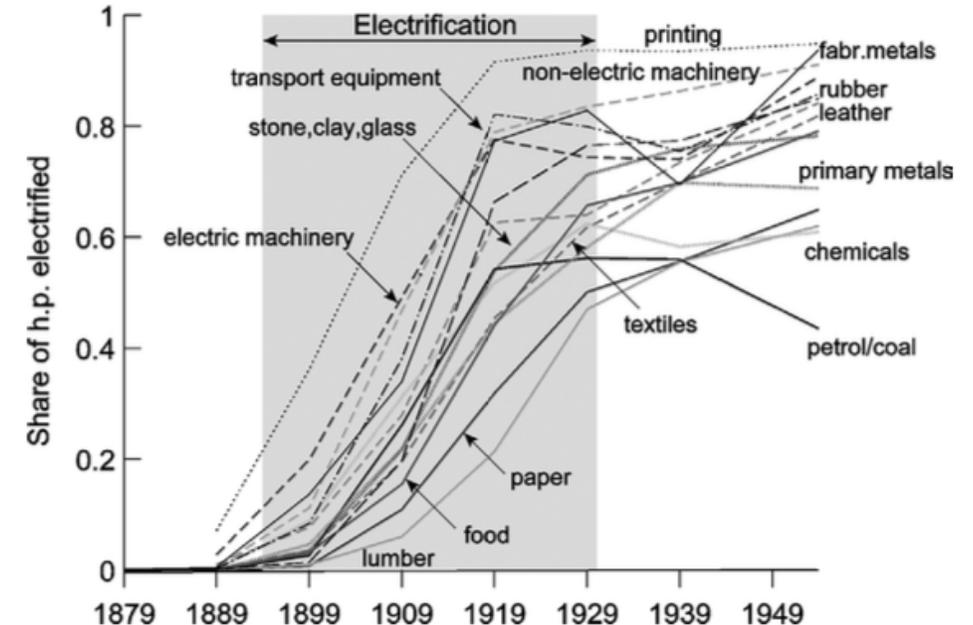
Jovanovic, Boyan, and Peter L. Rousseau. "General purpose technologies." *Handbook of economic growth*. Vol. 1. Elsevier, 2005

# I. GENERAL PURPOSE TECHNOLOGY (GPT)

## ■ GPT Characteristics 1

- GPT expand both "Return to Scale" and "Return to Scope" at the same time
- **Pervasiveness: Effect of "Return to Scope" is Disruptive**

=> create disruptive new industries

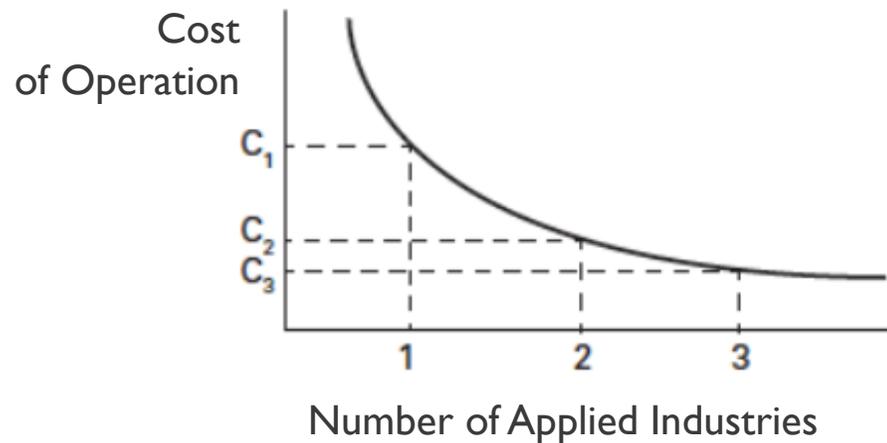


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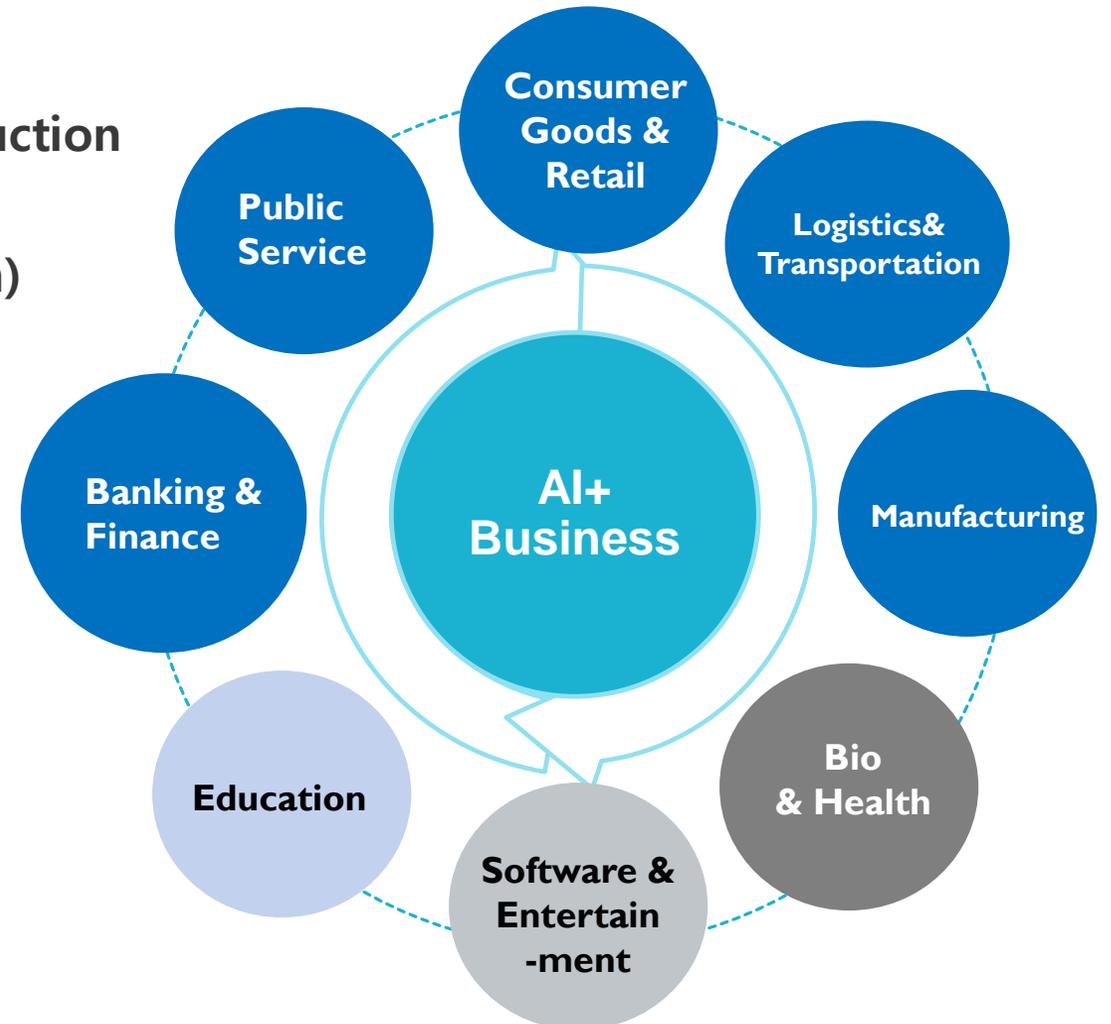
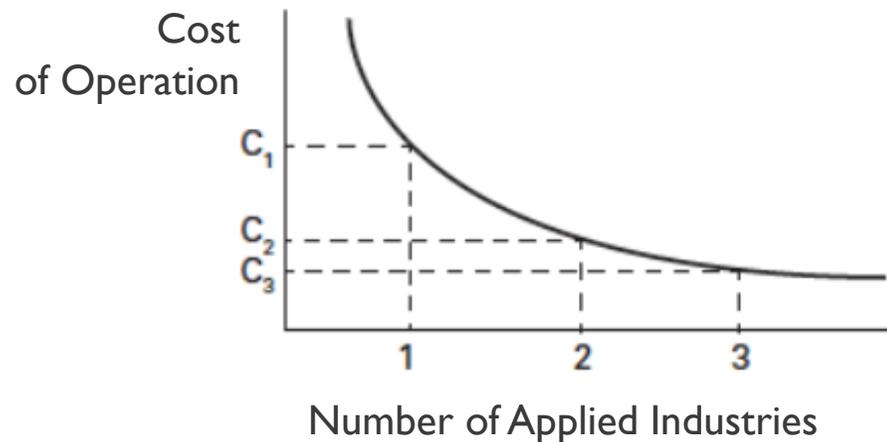
- “Return to Scale”: more used, more cost reduction
- “Return to Scope” is Disruptive  
: More applied, more returns (cost reduction)



# I. GENERAL PURPOSE TECHNOLOGY (GPT)

## ■ GPT Characteristics 1 - AI

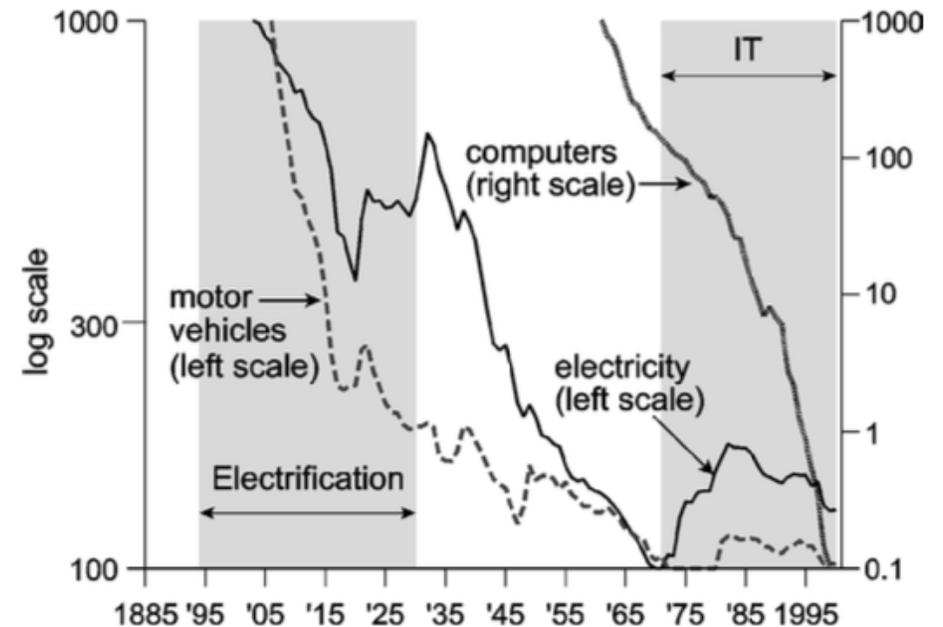
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# I. GENERAL PURPOSE TECHNOLOGY (GPT)

## ■ GPT Characteristics 2

- Pervasiveness: applied to various industries
- **Improvement Potential:** cost reduction can be extensive under continuous innovation
- Innovational Complementarities: become easy to introduce new business innovation, new product innovation, new process innovation



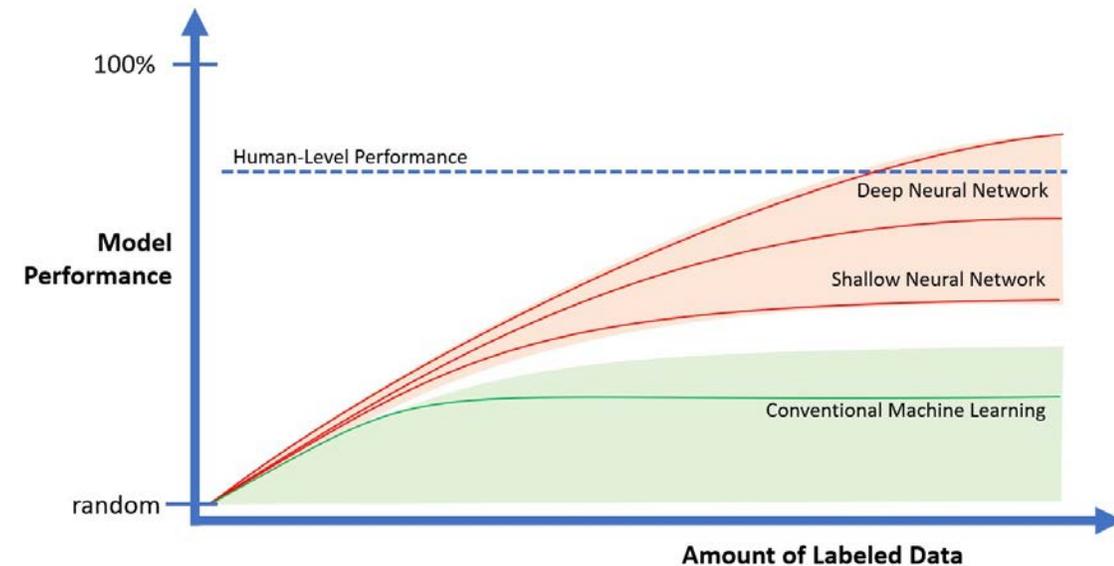
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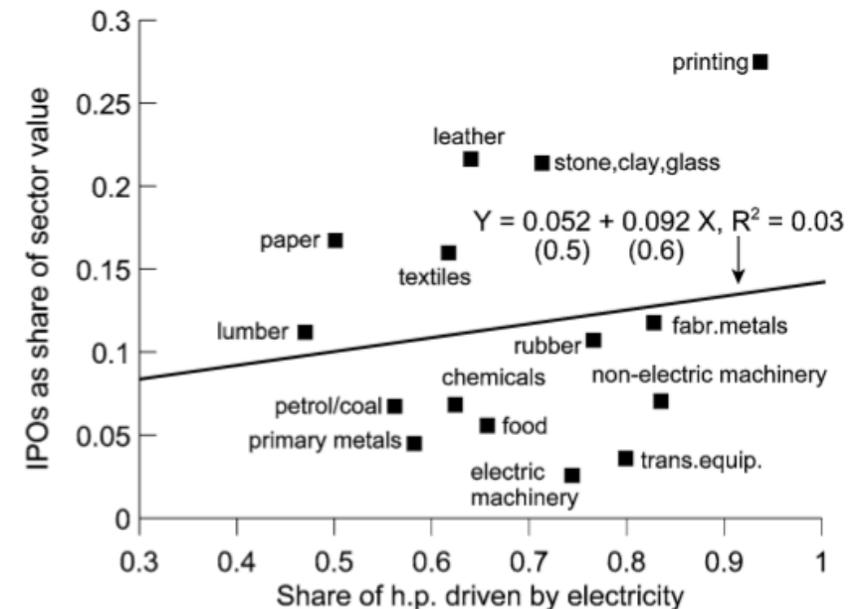
- **GPT Characteristics 2 - AI**
  - Return to Scope is disruptive
  - Pervasiveness: applied to various industries
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# I. GENERAL PURPOSE TECHNOLOGY (GPT)

## ■ GPT Characteristics 3

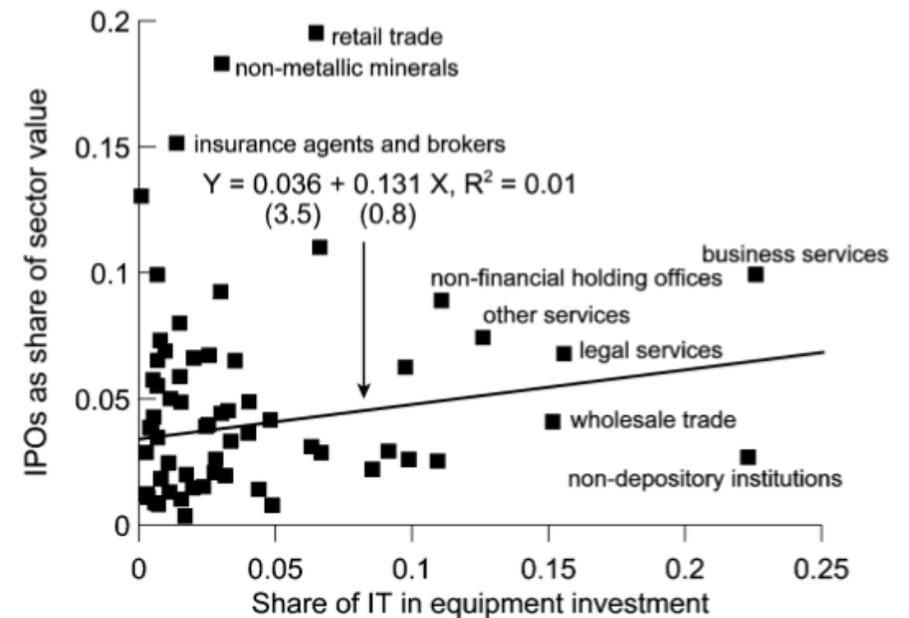
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## ■ GPT Characteristics 3

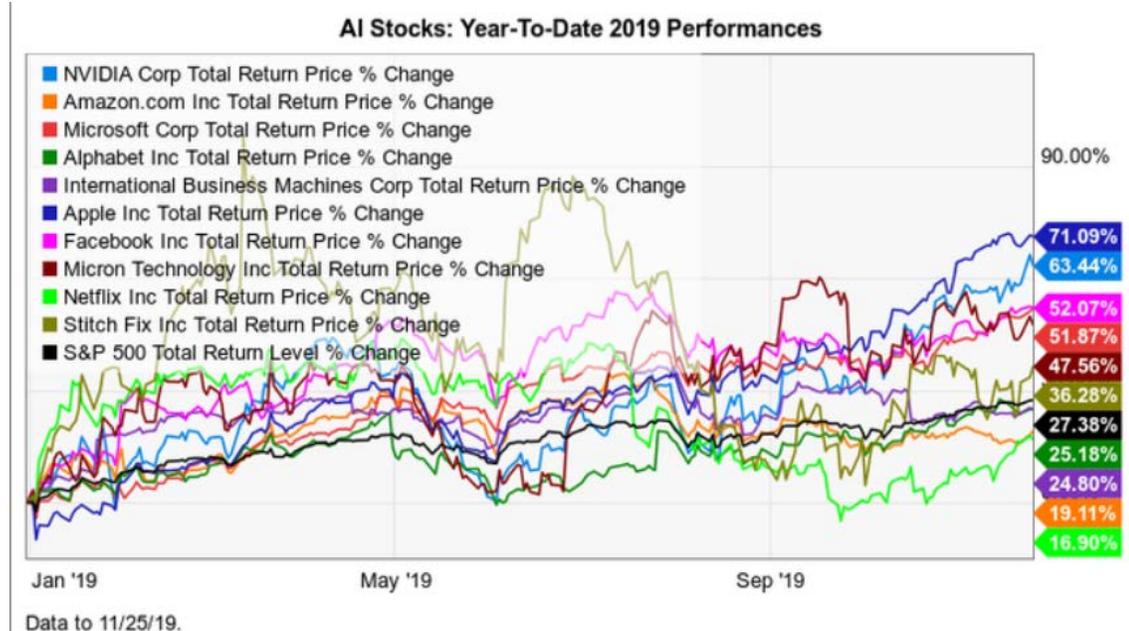
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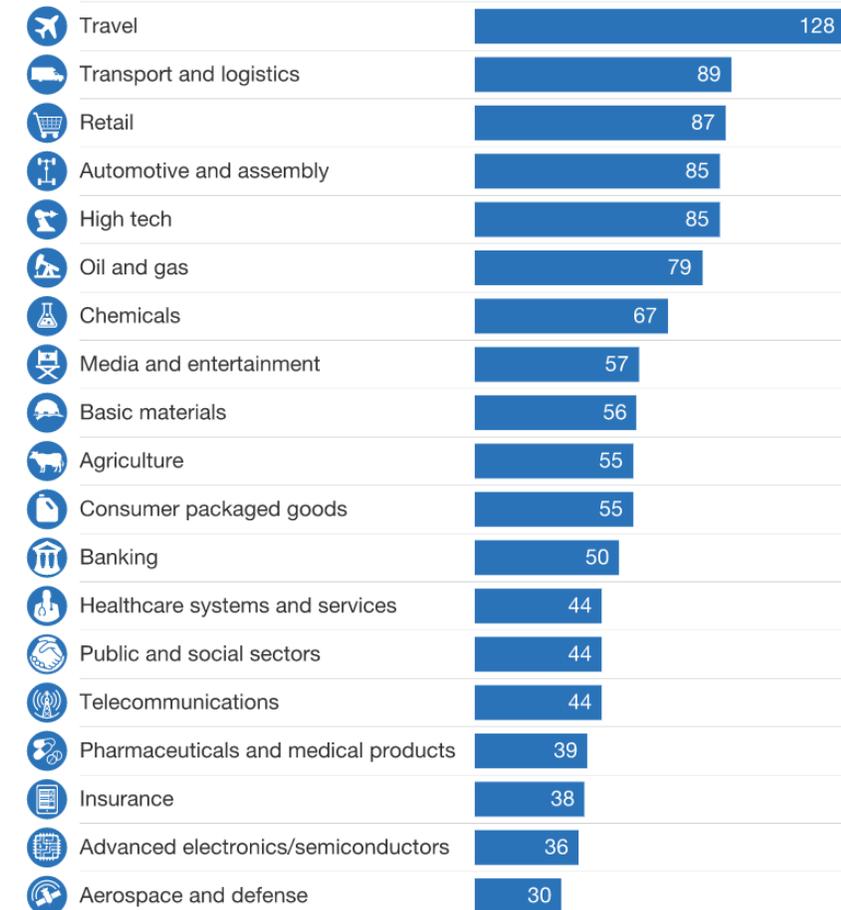
## ■ GPT Characteristics 3 - AI

- Pervasiveness: applied to various industries
- Improvement Potential: cost reduction can be extensive under continuous innovation
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Breakdown of use cases by applicable techniques, %



Potential incremental value from AI over other analytics techniques, %



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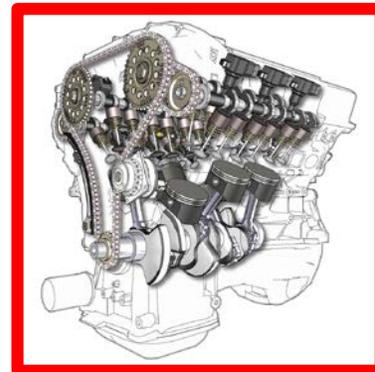
## ■ GPT: Other Characteristics

- **Productivity Slow Down:** takes time and cost to initial adoption and transformation – *J-curve*
- **Skill Premium**
- **Increased M&A**
- **Startups and SME outperform**

## II. AI AND SOCIAL CHANGE



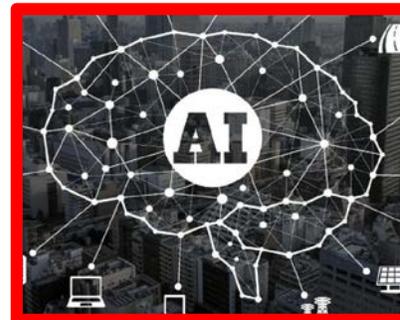
URBANIZATION  
GLOBALIZATION



## II. AI AND SOCIAL CHANGE



AI-ZATION



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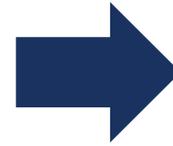
- Capitalism
- Urbanization
- Globalization
- Schumpeterian Economy



AI-ZATION

## II. AI AND SOCIAL CHANGE

- Capitalism
- Urbanization
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- **Great Capital Migration**  
(to New Industries, New Countries, New Social Segments)
- **Capital Hyper Concentration**  
(Super Platforms and Google Tax)
- **Discovering the New World (Metaverse)**  
(Meta Opportunities, First Come, First Served)
- **Localization of Globalization**  
(Untact Society, Dispersed but Connected Urbanization)

### III. AI, SOCIAL CHANGE, AND PUBLIC POLICY

- **Policy for Harmonized Migration**
  - **New Social Consensus for Wealth Redistribution**
  - **Policy for Aggressive 'Sailing'**
  - **Policy for Connectedness as Social Basic Infra**
- 
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Thank you